

Ministry of Health of Ukraine  
Kharkov State Medical University

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*Dedicated to the 200th anniversary  
of Kharkiv State Medical University*

**PSYCHIATRY**  
**edited by Prof. Gavenko V.L.**

Manual for English medium students of higher medical schools  
and interns

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## INTRODUCTION

A doctor of any speciality must know main mental disorders occurring in various diseases, as many patients with these disturbances at first consult general practitioners rather than psychiatrists. The ability to reveal the character of these disorders, devise correct tactics in each case makes it possible to increase efficacy of therapy for these patients.

The manual is to facilitate students' preparation for classes in psychiatry and pursues the aim of optimization in the process of studies. It is written with regard for practical problems which the future doctors will have to solve. The present manual is composed in compliance with the syllabus in psychiatry and narcology worked out by the basic department of the Ministry of Health of Ukraine – the Department of Psychiatry and Narcology of Kharkov State Medical University. In an intelligible form, the book informs about the main disturbances of the psychic activity, describes signs and syndromes of mental diseases.

Unlike previous ones, this manual elucidates criteria of the current international classification of mental diseases, describes psychopathological syndromes in accordance with these criteria.

The manual “Prepedeutics of Psychiatry” enables future doctors to learn fundamentals in the diagnosis of mental disorders and master psychiatric terms.

In compliance with the requirements of the regulations for the procedure of preparation and publication of the educational and educational-methodical literature for higher medical and pharmaceutical educational establishments with the 3rd–4th levels of accreditation, the objective of the lesson, its contents and test questions are determined for each studied subject. In order to improve successfulness of the students' mastering the knowledge, the manual contains problems for independent preparation which are composed according to the format of test tasks of “Krok-2” licensing examination.

# **SUBJECT AND TASKS OF PSYCHIATRY. CAUSES AND CLASSIFICATION OF MENTAL DISEASES. ORGANIZATION OF AID TO MENTAL PATIENTS, PECULIARITIES IN FUNCTIONING OF PSYCHIATRIC ESTABLISHMENTS**

**Psychiatry** is the medical science dealing with the study of diagnosis, etiology, pathogenesis and rate of mental diseases, as well as organization of the psychiatric aid.

Psychiatry (Greek *psyche* – soul, *iatreia* – treatment) = treatment of the soul.

Tasks of psychiatry:

- study of the rate, conditions of origination, nosological structure and clinical peculiarities of mental diseases;
- study of the etiology and pathogenesis of mental diseases;
- treatment and prevention of mental diseases;
- social-labour rehabilitation of patients;
- labour, forensic and military psychiatric examination;
- carrying out of sanitary-educational and psychohygienic measures among the population.

Psychiatry is an integral part of medicine organically connected with all its sections. Every doctor in his practical activity will often come across various psychiatric problems. It is caused by the fact that in cases of all diseases patients develop some or other mental disorders: from nonpsychotic (most frequently) to psychotic, and sometimes defect-organic ones. Every doctor is obliged to adequately determine the register of these disturbances and devise his tactics in each particular case.

It is expedient to divide all mental disorders into 3 groups depending upon the level and depth of the disturbances. These are 3 different registers of mental disorders: psychotic, nonpsychotic, and defect-organic.

The psychotic state is characterized by presence of at least one of the following signs: clouding of consciousness, delusions, hallucinations. In this situation the patient cannot critically assess his diseased state and does not understand the morbid character of the disturbances.

Nonpsychotic (borderline) mental disorders are mostly characterized by disorders of emotions and in the effector-volitional sphere. The patients critically assess their diseased state, understanding that they are ill.

Defect-organic disorders are manifested through disrupted intellectual functions (of memory and thinking).

Every doctor must be able to give emergency aid in various acute psychotic states, as well as carry on necessary measures aimed at prevention of mental disorders in patients with various forms of pathology.

### **Main sections of modern psychiatry**

**Pediatric, juvenile and geriatric psychiatry** study peculiarities in clinical manifestations of mental disorders depending upon the age.

**Narcology** includes diagnosis, treatment and prevention of alcoholism, narcomaniae and toxicomaniae.

**Forensic psychiatry** works out fundamentals for legal-psychiatric experts' examination and prevention of socially dangerous actions. Lately, such a section as penitentiary psychiatry was separated; it studies peculiarities of mental disorders in people serving their sentences in places of imprisonment.

**Social psychiatry** studies the role of social factors in the etiology, course, treatment and prevention of mental disorders.

**Psychotherapy** studies different methods of psychotherapeutic influence on patients.

**Psychoneurology** studies nonpsychotic, mainly neurotic, disturbances.

**Sexual pathology** studies prevention and treatment of sexual disturbances.

**Suicidology** studies causes and works out measures for prevention of suicidal behaviour.

**Military psychiatry** studies peculiarities of mental disorders in people who serve in the armed forces. Close to it is psychiatry of catastrophes and natural calamities.

Lately, a section of **ecological psychiatry** was separated; it studies mental disorders resulting from disturbances in ecology.

Scientific notions about mental diseases reflect the socioeconomic conditions, ideology, philosophy and natural scientific views of some or another historical period. The history of psychiatry originates in the depth of centuries. A great physician of the ancient times Hippocrates laid foundations for the materialistic, natural scientific understanding of mental diseases.

In the period of the Middle Ages, prevailing was the statement that any disturbances in the psychic activity were not a disease but resulted from a voluntary communication with the devil. Many mental patients perished in fires of the Inquisition as guilty of witchcraft and apostasy.

Particularly important for the development of psychiatry were the reforms carried out in the period of the French Revolution when a legal change in the

status of mental patients took place. A French psychiatrist F. Pinel won from the National Convention the right of taking off chains from mental patients. His disciple and follower J. Esquirol legalized the demand of an obligatory medical examination of the people admitted to psychiatric establishments. An English professor J. Conolly declared the principle of nonconstraint for mental patients. In Russia, the attitude to such patients was always humane, they were treated as guilty before the God, they were pitied. The first organizational forms of aid to mental patients in Russia were realized 3 centuries earlier than in Europe.

Among the most outstanding Russian scientists-psychiatrists should be mentioned such names as V.F. Sabler, A.F. Gertzog, P.P. Malinovsky, V.Kh. Kandinsky, I.P. Merzheevsky, S.S. Korsakoff, P.B. Gannushkin, Ye.K. Krasnushkin, V.P. Osipov, V.A. Giliarovsky, M.O. Gurevich, V.M. Bekhterev, and others.

A great contribution to the development of the Russian psychiatry was made by scientists of the Ukrainian school of psychiatry, the Kharkov one in particular. Teaching of psychiatry at the Medical Faculty of Kharkov University began earlier than in other universities – in 1834. At first, the course of psychiatry was delivered by Prof. Butkovsky P.A., who wrote the first Slav textbook on psychiatry, and in 1877 Prof. Kovalevsky P.I. organized an independent Department of Neurology and Psychiatry. The Department of Psychiatry at Kharkov Medical Institute was headed by the scientists whose names are known both in their country and abroad: K.I. Platonov, V.P. Protopopov, Ye.A. Popov, N.P. Tatarenko. In Ukraine also worked such scientists as A.I. Yushchenko, T.I. Yudin, Ya.P. Frumkin, P.V. Biriukovich, I.A. Polishchuk, and others.

### **Classification of mental diseases**

The classification of mental diseases is based on different principles: etiological, nosological and syndromological.

By the etiological principle, mental diseases are divided into the following groups:

1. Exogenous (caused by various pathological influences from outside).
  - a. Infectious
  - b. Traumatic
  - c. Intoxicating
2. Somatogenies and endocrinopathies (caused by various internal, including vascular, and endocrine diseases).
3. Psychogenies – connected with various unfavourable psychological influences.

4. Endogenies – diseases with an insufficiently studied etiology, a great part in their origination being played by the factor of heredity (schizophrenia, manic-depressive psychosis, genuine epilepsy).
5. Psychoses of the old age: presenile and senile.
6. Abnormalities in the personality development (oligopsychiae, psychopathies).

In order to facilitate and broaden international cooperation in the cause of perfecting the diagnosis of mental diseases, during the last two decades our country uses the International Classification of Diseases, suggested by the WHO. At present, the 10<sup>th</sup> review of this Classification (ICD-10) is used.

The International Classification of Diseases is constructed on two principles – nosological and syndromological.

F0 Organic, including symptomatic, mental disorders

F00 Dementia in Alzheimer's disease

F01 Vascular dementia

F02 Dementia in the diseases qualified in other sections (in Pick's, Creutzfeldt-Jacob, Huntington's, Parkinson's diseases caused by the human immunodeficiency virus (HIV))

F04 Organic amnesic syndrome, not caused by alcohol or other psychoactive substances

F05 Delirium, not caused by alcohol or other psychoactive substances

F06 Other mental disorders resulting from an injury or dysfunction of the brain, or caused by a physical disease (hallucinoses, catatonic disturbance, delirious disturbance, affective disturbances, anxious disturbance, dissociative disturbances, asthenic disturbances)

F07 Disorders of the personality and behaviour caused by a disease, injury and dysfunction of the brain

F1 Psychic and behavioural disorders caused by taking of psychoactive substances (alcohol, opioids, cannabinoids, sedative or soporific substances, cocaine, other stimulants, including caffeine, hallucinogens, tobacco, volatile solvents)

F2 Schizophrenia, schizotypal and delirious disorders

F20 Schizophrenia (paranoid, hebephrenic, catatonic, postschizophrenic depression, residual, simple)

F21 Schizotypal disorder

F23 Acute and transitory delirious disorders

F24 Induced delirious disorder

F25 Schizoaffective disorders

F3 Affective disorders of mood

F30 Maniacal episode

- F31 Bipolar affective disorder
- F32 Depressive episode
- F33 Recurrent depressive derangement
- F34 Chronic (affective) disorders of mood (cyclothymia, dysthymia)
- F4 Neurotic, stress-related and somatoformic disorders
- F40 Anxious-phobic disorders (agoraphobia, social phobiae, specific [isolated] phobiae)
- F41 Other anxious disorders (episodic paroxysmal anxiety, generalized anxious disorder, mixed anxious and depressive disorder)
- F42 Obsessive-compulsive disorder (annoying thoughts, obsessive rituals)
- F43 Response to severe stress and disorders of adaptation (acute response to stress, posttraumatic stress disorder, disorders of adaptation)
- F44 Dissociative (conversive) disorders (amnesia, fugue, stupor, trances and states of seizures, disorders of motility, spasms, anaesthesia, Ganser's syndrome, disorders of the multiple personality)
- F45 Somatoformic disorders (somatized disorder, undifferentiated somatoformic, hypochondriac disorder, somatoformic vegetative dysfunction of the heart and cardiovascular system, gastrointestinal tract, respiratory system, urogenital system, chronic somatoformic pain disorder)
- F48 Other neurotic disorders (neurasthenia, the syndrome of depersonalization and derealization, etc.)
- F5 Behavioural syndromes connected with physiological disorders and physical factors
- F50 Disorders in food taking (anorexia nervosa, bulimia nervosa, vomiting combined with other psychological disturbances)
- F51 Sleep disorders of inorganic nature (insomnia, hypersomnia, failure to keep to the sleep-wakefulness regimen, sleep walking – somnambulism, horrors during sleep, nightmares)
- F52 Sexual dysfunction not caused by any organic disorder or disease (sexual anhedonia, disturbed orgasm, premature ejaculation, vaginismus, dyspareunia)
- F53 Mental and behavioural disorders connected with childbirth and puerperal period
- F55 Abuse of substances which do not cause addiction (antidepressants, purgatives, analgetics, antacids, vitamins, steroids and hormones, specific herbs and folk medicine means, etc.)
- F6 Disorders of mature personality and behaviour in adults (paranoid, schizoid, dissocial, emotionally unstable, hysteric, anancastic, anxious, dependent, etc.)

- F62 Chronic personality changes not connected with any injury or disease of the brain (after suffering an accident, after a mental disease, etc.)
- F63 Disorders in habits and drives (pathological disposition to games of chance, pyromania, kleptomania, trichotillomania, etc.)
- F64 Disorders in sex identification (transsexualism, transvestism of the double role, etc.)
- F65 Disorders in sex preference (fetishism, fetishistic transvestism, exhibitionism, voyeurism, pedophilia, sadomasochism, multiple sex preference disorders, etc.)
- F66 Psychological and behavioural disorders connected with sexual development and orientation (disturbance of sexual maturation, egodystonic sexual orientation by sex, disturbance of sex relations, etc.)
- F68 Other disorders of mature personality and behaviour in adults (exaggeration of physical symptoms for psychological reasons, deliberate causing or simulation of somatic or psychic symptoms or disability – simulatory disorder)
- F8 Disorders in psychological development
- F80 Specific disturbance of speech development (articulation, expressive speech, receptive speech, aphasia)
- F81 Specific disorders in the development of school skills (reading, spelling, counting)
- F82 Specific disorder in the development of motor functions
- F83 General developmental defects (infantile autism, atypical autism, Rett's syndrome, hyperactive disturbance, Asperger's syndrome)
- F9 Behavioural and emotional disorders that usually develop in children and juveniles
- F90 Hyperkinetic disturbances (disturbance of attention activity, hyperkinetic behavioural disorder)
- F91 Behavioural disorders (limited by family conditions, unsocialized, socialized, oppositionally provocative, depressive)
- F93 Emotional disorders specific for childhood (anxious disturbance owing to parting, phobic, social anxious disturbance, disturbance of sibling rivalry, etc.)
- F94 Disorders of social functioning with the beginning specific for childhood (elective mutism, reactive disturbance of attachment in childhood, disinhibited disturbance of attachment in childhood, etc.)
- F95 Tic disorders
- F98 Other behavioural and emotional disorders which usually develop in children and juveniles (inorganic enuresis, inorganic encopresis,

digestive disturbance in infancy, eating of the inedible in infancy and childhood, stereotyped dyskinesiae, stammering, breathless speech, etc.)

### **Organization of psychiatric aid**

In Ukraine, the Law on Psychiatric Aid was adopted; it regulates the rights of mental patients, the rules for giving them aid, as well as clearly determines indications for hospitalizing patients to psychiatric establishments. The basic clauses of the Law on Psychiatric Aid proceed from the statement that mental patients who are citizens of our country enjoy all the rights declared in the Constitution of Ukraine.

The Law on Psychiatric Aid is based on 10 main principles worked out by the Mental Health Department of the World Health Organization. These principles are as follows:

1. Development of mental health and prevention of mental disorders.

Every person should look after his mental well-being and take measures for eliminating causes of mental disorders.

2. Availability of the basic psychiatric aid.

The psychiatric aid must preserve dignity of the patient, it must be materially accessible, just, be at an accessible distance from the patient's place of living, as well as be given on the voluntary basis.

3. Assessment of the mental health in compliance with the generally accepted international principles.

This principle includes the following components:

a. the assessment of the mental health should be made solely with the purposes directly connected with the mental disease or its consequences;

b. the assessment of the mental health consists of: diagnosis, choice of treatment, determination of competence, determination of presence of a possibility to cause damage to the patient himself or other people as a result of the mental disorder.

Realizing this principle, it is necessary:

a. to observe generally accepted international principles;

b. assessing the possibility of causing damage to the patient himself and other people, to refrain from references to nonclinical criteria, e.g., to political, economical, racial and religious grounds;

c. every time when carrying on a new procedure of the assessment, to make a full reassessment, to refrain from using a case history of the mental disorder in the past as the only basis for the assessment.

4. Provision of the psychiatric aid in the least restrictive form.

If it is necessary to use various measures of restriction, one should periodically revise this decision (e.g., every 30 minutes in case of a physical restriction and not more than 4 hours).

5. Self-determination, i.e. receiving of the patient's consent before using any type of interference.

6. The right to receive help in self-determination.

If the patient experiences difficulties in assessing consequences of his decision (caused by the general level of knowledge, linguistic abilities, disease) he should be provided with potential assistants (a lawyer, a social worker).

7. Availability of the reassessment procedure.

Each decision must have a procedure of reassessment realized with the help of an official (a judge), deputizing persons authorized to take decisions (e.g., a guardian) and people rendering the aid. This procedure must be opportune (within 3 days after taking the decision) and the patient must be given an opportunity of personal presence.

8. The mechanism of automatic periodical revision.

In cases of decisions concerning treatment or hospitalization, with long-term consequences, it is necessary to have a mechanism of automatic periodical revision that should be automatic, with a reasonable interval (e.g., after 6 months), and carried on by a skilled person.

9. Qualification of the people taking a decision.

The people who take a decision concerning the patient must be:

- a. competent;
- b. informed;
- c. independent;
- d. impassive.

Ideally, the body taking a decision should consist of at least 3 persons.

10. Respect of law.

The decision must satisfy all the legal rules in force at this particular moment. The laws must be open, easily understood and in a clear form. The patient should be informed about his rights. The control over the actual application of the Law on Mental Health must be exercised by a body which does not depend upon the health care authorities.

The Ukrainian Law on Psychiatric Aid is composed with regard for 10 principles of the WHO. It consists of 10 sections, 33 clauses. The law describes the presumption of mental health, principles of giving the psychiatric aid, the state guarantees for providing mental patients with the psychiatric aid and social defence, determines confidence of the information on the state of mental health, etc.

The main principles of giving the psychiatric aid are as follows: humanism, lawfulness, observance of the rights of the man and citizen, voluntariness, accessibility. The psychiatric examination is to be made by a physician-psychiatrist on request or by realized consent of the person, as for children under 15 years – on their parents' request.

### **The scheme of organization of psychiatric aid**

#### **I. Out-patient (outside the hospital) aid.**

1. A psychiatric (psychoneurological) room of the children's or general polyclinic with a district pediatric or general psychiatrist, a psychiatric room of the central district hospital.
2. A psychoneurological dispensary or a dispensary department of the mental hospital of the city, region, republic: the general one whose structure includes pediatric, juvenile psychiatric and logopaedic rooms, or the pediatric one whose composition may have rooms of district pediatric psychiatrists and consultants (a logopaedist and others).
3. A narcological dispensary.

#### **II. In-patient psychiatric aid:**

1. City and regional mental hospitals in the system of health services composed of various typical departments (male and female ones, narcological, infectious, tuberculosis, forensic medical, etc.), including children's and juvenile departments.
2. Specialized mental hospitals in the system of the Ministry of Internal Affairs (for compulsory treatment of especially dangerous criminals who have committed illegal acts).
3. Narcological hospitals.
4. Psychoneurological departments at psychoneurological dispensaries, large somatic hospitals and military hospitals (for treating patients with acute short-term psychoses, neuroses and reactive states, residual phenomena of organic lesions of the brain with mental disorders, etc.).
5. Day-time and night-time departments (at mental hospitals or psychoneurological dispensaries) for completing the cure of convalescent mental patients and for conducting anti-relapse supporting courses of treatment for patients followed up at psychoneurological rooms and dispensaries.
6. Psychoneurological sanatoria (for adults and children).
7. Homes for disabled patients with chronic mental diseases (for adults and children).

#### **III. Social-rehabilitative establishments.**

1. Medical industrial workshops at mental hospitals and dispensaries.
2. Subsidiary farms at mental hospitals, rehabilitation centres.
3. Sanatorium schools (for children with asthenic states).
4. Schools and groups for children with speech and other disturbances.
5. Boarding schools and schools for mentally retarded children.

In places where a network of pediatric psychiatric establishments is not sufficiently developed yet, the out-patient aid is usually given at general psychiatric rooms and dispensaries. A significant part in early revealing adults and children who need psychiatric follow-up and treatment is played by family doctors, district therapists and pediatricians who by force of peculiarities in their work are the first to come across various mental deviations in patients during out-patient, prophylactic and other examinations.

### **Tasks of psychiatric establishments**

#### *1. Tasks of out-patient psychiatric establishments (rooms, dispensaries):*

- a) early revealing and registration of patients of the mental type;
- b) provision of dynamic dispensary follow-up of the patients;
- c) rendering of out-patient medical aid and referral for in-patient treatment;
- d) provision of social-rehabilitative, medical-pedagogical and legal aid to the patients;
- e) making of preventive examinations of the population in school, industrial and other staffs;
- f) doing of experts' work (forensic psychiatric, military medical and labour examinations), participation in the work of the commission selecting children for auxiliary schools;
- g) provision of the consulting aid at establishments of the general somatic network;
- h) doing of sanitary-educational work.

#### *2. Tasks of psychiatric in-patient departments:*

- a) rendering of all kinds of in-patient medical aid to patients;
- b) making of all kinds of in-patient experts' examinations;
- c) elaboration of concrete medical and social-readaptive recommendations for patients to be discharged;
- d) ensuring of continuity in the treatment and prevention with out-patient psychiatric establishments;
- e) doing of preventive and sanitary-educational work among the population.

#### *3. Tasks of social-rehabilitative establishments:*

- a) carrying out of all kinds of social-rehabilitative measures with respect to the patients and disabled, who are treated at medical establishments, and among the population;
- b) restoration of the capacity for work and provision of jobs (in children – restoration of the mental health without any interruption in the studies);
- c) general education and industrial training for people with mental retardation;
- d) correction of abnormal forms of behaviour in cases of distorted development of the personality.

### **The structure of a psychoneurological dispensary**

The structure of a psychoneurological dispensary may include the following rooms:

- 1) for district physicians-psychiatrists (if there are no district or local psychiatrists at corresponding polyclinics);
- 2) psychotherapeutic;
- 3) narcological;
- 4) children's;
- 5) juveniles';
- 6) logopaedic;
- 7) organizational-methodical;
- 8) for legal aid;
- 9) in-patient department, day-time in-patient department and medical industrial workshops.

### **The structure of a mental hospital**

1. Different types of medical departments: male and female, gerontological, somatic, tuberculosis, infectious (or a contagious isolation ward), pediatric and juvenile, forensic-psychiatric, neurosis department, reception department ("sanitary inspection room"), department for giving emergency psychiatric aid. In a number of mental hospitals, a system of territorial types of the main mental departments is introduced: the departments are assigned to certain districts of the city and region according to the dispensary districts, it ensuring a better continuity in the treatment of patients.

2. Different types of auxiliary medical services of the hospital: medical industrial workshops, a drugstore, laboratories, X-ray, dental, surgical, ophthalmologic, ENT, therapeutic rooms, physical therapy department, department of electrodynamic investigations.

3. Administrative and executive personnel of the hospital: the head doctor, his deputies, economic department, accounts department, medical department,

archives, storehouses (for wares, foods, patients' belongings, etc.), food department.

### **Arrangement and organization of the work of the mental department (hospital)**

1. Peculiarities in the arrangement of the mental department depend upon its functions:

- a) peculiarities in the fitting and equipping of the windows, doors, inner premises, etc. (prevention of escapes and self-injuring of the patients);
- b) subdivision into the observed and quiet (sanatorium) parts (provision of the maximum observation for excited, aggressive and suicidal patients, keeping them separately from quiet and convalescent patients);
- c) organization of the work of the manipulation room, nurse's posts, orderly's posts, etc. (ensuring of the medical process);
- d) equipping of the canteen, lavatories, rooms for the patients' rest and meeting with their relatives, classrooms, playrooms – at children's departments, etc. (ensuring of the comfort and all conditions for a normal implementation of the medical and social-rehabilitative process).

2. The staff structure of the department (hospital): the head, staff physicians, the head nurse, charge nurses, the nurse-mistress, orderlies, barmaids, etc.;

3. General rules of behaviour of the medical staff at the mental department:

- a) a tactful and attentive attitude towards any patient, respect for his personality;
- b) inadmissibility of deception of the patients;
- c) inadmissibility of arguing with the patients;
- d) inadmissibility of extraneous talks at the department;
- e) vigilance at the post, particularly with respect to the patients under special supervision (aggressive, suicidal, etc.);
- f) inadmissibility of penetration of any sharp and other dangerous things to the department;
- g) a vigilant keeping of the department keys;
- h) obligatory mutual informing about changes in the patients' state.

4. Documents of the mental in-patient department:

- a) case histories;
- b) a register of the patients' transference;

- c) a procedure register;
- d) a register of drugs distribution;
- e) a register of supervision over the patients.

### **Indications and the order of admission to the mental in-patient department**

Indications for the hospitalization may be as follows:

- a) absolute: of a social (a danger for the surrounding people) and medical (a need for urgent therapy) character;
- b) relative: (most frequently they are of a social character: inability to ensure nursing and supervision over the patient under home conditions, etc.).

In some cases of refusal from the side of the patient or his relatives, an urgent hospitalization is possible. The final decision about admission to a mental in-patient department is taken only by a physician-psychiatrist (in charge or a consultant) of this establishment after his personal examination of the patient. In case of any doubt in the mental health of the patient a physician of any speciality must direct him for a consultation to a psychiatrist of an out-patient or in-patient mental establishment, warning the patient's relatives or acquaintances about a necessity of fulfilling this administration and ensuring supervision over the patient during this period. The physician consulting the patient should inform him that he is a psychiatrist.

## **METHODS OF EXAMINATION FOR MENTAL PATIENTS**

The main method in examination of mental patients is the clinical-psychopathological one, which is based on a conversation with a patient, observation of his expression and behaviour.

The first acquaintance of the physician with the patient and establishment of an adequate psychological contact between them are of paramount importance. During the conversation the physician is also a subject of study from the patient's side. Mental patients, and patients in general, are very sensitive to manifestations of inattention, rudeness, tactlessness, superiority, falsity, they finely respond to kindness, sympathy, a merciful attitude to themselves from the side of the physician and medical staff.

In case of an inadequate emotional contact of the physician with the patient the latter develops watchfulness, distrust, a wish to hide his feelings with a resultant incorrect interpretation of the diagnostic value of the signs of mental and somatic disorders. Often the patients whose attitude to their state is not critical dissimulate, i.e. deliberately hide their mental disorders.

The physician should be able to listen to the patient, giving him an opportunity to tell about himself as independently as possible. Nevertheless, the conversation can be directed; the physician should skillfully ask questions trying not to induce the patients with them, more frequently ask to describe some or other symptoms with more details rather than to confine himself only to statement of the terms used by the patients, as they often put their own meaning to known terminological designations instead of the generally accepted one. Therefore the physician should ask the patient, "What is it?", "Describe with more details what really you feel."

The physician should put questions in the form understandable for the patient, use only the terms that the patient knows or, if something is not clear for the patient, patiently explain, be an active participant in the dialogue, listen to the patient attentively, not to be distracted for outside matters in the patient's presence. The physician must not emotionally respond to any absurdities heard from the mental patient or seen in his behaviour. In the end of the conversation it is necessary to tell the patient your preliminary opinion about his state in a delicate form.

### **The scheme of a case report**

1. Passport data (information)
2. The patient's complaints
3. The life history (according to the patient)
4. The case history (according to the patient)

5. The objective history (according to the people who know the patient)
6. The patient's state at the moment of examination:
  - a) somatic;
  - b) neurological;
  - c) mental.
7. Conclusions on the basis of the primary examination, the initial syndromological diagnosis.
8. Data of the follow-up and examination of the patient.
9. Differential diagnosis.
10. Making of the final diagnosis.
11. Administration of the treatment.
12. Making of the prognosis and social-labour recommendations.

**Passport data:** surname, first name, second name, year of birth, education, place of study or work, speciality, home address, date of hospitalization. This information is written down not only according to the patient, but is also made more exact from the available documents, according to the relatives who accompany the patient, or according to medical personnel.

The patient's complaints should be attentively listened to and assessed by the physician. Here it is necessary to pay attention to somatic complaints too rather than only to mental ones. It is prohibited to ignore the patients' complaints about pain or painful feelings in different parts of the body and regard them as a sign of a mental disorder. Underestimation of "somatic" complaints may result in development of severe complications in the patients' general state. On the other hand, some patients try to attract the physician's attention only to somatic complaints, as they do not wish to expose their mental feelings. In such cases the physician should tactfully transfer the patient's attention to description of his mental state.

**The life history (according to the patient).** It is principally important for a mental case report to collect anamnestic data about the patient's life before the case history. It should be done because during the conversation about the life of the patient the physician will impel him to be franker, while on the other hand it gives an opportunity to elucidate some episodes which the patient does not consider as relevant to the disease or deliberately tries to hide from the physician.

The study of the patient's life history is preceded by elucidation of the data about heredity, somatic and mental health of his nearest relatives. It is necessary to learn whether among the patient's relatives there were mental patients, people with an unusual character, suicides.

The physician should elucidate data about the course of pregnancy in the patient's mother, how the labour took place, if it was at term or not, whether there was an injury of the foetus or asphyxia during the labour. It is necessary to learn how the patient developed at childhood, when he began to walk and speak, whether he lagged behind children of his age in development or left them behind, if there was an uneven development of his mental or physical properties. Also it is necessary to question if he had sleepwalking, sleeptalking, nocturnal incontinence of urine. The physician should elucidate at what age the patient went to school and to what kind of it (mass, auxiliary, special, etc.), how well he studied, what subjects he preferred, what subjects came easy to him and what ones did not, what hobbies he had at school (reading, amateur talent activities, public work), what relations he had with people of his age and his parents, how the course of puberty took place, how many forms he finished and what did after it: went on studying or went to work. It should be noticed if the place of the subsequent study or work met his interests and wish. The physician should also take into account the patient's active service, beginning of his labour activities, how often he changed his jobs (places of study), relations in his collective bodies, interests, abilities, preferences, achievements in work, material and life conditions, presence of any factors traumatizing the psyche (their frequency, elimination). It is obligatory to describe the sexual development: appearance of the first menses, their character, regularity, beginning of the sexual life, relationships in the family, pregnancy, labours, whether this person has got children, the time when the menopause came on. The physician should elucidate previous diseases, exogenous hazards (infectious diseases, brain injuries, intoxications), presence of bad habits (use of alcohol, narcotics, toxic substances), occupational hazards.

***The case history (according to the patient).*** The case history must reflect the causes or provoking factors of the disease, contain a detailed description of the first signs of the disease, their acuity and development, effect on the patient's mode of life. It is necessary to question where the patient was treated, what doctors he consulted, when and under what circumstances (on his own initiative, on advice of his relatives or friends, he was urgently hospitalized) he took medical advice of a psychiatrist for the first time, what he was treated with and how he felt after the treatment. It is obligatory to notice the effect produced by the disease on the patient's capacity for work (if he could go on studying or working after the disease, left the study, his labour qualification decreased). If the patient was treated at mental hospital several times, the physician should describe each hospitalization in detail. It should be noted when the patient was hospitalized last time, for what reason and how it took place.

*The objective history (according to the people who know the patient)* envisages a necessity to collate the truth of the data told by the patient about his life and disease with the real facts and events. It is to be gathered in compliance with the same scheme as the case history according to the patient. The physician must remember that a so-called objective history contains some part of subjectivism in itself, therefore it is necessary to critically assess a degree of reliability of the provided information with regard for the life, type of the personality and structure of psychopathological feelings of the patient.

### **The patient's state at the moment of examination**

1. The somatic state: constitution, the state of nutrition, skin integuments, the state of internal organs (according to the general scheme of examination accepted at somatic clinics).

2. The neurological state: the state of cranial nerves, motor sphere (the range of movements, the tone of muscles, the state of reflexes – periosteal, tendon and cutaneous; pathological reflexes, statics and coordination of movements); the sensitive sphere (pains, the state of superficial and deep sensitivity); the autonomic nervous system (dermatographism, cyanosis, oedemata, lability of the pulse, etc.). The study is to be conducted in compliance with the scheme for examination of the neurological status at a neurological clinic.

3. The mental state (“mental status”):

- a) a degree of the contact of the patient with the physician (a good contact, a formal contact, etc).
- b) orientation in the place, in the surrounding people, in time, in his own personality (the state of consciousness);
- c) a perceptual disorder (metamorphopsiae, illusions, hallucinations), description of their character with respect to analyzers, by complexity, by the fullness of development, with respect to the patient, signs of hallucinatory behaviour;
- d) a disturbance of memory (hypermnesiae, hypomnesiae, amnesiae, paramnesiae, a study of memorization);
- e) a thought disorder: by its rate (acceleration, retardation, sluggishness of thinking), by coherence of associations (a splitting of thinking, paralogical thinking, incoherent thinking, philosophizing, detailing), by contents (fixed ideas, overvalued ideas, delusions), the contents of delusions, their systematization, delirious behaviour, dementia (the character of dementia, an experimental-psychological examination);
- f) disorders of emotions: mood, emotional responses during the examination (inadequacy of emotions, ambivalence, etc.), a disorder of

emotions by strength (strengthening, weakening), a disorder in the mobility of emotions;

- g) a disturbance in the effector-volitional sphere: the state of attention; the state of a purposeful activity – strengthening (excitement), weakening (retardation, etc.), perversion (catatonic symptoms, fixed irresistible movements and actions; impulsive acts); the state of drives (strengthening, weakening, perversion).

All psychopathological manifestations are to be illustrated with the direct speech, statements made by the patient, description of his behaviour, facial expression, etc.

**Laboratory examinations:**

- a) clinical analyses of the blood, urine, liquor, etc.;
- b) X-ray examinations;
- c) electrocardiography, electroencephalography, rheoencephalography;
- d) experimental-pathological ones.

*A conclusion made on the materials of the primary examination:* determination of the psychopathological syndrome, making of the initial diagnosis, administration of urgent medical measures.

*Data of the subsequent observation and examination of the patient* (laboratory examinations, results of examinations made by other specialists, records from diaries of everyday observation of the patients, etc.).

*Making of the differential diagnosis*, making of the final nosological and syndromological diagnosis and administration of the treatment.

In order to reveal and specify disorders of mental processes, an experimental-psychological examination is made. The methods of the experimental-psychological examination were studied in the course of the fundamentals of general psychology and medical psychology.

The investigation of attention, fatiguability and memorization is carried on using the proof-reading test, Crepelin's count, counting, finding numbers in Schulte's tables, learning 10 words by heart.

Peculiarities of thinking and intellect are investigated with help of the following tests: repetition of stories, explanation of subjects of pictures, classification of objects, definition of concepts, explanation of the figurative meaning of proverbs and sayings, Wechsler's test.

Peculiarities of personality are assessed using the Minnesota Multitype Personality Inventory (MMPI), Schmyschek's Inventory, Pathocharacterological Inventory.

The factors traumatizing the psyche and morbid feelings can be revealed by the method of unfinished sentences, with help of the topical aperceptive

test (TAT). Luscher's colour test and Taylor's alarm scale help in revealing latent depression.

The medical psychologist gives interpretation of the study results which are only auxiliary material for the physician.

In diagnosing exogenous-organic psychoses, neurophysiological (electroencephalography – EEG, rheoencephalography – REG, echoencephalography – Echo-EG), as well as neurovisualizing (X-ray examination of the skull, computed tomography of the brain) methods of examination are used. For diagnosis and therapy of many mental diseases, analyses of blood, urine and cerebrospinal fluid are used.

## **DISTURBANCES OF SENSATIONS AND PERCEPTIONS**

Sensations and perception are the initial stage in the cognitive activity of man, the sensual cognition of the surrounding reality.

**Sensation** is the primary psychic act, a mental process of reflection of separate properties and qualities of objects or events in the human consciousness, these objects or events producing a direct effect on the sense organs.

The reflection of the outer world is not limited by sensations, but is manifested in a more complex process – the process of perception.

**Perception** is a mental process of reflection of objects or events in the totality of their properties in the human consciousness, these objects or events producing a direct effect on the sense organs. This is a synthesis of a complex of available sensations and representations, rather than a mechanical unification of all sensations.

**Representation** is a trace of a former sensation or a former perception. This is an imagery recollection, a mental (subjective) image of the reality which appears in the human consciousness in the absence of the corresponding object or event that produced an effect on the sense organs before.

Representations are particularly important in children and juveniles. Representations are the main component of the children's imagination, the basis of creation, children's fantasies. Children at the age of 3-7 years have an extreme brightness and picturesqueness of visual representations, therefore it is difficult for a child to distinguish the images of representations from those of a direct perception. This ability to reproduce bright representations is termed eidetism.

Eidetism is a physiological phenomenon. It is peculiar to artists (visual), musicians (auditory).

**Imagination** is creation of new images on the basis of the existing representations. It is a sensual (imagery) basis for abstract (conceptual) thinking. In the act of imagination there is formation of not only new images, but later, in juveniles, of new ideas.

In order to better understand disturbances in the processes of sensation and perception it is necessary to know what distinguishes perception from representation, what properties the perception has. They are as follows:

1. Perception possesses a sensual verve.
2. Perception possesses extraprojection.
3. Perception does not possess any arbitrary changeability.
4. Perception possesses the sense of reality.

5. Perception possesses non-belonging to “me”.

The representation has the following properties:

1. It does not have any sensual verve.
2. It is projected in the inner world of a human being.
3. It can be arbitrarily changed.
4. It does not possess the sense of reality.
5. It belongs to the subject.

### **Classification of disturbances of sensations and perceptions**

I. Hypaesthesiae and anaesthesiae

II. Hyperaesthesiae

III. Paraesthesiae, synaesthesiae, senesthopathies

IV. Psychosensory disorders

1. Visual psychosensory disorders:

- a) micropsiae
- b) macropsiae
- c) dysmorphopsiae

2. Intero- and proprioceptive disturbances:  
an improper body scheme

V. Illusions

1. By analyzers: visual, auditory, olfactory, gustatory, tactile, of general feeling (visceral and proprioceptive).

2. By the mechanism of appearance:

- a) physical
- b) physiological
- c) psychic (affective, verbal, pareudolic)

VI. Hallucinations

1. By analyzers: visual, auditory, olfactory, gustatory, tactile, of general feeling (visceral and proprioceptive).

2. By complexity: simple (photopsiae, acoasm), compound (having some contents).

3. By the completeness of development: complete (true) and incomplete (false, pseudohallucinations, hallucinoids).

4. By the attitude to the patient's personality: neutral, commenting, imperative.

5. Particular kinds of hallucinations: hypnagogic, hypnopompic, extracampic, reflex, functional.

**Hypaesthesia** is a decrease of the subjective vividness and intensity of sensations and perceptions; it is manifested in such subjects through their loss of sensual verve, vividness and concreteness up to appearance of the feeling of their alienation (it is in the structure of the syndrome of depersonalization and derealization). For example, a patient with schizophrenia could look at the bright sun with unprotected eyes.

**Anaesthesia** is disengagement of sensations and perceptions owing to disturbances along the projection system or a lesion of the cortical nucleus of an analyzer (optic, auditory, tactile and other anaesthesiae). It is observed in hysteria.

**Hyperaesthesia** is intensification, increase of sensations of previously neutral stimuli, accompanied by hyperpathic emotional colouring. The stimuli are perceived as excessively bright or loud. The usual light dazzles, the sound of voice deafens, a touch is perceived as painful.

**Synaesthesiae** are intensification of receptivity of stimuli with radiation of sensations and perceptions to another analyzer; as a result, they acquire some colouring unusual for them, a character of dual sensation. That is, a sound stimulus gives rise to visual sensations, e.g., a colour (coloured music), an olfactory stimulus excites visual, coloured sensations (roses smell blue), a sound stimulus causes painful sensations.

Hyperaesthesia and synaesthesiae develop in the state of intoxication with hallucinogens.

**Senesthopathies** are various, extremely unpleasant, painful and unusual sensations originating from some internal organs and different areas of the body and having no causes for their origination in this particular organ. These are vague sensations in the form of burning, swelling, bursting open, pouring, twisting, pain in different parts of the body or in the organs where there is no pathological process (inflammation, degeneration, etc.). Senesthopathies may be localized or migrating, isolated or multiple. Typical for schizophrenia are senesthopathies which are fanciful, “florid” in character. For example, a patient complains of “a sensation of fear in the frontal area”, a sensation of the lungs “sticking together”.

**Metamorphopsiae** (visual psychosensory disorders) are a distorted perception of really existing objects with preservation of understanding of their meaning and essence, as well as a critical attitude of the patient to them (*dysmorphopsiae* are a distortion of the form of objects, *macropsiae* mean enlargement of objects, *micropsiae* are reduction of their size). Spatial relations are disturbed, there are changes in the time sense, assessment of distances, etc. Psychosensory *intero- and proprioceptive disorders* mean distortions or disturbances of perception of the corporal “ego”, they are manifested in the sense of changes in the proportions and dimensions of the body, its parts. Usually they are in the structure of such syndromes as

depersonalization, an improper body scheme, dysmorphophobia and the hypochondriac one. Examples: “the head is enormous”, the arms are too long, the teeth are loose.

**Illusions** are a distorted perception of a really existing object with a change of its contents, meaning.

Depending upon a disturbance in the activity of some or another analyzer, there are auditory (a distorted perception of the meaning of the real speech, hearing of voices in some noise, etc.), visual and other illusions. For instance, in the noise of a wind the patient hears voices: “we will kill you”. Instead of the cactus, the boy sees a porcupine on the window-sill.

Illusions of the general feeling (intero- and proprioceptive) include sensations of compressing, pressing, spasm, tension, pulsation in the internal organs and other parts of the body, i.e. those various and peculiar sensations which can ground on real stimulations of corresponding receptors too.

By the mechanism of appearance, illusions are subdivided into:

*Physical* – they appear as a result of peculiarities in physical properties of objects and substances (refraction of objects on the border of two media, mirages).

*Physiological* – they are connected with physiological peculiarities in the functioning of analyzers (e.g., the sensation of movement after the train stops; the horizon, where the land meets the sky; parallel lines at a distance are perceived as meeting together, etc.). They are caused by imperfection of the sense organs.

Illusions can be caused by the fact that attention is concentrated on one stimulus, therefore others may be perceived in a distorted way. Jaspers called these illusions as “illusions of inattention”.

*Psychic* illusions are connected with a change in the mental activity. They are: affective, verbal and pareudolic.

Strong emotions, fear, expectation, stress give birth to *affective* illusions. Their appearance is facilitated by difficult conditions for perception (bad illumination, audibility). Audible *verbal*, or *interpretative*, illusions develop when in different sounds (the noise of a wind, squeak, gritting of wheels of a train, etc.) or talks of the surrounding people the patient hears reproofs, orders at his address. These illusions are often accompanied by delusion of reference. *Pareudolic* illusions appear owing to a disturbance of consciousness (in intoxication, hyperthermia, taking of hallucinogens). In pictures of wallpaper, shadows of objects the patient with pareudolic illusions sees whimsical, fantastic monsters, dreadful images. Pareudoliae are compound sensual, imagery illusions. What was read and seen before acquires excessive strength and is superimposed on the real image which does not correspond by its contents. For example: in a verse “The Forest Vampire” by Goethe a sick boy

in a feverish state perceives the surrounding wood and sky as frightening, branches of the trees were seen as stretched pawns of a wood vampire.

**Hallucinations** are an imaginary perception without any real stimulus (image, phenomenon) at this time. For instance, the patient states that he sees a devil “making faces, dancing” before him and is excessively surprised that the physician does not respond to the devil and says that “he is not here”.

According to the phase-inhibition theory by Ye.A. Popov, hallucinations are pathomorphologically based on the equalizing and paradoxical phases of an incomplete protective inhibition.

*Visual hallucinations* are an imaginary perception of visual images without any real stimulus (image, phenomenon) at this time. For example, the patient states that he sees snakes crawling under the bed. As a rule, visual hallucinations reflect acute states, while auditory (verbal) and tactile hallucinations reflect chronic ones. Visual hallucinations are more typical for the exogenous-organic pathology.

*Auditory hallucinations*: the patient hears calls, talks, music, singing, etc., which do not exist at this moment. *Verbal hallucinations* in the form of a human speech are particularly distinguished. *With respect to the patient's personality*, they can be neutral, commenting (hostile, threatening, benevolent, antagonistic – some voices are kind, others are malicious), imperative, i.e. ordering the patient to do something.

Imperative hallucinations represent a grave danger for the patient himself and surrounding people because “the voices” may order to kill somebody, set a flat on fire, throw out valuable things, etc.

*Olfactory hallucinations*: the patient perceives some smells which are absent at present. They may be pleasant, but oftener they are foul, e.g., strong smells of burning, petrol, “the smell of flatus”. Strong smells are observed in the olfactory aura in epileptics.

*Gustatory hallucinations* are manifested by the fact that the patient perceives some gustatory stimuli which do not exist at this moment; often it is a smack of a poison, “bane” (mercury, lead, strychnine).

*Tactile hallucinations*: temperature ones, a perception of some moisture on the body, in the form of touches, compression, strokes, pinches, thrashes, stretching of the skin, etc.

*Visceral hallucinations (senesthopathic hallucinosis)*: there is a perception of an object or image in some organ or part of the body. For example, the patient saw that “some snake crawled into my mouth and settled in my oesophagus”.

*Simple hallucinations* (photopsiae, acoasm) do not have any contents. They are perceived in calls, light effects, luminous points, etc.

*Compound hallucinations* have some contents, may be in the form of images, scenes, panoramas, dialogues, talks, smells, touches, etc.

*True, complete hallucinations* are those ones that possess all the properties of perception, namely sensual verve, extraprojection, absence of an arbitrary changeability with a resultant sense of reality. For instance, the patient saw a witch. He vividly and lively described details in the appearance of the “witch”, her deathly pale body, “claws” (it was the reason to regard this image as a witch). She sat at the room, made faces, scared, but he could not do anything, the witch was real, “true”. This patient suffered from a complete, true hallucination.

*Incomplete hallucinations (pseudohallucinations)* are those ones that do not have some of the properties of perception. If there is no extraprojection, then it is a pseudohallucination, described by V.Kh. Kandinsky and manifested in the fact that the patient hears inside his head some voices, sounds, etc., or sees with “his inner eye” “some little fellows on the gyri” or other images. Pseudohallucinations lose such a property of perception as the sense of reality and differ from real stimuli.

### **Particular kinds of hallucinations**

**Hypnagogic** are the hallucinations which appear during a transition from wakefulness to sleep (when falling asleep). These hallucinations develop with closed eyes, they may be isolated or multiple, scene-like or kaleidoscopic.

Significantly less frequent are **hypnopompic hallucinations** which appear when waking up, i.e. during a transition from sleep to wakefulness.

These hallucinations disappear when the patient falls asleep or wakes up completely.

**Extracampic** are the hallucinations localized outside the visual field. For instance, a patient looking straight forward “sees” a devil behind him.

**Functional hallucinations:** a hallucinatory stimulus is perceived side by side, simultaneously with a real one. An example: in the noise of water one also hears the noise of water and “voices”. The difference between illusions and functional hallucinations lies in the fact that in illusions, instead of some stimulus, there is perception of another one by contents (not the noise of water when a tap is turned on, but a whisper speech), while in functional hallucinations, as it was said before, both the noise of water (real) and a hallucinatory speech in it are perceived.

**Reflex hallucinations:** these are reflected when a real stimulus (e.g., a turn of a key in a lock) is hallucinatorily perceived in another place (a turn of a key in the heart). Or, for instance, a spindle in a hand is perceived as a spindle spinning and buzzing in the heart.

**Suggested hallucinations** are called forth during a session of hypnotherapy.

**Negative hallucinations:** absence of perception of really existing objects.

**Episodical hallucinations:** they appear periodically, e.g., ecstatic ones in epileptics.

**Hallucinations of Charley Bonnet's type:** mentally healthy people who lost their sight or hearing develop visual or auditory hallucinations (with a critical assessment). For example: a female patient (who had become blind) saw “a blonde girl in a beautiful blue dress going along a fence painted green”.

**Phantom phenomena in people with amputations:** they are hallucinations in mentally healthy subjects (with a critical attitude to them), when a person perceives presence of an amputated extremity, may feel a pain in it, etc.

Children and juveniles most frequently have visual hallucinations (animals, monsters from the tales they have read, etc.), auditory ones being in the form of simple or elementary hallucinations (ringing, noises, shots, calls by name, etc.).

Hallucinations are revealed in a conversation with the patient, questioning him, observing his behaviour, facial expression, etc. Patients with auditory hallucinations would lend their ears to something, talk with “voices”. In case of visual hallucinations, patients would look attentively to something; patients with tactile hallucinations would whisk off something from themselves, etc.

In patients with delirium tremens, it is possible to call forth hallucinations (if they disappeared) or cause their intensification (if they are present) with help of a slight pressing on the eyeballs (Liepman's symptom). The physician may show a patient a clean sheet of paper and suggest to read a text written there (suggested hallucinations), and the patient will read a non-existent hallucinatory text (Rieger-Reichardt symptom). Auditory hallucinations intensify or appear in acute or chronic alcoholic hallucinosis after the physician suggests the patient to listen attentively to a monotonous sound of a metronome, clock (Bekhterev's symptom). It is possible to suggest a patient to speak on the telephone whose receiver is disconnected from the set, and the patient will “hear” a voice in the receiver (Aschaffenburg's symptom).

### **Syndromes of disturbances of sensations and perception**

1. **Syndromes of hallucinosis** (visual, auditory, tactile, etc.): an imaginary perception of images without any real stimulation of the corresponding analyzer, without a delusive interpretation of hallucinations, with or without a critical attitude.

2. **The syndrome of an improper body scheme:** psychosensory intero- and proprioceptive disorders in the form of a distorted perception of the corporal “ego”; it is manifested in the sensation of elongation, shortening,

bending of the extremities, head, internal organs, etc. It is in the structure of the syndrome of depersonalization.

3. **Depersonalization:** sensations of changes in the mental and/or physical, corporal “ego”. The patient feels all his body or its part estranged, there is estrangement of mental processes (thinking, behaviour). The patients feel like robots, automatons, they are unable to control their movements.

4. **Derealization:** a sensation of a change in the surroundings (remoteness, illusiveness, dimness) is perceived as an unusual state, accompanied by unpleasant feelings, often in combination with phenomena of depersonalization. It is observed in depression, schizophrenia. Here the orientation in the surroundings is not disturbed.

## **DISTURBANCES OF THINKING AND INTELLECT**

**Thinking** is the higher form of reflection of the objective reality, a process of a generalized and mediated reflection of objects and events of the material world in their natural connections and relations.

In pathological states, there may be a disturbance of the associative process or disappearance of connections between isolated thoughts, it demonstrating a disturbance of thinking by form. In other cases there is a disturbance in the process of formation of conclusions, the logic suffers, there is a disturbance of thinking by contents.

### **Classification of disturbances of thinking**

1. A disturbance in the formation of concepts:
  - a) pseudoconcepts
  - b) condensation of concepts
  - c) neologisms
2. A disturbance in the rate of thinking:
  - a) rapidity of thought, “galloping ideas”
  - b) retarded thinking
  - c) delay, arrest (Sperrung)
  - d) mentism
3. A disturbance in the form of thinking:
  - a) pathologically circumstantial thinking
  - b) philosophizing
  - c) non-continuous thinking – schizophasia
  - d) incoherent thinking
  - e) amorphous thinking
  - f) paralogical thinking
  - g) autistic thinking
  - h) symbolic thinking
  - i) verbigerations
  - j) perseverations
  - k) affective thinking
4. A disturbance in the contents of thinking
  - a) fixed ideas
  - b) dominant ideas
  - c) overvalued ideas
  - d) delusion-like fantasies
  - e) forced thoughts

f) delusions

### **Forms in the formation of delusion:**

1. Primary delusion (interpretative).
2. Secondary delusion (sensual, imagery).

The contents of delusions:

- a) persecution,
- b) influence,
- c) reference,
- d) pretence,
- e) damage,
- f) self-condemnation, self-humiliation,
- g) negation (nihilism),
- h) hypochondria,
- i) jealousy,
- j) love,
- k) invention,
- l) reforming,
- m) high origin,
- n) litigiousness,
- o) expansive delusions,
- p) induced delusions.

**Pseudoconcepts** are false concepts formed on the basis of casual, insignificant signs. For example, a female patient asks to give her green and feels hurt that she is not understood.

**Condensation of concepts (agglutination)** is manifested in a fusion of several concepts which are rather remote from one another. It is observed in schizophrenia and some organic lesions of the brain. For instance: *when a female patient was asked how she felt she answered “shockolately” and explained it in the following way: “after insulin shocks my health is beginning to return to normal”*.

**Neologisms** are new, unusual concepts created by patients.

For example, *complaining of her destiny a female patient says: “It is not life, but apheides and poltoraniae”*.

Pseudoconcepts, condensed concepts and neologisms are usually produced by patients with schizophrenia. But one should remember that sometimes neologisms are used as a literary device by writers and poets (Khlebnikov, Mayakovsky).

**Rapidity of thought** is observed in maniac and hypomaniac states of various origin: in the manic-depressive psychosis, exogenous psychoses, at

the initial stage of alcoholic intoxication. Usually rapidity of thought passes against a background of high spirits and increased distraction of attention, it is characterized by a rapid, easier development of associations, most frequently of superficial ones. The mental productivity of such patients is sharply decreased, they are characterized by an easy loss of the object of discourse. A significant rapidity of thought is termed “galloping ideas”. In galloping ideas the relation between thoughts is not lost, but the patient can say only some part of them, the speech lags behind the thought, having begun some phrase the patient passes to the second one without completing the first phrase, he skips words, hurries to say another thought, etc.

In case of rapidity of thought often there is a decrease of reasonableness, the sense of tact, confusion, the patients may say to a person’s face such things which a healthy person would prefer to keep to himself.

An example of the patient’s speech:

*“Doctor, I love you ... the love is not a vice, but a considerable swinishness... look at her, there is her grandson’s shirt under her gown... Friday from under Saturday... tomorrow will be Saturday and my husband will come... ha-ha... a husband is not a jazz band... ha-ha”.*

**Retarded thinking** is observed in asthenic states and the depressive syndrome; it is characterized by a decreased number of ideas accompanied by a subjective sensation of stiff thinking, the feeling of the patient’s own intellectual indigence. The thoughts pass slowly, the patients complain that they have “few thoughts”, it is possible to observe appearance of the sensation of emptiness in the head. The speech is slow and has scanty words, the patients answer questions in one syllable and after a long pause.

**Delay of thinking (Sperrung)** is manifested by a sudden arrest in the flow of thoughts. It is observed in patients with schizophrenia and easily revealed in a conversation. The patient would unexpectedly stop talking and then explains his silence by the fact that he had a delay of thoughts, for some time he had a sensation of absence of thoughts. Sperrung can be detected during an experimental-psychological examination when the patient’s activity is characterized by stops of various duration explained by the patient as “disappearance of thoughts”. Sperrung may last from a few seconds to several days. Sometimes it is accompanied by signs of psychic automatism; in this case the patient explains absence of thoughts as their “taking away”. Sperrung does not affect the speed in the course of associative processes, after the delay the thoughts pass again as usual.

**Flow of thoughts (mentism)** is an obsessional automatic flow of thoughts which is painfully felt by the patient; the thoughts incoherently appear and continuously flow in the consciousness irrespective of the patient’s wish. The flow of thoughts is in the structure of Kandinski-Clerambault psychic automatism syndrome. It is observed in schizophrenia, encephalitis, traumatic

injuries of the brain, in the state of extreme asthenia, in intoxications with some drug preparations (diphenylhydramine hydrochloride).

**Pathologically circumstantial thinking (stiff thinking)** is observed in epileptic dementia, at the remote period of epidemic encephalitis, in other organic diseases of the CNS. The disorder is characterized by thoroughness, an increased detailing, an inability to separate the main from the minor, a difficulty in switching over from some subject to another one. The speech includes words-parasites (“you see”, “so to say”, “so”, etc.). Repetitions, pauses, diminutive words and terms of endearment are typical. The patient would deviate from the main subject of the story, then some time later return to it and again turn to side details, his reaction to the questions with which his interlocutor interrupts his speech is little, even if these questions are to help him.

An example of the patient’s speech:

Question: “Did a person who got stuck in a bog act correctly when he tried to pull himself out by his hair?”

*Answer: “It is difficult to say exactly what hair, probably a dark-haired man, if it was very boggy, would not pull out himself unaided, or maybe nothing more remained for him to do. Let him have a nice time. I regret his hair, if it is good, like in a tale, they would pull and pull, but will they draw out the turnip? But it was difficult too.”*

**Philosophizing** means idle futile discourses deprived of a cognitive sense. It is observed in schizophrenia, other diseases. In philosophizing, the patient uses formal casual associations, where the purpose of a task is moved back to a background, while the patient’s desire to philosophize is moved forward to a foreground. Philosophizing is particularly striking in those cases where fulfilment of a task requires wordy definitions, wordings, comparison of concepts. In such cases it is possible to observe an increased pretentiousness in contrast with an insignificance of the object of the judgement, commonplace discourses, a pathetic tone of the speech, often against a background of an increase in the self-estimation and level of claims.

In schizophrenia, philosophizing reveals actualization of “weak” signs, disruption of associative processes, destruction of mental stereotypes formed during the life. In patients with epilepsy, philosophizing is of a compensatory character which reflects overestimation of the personality and is manifested by an instructive tone of speech, trite judgements with poor contents, as well as by inertness, a difficulty in distraction from the situation, a narrow range of thinking, egocentric tendencies with a poor stock of words. In oligophrenia at the degree of debility, philosophizing is of a compensatory character too, where loquacity of judgements hides poverty in the contents of speech.

Below is an example of philosophizing.

*A patient's treatise on subject "Why there is appearance of love". In the organism of a human being there is appearance of hormones. In a man they are male, in a woman they are female. These hormones are of a protein origin. But when did they originate? In what conditions? Every human being from the very moment of conception has an ability to excitement. Between an excited tissue and an unexcited one appears a biocurrent which externally is expressed by a magnetic flow. The force of this magnetic excitation changes depending upon the environment and the latter, therefore, can produce some effect on excitability of the organism. Hence the force of this magnetic field of one person (we suppose a man and a woman) begins to interact with another one. An internal excitation of the man creates one potential. The externally applied potential may contribute to the internal excitation. The human being perceives the externally applied potential by his olfactory, visual, sensual and auditory organs and the surrounding magnetic field which is not possible to see, hear and even feel.*

**Paralogical thinking** is observed mostly in schizophrenia and is characterized by a disturbance of logical relations in judgements, conclusions, arguments, cause-effect correlations. Here it is often possible to observe preservation of memory, ability to count, understanding and reasonableness with respect to many everyday occurrences. In case of paralogical thinking, the patient may use expressions with an inappropriate meaning, not caring whether some or another expression has any definite contents and meaning, there is no reasonableness and criticism with respect to logical mistakes; these mental disorders are difficult to correct. In paralogical thinking, the patient would ignore real true prerequisites and arguments, using instead of them conclusions which do not have any logical relation with the initial judgements.

**Slide-down, amorphous thinking:** it is a deviation from the main thought to some side-thoughts which substitute for the main one. A loss of logical relations may be complete or partial.

**Non-continuous thinking** is typical for schizophrenia and is manifested by absence of any semantic relations between concepts with preservation of the grammatical system of the speech. The patient's speech is deprived of contents and logical relation, though externally it seems regular because of preservation of grammatical relations. Only in case of a sharply expressed lack of continuity there is a disturbance in grammatical relations and then the speech consists of an irregular mere verbiage ("a wordy jumble"). In non-continuous thinking it is possible to observe slide-downs of the thought expressed in passing from some notion to another one without any natural logical relations, there is appearance of associations by a "weak" or "latent" sign. It is not in rare cases that the patient's speech does not depend upon presence of an interlocutor (a symptom of monologue), the speech does not

fulfill its function of communication any more, it becomes incomprehensible for the surrounding people.

Here are some examples of speech of patients with non-continuous thinking:

*“A cake of imperialism – it is forty chickens – having become sad, they were drawing her eyes on Whatman paper of the Moon, but a millionaire was whistling.”*

*“Show... I will eat it... Would bake pies... I don't know...I'll cut off the same one... pies... About neither Ivan nor Darego... Show... will be done by me... plastics... I'll eat... give a disk for pies.”*

*“I'll take all in my fist, carry... maybe rotated. Well, here you are... Ivan-pie... to press a button... to turn round... a small study... to walk on a platform.”*

*“And I am rolling a cigarette; but why a cigarette, maybe a single rat? Or maybe not a cigarette but a cake-dad. If a cake is dad, then cream will be mum.”*

*“Thank you, my dear fellow, that I am not Kate. Aunties and uncles, be so kind, look at my amiable finger.”*

Here is an example of “a wordy jumble”: *“Khiumala, riumala, piumala, zhiumala, mex, regis, pan, pan, pan, yarbin, dirbin, palamida, bruda plet, yatka, purus, lakkhid, elivator, acquirated, maniloid, tiuligen, thirty three, twenty five and two, twelve, twenty two, have mercy upon me, O Lord, let this soul repose with the saints, sands, cents, dollars mine, yours, Robert Burns, come, become, vemala, pemala, so, though, oh, low, no, go.”*

**Incoherent thinking** is characterized by inability to form associations; separate perceptions, images, concepts are not connected among themselves. There are no, even primitive, mechanical associations by likeness, by contiguity in time and space. The patient is disorientated in time and place, does not understand what is taking place around him, he is confused. The patients' speech is incoherent, it consists of separate, casual words, not connected either by meaning or grammatically, the phrases are constructed in wrong ways.

Incoherent thinking is observed in acute exogenous psychoses, accompanied by a disturbance of consciousness in the form of amnesia, and is indicative of a severe state of the patient.

Below is an example of the speech of a patient with incoherent thinking:

*“Sewed... got cold... bang... roar... never... yes, yes, to nobody... spun... cornfields... oh-oh-oh. But the mother is so young, very young, pyoung... tibol and nif... an utter rout.”*

**Autistic thinking** rests upon the patient's inner feelings, his subjective aims, wishes, fantasies, rather than on real facts. The patient does not pay any attention to the fact that his thoughts contradict the reality. Rather often it

appears as “a dawn” and is expressed in realization of the patient’s “innermost wishes”.

**Symbolic thinking:** the patient supplies various concepts with some allegorical meaning which is absolutely unclear for other people, but for the patient himself has a certain sense. The patient may symbolically understand the speech of the surrounding people, the meaning of colours. For instance, having seen a nursery maid wearing a yellow jacket a female patient declared: “She is a traitor, because yellow is the colour of treachery”.

**Verbigeration** is a senseless repetition of the same words or scraps of phrases or a simultaneous appearance of two contrary thoughts. It is typical for schizophrenia.

**Perseverations and stereotypies of thinking:** sticking to some representations. They are manifested by repetitions of the same words or sentences many times, and for this reason the patient’s answers sometimes become senseless.

It is not in rare cases that perseverations and stereotypies accompany aphasia in patients with apoplectic or senile dementia, they are also observed in other organic lesions of the brain.

Here is an example of the speech of a patient with perservation:

*Question: “What are your first and second names?”*

*Answer: “Piotr Ivanovich.”*

*Question: “In what year were you born?”*

*Answer: “Ivanovich.”*

*Question: “Where do you live?”*

*Answer: “Ivanovich.”*

**Affective thinking:** the patient constructs his judgements and conclusions on the emotions and wishes prevailing at the moment, rather than basing on logic.

**Fixed ideas** are representations and thoughts which appear involuntarily (irrespective of the patient’s will) and are alien to the contents of consciousness at this moment; they are characterized by a critical attitude of the patient to them, understanding of their morbid character, as well as by an active aspiration for getting rid of them. Unlike delirium, patients with fixed ideas preserve their critical attitude to them, the course of these ideas is episodic, fit-like. They are observed in neurosis of annoying states, in psychasthenic psychopathy.

**Dominant ideas** are right thoughts which are connected with the life, prevail in a person’s consciousness and sometimes prevent him from concentrating on the current activity. For instance, constant thoughts about a sick child during work. They are more frequently observed in depression.

**Overvalued ideas** are judgements resulting from real circumstances but owing to their emotional saturation they take the prevailing meaning in the consciousness which is disproportional to their objective importance. Overvalued ideas are fruitless, the thinking becomes unilateral, everything that is not connected with the overvalued aim or contradicts it is ignored and suppressed. Overvalued ideas may affect the behaviour, inciting the subject to exclusive actions.

Unlike delirium, overvalued ideas yield to correction, though with difficulty, under the influence of forcible logic arguments and a change of life circumstances, it contributing to a loss of their affective saturation and urgent significance. They are observed in psychopathies, schizophrenia, affective psychoses.

**Delusion-like fantasies** are relatively short-term and most typical for juvenile psychopaths who want to appear before people of their age playing a hero, an outstanding personality, and with this purpose they exaggerate facts, invent fables and believe in them themselves.

**Forced thoughts** are elementary, they appear in the consciousness unexpectedly, any stage of doubt and struggle is absent. The patients would ask to keep them from throwing themselves into a stair-well, spitting into somebody's face, because they are not sure that they are able to control themselves. Such thoughts are observed in patients who suffered encephalitis, a brain injury.

**Delusions** are wrong judgements and conclusions which appear on a morbid basis, completely seize the patient's consciousness and do not yield to correction. They reflect reality in a distorted way, are notable for constancy and firmness; any attempts to dissuade the patient, prove him incorrectness of his delusional constructions, as a rule, result only in intensification of delirium. Typically the patient is convinced and confident in an absolute reality and reliability of delusive feelings.

Development of delirium is connected with a certain dynamics in the patient's state. At first, there are emotional disorders in the form of internal tension, unexplained anxiety, foreboding of some inevitable evil, increasing alarm. The patient tries to understand what is going on, why the surroundings have acquired a new meaning which is not clear for him, often there is appearance of a delirious perception: everything around seems unreal, artificial or threatening, ominous, having some particular meaning hidden from the patient. Delirious perception is directly connected with formation of delirious representation, on whose basis some events in the past of the patient's life are particularly distinguished in their new meaning. Finally, there is development of delirious realization: a peculiar dawn with realization of the essence of events not understood before, delusional judgements receive some

concrete contents, it is accompanied by a subjective sense of relief, emotional calming – crystallization of delirium occurs.

**Primary delusion** is based on false interpretations originating from either real facts of the outer world or inner sensations and feelings. The patients interpret behaviour of the surrounding people and their statements in an unexpected way. The same happens with respect to inanimate objects too.

This delusion is systematized, stable, expanding and complicating.

**Secondary (sensual, imagery) delusion** appears in presence of other mental disorders: hallucinations, disorders of emotions and consciousness. Its intensity corresponds to that of these mental disorders. Most frequently, sensual delusion appears acutely, usually it is unsystematized, unstable, its plot is vivid, but unstable.

Depending upon the contents of statements, the following kinds of delusion are distinguished: delusions of persecution, influence, poisoning, jealousy, self-condemnation and self-humiliation, grandeur, etc., the name usually reflecting the contents of delirious feelings.

The delusion of grandeur is manifested in the patients' statements that they are people of outstanding intellect and great strength. In the delusion of wealth the patient states that he possesses great treasures. Different clinical kinds of delusions are not specific for some definite mental disease. Thus, delusions of grandeur, high origin and wealth may be observed in the maniacal phase of the manic-depressive psychosis, in the expansive form of general paralysis of the insane, paraphrenic states of various genesis. Within the limits of each nosological form the delusions have their clinical peculiarities. In the maniac syndrome, delusions of grandeur depend upon the affective state and do not reach any significant expressiveness; in general paralysis of the insane, delusions are absurd, amorphous, unstable; in the structure of the paraphrenic syndrome, delusions are of a systematized character.

In the delusion of invention, the patients tell about their invention of various apparatuses, devices and instruments which are to improve the life of the mankind. Such a kind of delusions is often observed in the paraphrenic syndrome within the framework of schizophrenia.

In case of erotic delirium, the patient feels personal interest taken in him by some representatives of the opposite sex. The object of delirious feelings is usually subject to a real persecution from the side of the patient who sends her numerous love-letters, makes appointments. Often it is accompanied by the patient's morbid overestimation of his own personality. This delirium is most frequently observed in schizophrenia.

Delusions characterized by a negative emotional tint are typical for depressive states. These are delusions of self-condemnation, being sinful, impoverishment, a bodily defect, in hypochondria. The delusions of self-

condemnation, self-humiliation and being sinful are observed in the expressed circular depression. In involuntional melancholia there are delusions of self-condemnation and impoverishment passing against a background of the anxious-depressed affect.

The delusions of reference are manifested in the fact that any event or act of the surrounding people acquires a particular significance in the patient's eyes. The red colour of the traffic light means that there will be bloodshed. As soon as the patient takes a tram all people inside it begin exchanging glances.

The patient with delusions of persecution would state that he has become an object of persecution by some people or their group who have united with the aim to kill him. It should be remembered that such patients represent a certain social danger, because often from the persecuted they become persecutors and inflict severe injuries to their imaginary offenders.

In case of the delusion of influence the patients are convinced that they are subject to influence with help of various devices, rays (delusion of physical influence) or hypnosis, telepathic suggestion at a distance (delusion of psychic influence). Patients with delusions of poisoning state that somebody adds some poison to their food, fills the flat with a lethal gas, etc.

The delusions of reference, influence, persecution and poisoning are most frequently observed in schizophrenia. The delusions of poisoning accompanied by those of a bodily defect are observed in involuntional psychoses.

In the delusion of reference supplementing the delusions of persecution, the patient takes events indifferent to him as referring to himself. What is going on around him has a double meaning, everything is of particular significance (delusion of special meaning).

The delusion of jealousy is characterized by the patients' statements about adultery of their partners in marriage. The patients spy upon their wives or husbands, constantly try to find out proofs of the adultery; all the behaviour, appearance, statements of the spouse, his/her surroundings and events are considered as "evidence" testifying to the adultery. It is not in rare cases that such patients are socially dangerous as they may make attempts to kill the unfaithful spouse and his/her imaginary lovers. The delusion of jealousy is observed in schizophrenia and alcoholism.

Induced delusions originate in a mentally healthy person as a result of adoption of delusions from a mental patient with whom the induced subject contacts. Most frequently it develops in personalities with a low intellectual level, who are unable to correctly comprehend the situation in a critical way and have increased suggestibility. In these cases the induced person begins to state the same delusions and in the same form as the mental patient does. Usually they are people from the patient's surroundings who have particularly close personal contacts with him and are his family members or relatives.

Appearance of the induced delusion is facilitated by the patient's deep conviction in the truthfulness of his thoughts as well as by the authority he had before the disease.

Patients with the delusion of pretence, the delusion of intermetamorphosis state that everything around them is specially fabricated, scenes of some performance from their life are played, it is carrying out of an experiment, a double game, everything continuously changes its meaning: at one moment it is a hospital with its medical staff and patients, at another one it is some investigation establishment; the physician is not a physician, but an investigator, the case report is a file with his personal records, the patients and medical staff are disguised officers of security services.

The delusion of damage: the patients believe that evil-wishers inflict them some material or moral damage, rob, spoil their belongings, defame them, infringe upon their rights. Usually it is manifested within the framework of the delusion of persecution.

The delusion of litigiousness, or querulousness: the patients convinced in an inattentive, unjust or ill-disposed attitude to them provoke conflicts, devote themselves to disclosures, waste for it much strength, time and sometimes all their material resources, complain to various establishments and departments, involving still more and more new people into their delusions; the subjects of the delusions are drawn from the real situation: squabbles with their neighbours, conflicts with members of their family and colleagues.

In case of the depressive delusion with hypochondriac subjects at an old age, statements easily become of a grotesque, megalomaniacal character. Here, by its contents, the delusion becomes nihilistic, or the delusion of negation. For example, at first the patient states that he has an undiagnosed severe disease of his stomach and he is dying of it; later he makes statements that he has no stomach as it has already rotted and there is some emptiness in its place; soon one may hear that the patient himself does not exist either, he is a living corpse, he has decomposed alive; still later he says that there is nothing – no world, no life, no death (Cotard's syndrome).

The hypochondriac delusion is connected with a conviction of having a severe incurable ailment. Close to it is dysmorphomania which may be defined as a delirious conviction in the presence of a bodily defect, most frequently of visible parts of the body: the form or size of the nose, ears, teeth, arms, legs, etc. Dysmorphomania is characterized by depression, a careful disguising of their "bodily defects" by the patients, an activity aimed at correction of the imaginary defect up to surgical operations, a tendency to appearance and development of delusions of reference.

## Speech disturbances

Thinking is expressed through oral and written speech whose disturbances occur in various diseases.

Two main forms of the oral speech disturbances are distinguished:

a) those caused by mental disorders (affect, delirium, a cloudiness of consciousness, etc.) and b) those caused by an organic lesion of the brain, where first of all sensory-motor “instruments” of the speech suffer. Sometimes, speech disturbances caused by neurotic states are distinguished too.

**Speech disturbances caused by mental disorders** concern its rate, articulation, grammatical system and contents.

**Accelerated speech.** A slight degree of accelerated speech in some cases is manifested by verbosity, in others it alternates with sayings, puns, aphorisms, metaphors and quotations adopted from works of literature; it makes the speech more figurative and expressive. The consistency and meaning of statements here obviously do not suffer. In case of a marked acceleration of speech the patients do not have time to finish a begun thought, the phrases are suddenly brought to an end, the subjects of statements are continuously changed, and the speech itself becomes curt, rather often it is interrupted by questions for which the patients do not expect to receive any answers and go on talking themselves. The speech may alternate with laugh, cries, whistling, singing, etc. Here the meaning of statements and their consistency are always disturbed. A further acceleration of the speech results in the fact that statements begin to become phrases with an uncoordinated meaning, consist of isolated words and, lastly, there may appear scraps of words or inarticulate sounds.

**In slow speech**, spontaneous statements decrease in number. The stock of words becomes poor, the grammatical structure of phrases simplifies. In a number of cases the patients answer in one syllable: “yes”, “no”, etc. The free speech may completely disappear, this symptom is termed mutism.

**Disturbance of articulation** is manifested by an increase in the sound intensity up to crying or, on the contrary, its weakening down to whispering. Depending upon affective and other disturbances, there may be theatrical, grandiloquent, pathetic speech or, on the contrary, it is moaning, lamenting. Changes in the speech articulation depend upon the stresses made on separate words or phrases, on appearance of intonations unusual for this person, e.g., in puerile speech. Peculiarities of articulation are manifested in such shades of speech when it contains confidence, peremptoriness, evasiveness, reservations, sugariness, sugariness, humility, bewilderment, anxiety, etc.

**Disturbances in the grammatical system and contents of statements** usually do not represent an isolated disorder. In many cases they are closely connected with the rhythm of speech and articulation.

These disturbances are as follows:

**Bradyphasia:** a common term for all cases of slow speech.

**Verbigeration (stereotypic speech):** a monotonous repetition or screaming out of the same short phrases, words or interjections.

**Anxious verbigeration:** a monotonous repetition or screaming out of short phrases, words or interjections having some depressive contents: “send me to a crematory”, “it is terrible, it is terrible, it is terrible; I am dying, I am dying”, etc.; “oh, oh, oh”, etc.

**Glossolalia (cryptolalia):** creation of one’s own language in which neologisms prevail. In every patient, the vocabulary and syntax are constant; thereby it makes possible to understand to some extent what they say.

**Logorrhea (polyphrasia, incontinence of speech):** rapid, garrulous speech; it may be accompanied by incoherence of its contents.

**Miss-talking (miss-speech):** the patients’ answers are not connected with the questions asked to them; sometimes their out-of-place answers include some words from the question.

**Monologue:** uninterrupted speech addressed to an interlocutor but caused first of all by the patient’s inner state rather than by a necessity to exchange opinions. In a monologue, the patients may pay no attention to any questions asked but go on talking themselves. A monologue may consist of words which are correctly pronounced and syntactically united, but to a significant degree it may be made of fragments of words and paraphasiae (verbal and literal), be accompanied by logoclonism and disturbed syntax (Alzheimer’s disease). If a monologue is a constant form of speech it is a reliable indication of some mental disease in combination with negative signs.

**Mutism:** absence of any verbal communication with surrounding people, but the speech apparatus is intact.

**Elective mutism:** absence of verbal communication when talking about certain subjects, in certain situations or with respect to certain people.

**Hysteric mutism:** absence of verbal communication accompanied by expressive or hyperexpressive facial expression and movements.

**Mirror speech:** pronunciation of words (read, heard, spontaneously appearing) from their end.

**Pretentious speech (mannered speech):** use of the words which are uncommon, hardly understood or have an inappropriate meaning.

**Oligophase speech (oligophasia):** slow, monotonous (plateau), grammatically simplified speech with scanty words.

**Puerile speech:** use of words and turns of speech typical for children by an adult: use of diminutive words, lisping, burr, a simplified or distorted grammatical structure of phrases, mentioning of oneself as the third person.

**Sugary speech:** slow speech with use of diminutive forms of words, trite expressions containing a lot of attributes with a positive affective assessment (“sweet, good, dear”).

**Telegraphic speech** consists of short or desultory phrases having no prepositions and conjunctions.

**Echo speech** (echolalia): an automatic single or multiple (echopalilalia) repetition of some words (echophrasia) heard from the surrounding people.

**Schizophasia** (schizophasic speech): a form of broken speech (a set of words having no meaning is united into phrases which are constructed keeping grammar rules).

### **Speech disturbances mostly caused by organic lesions of the brain**

**Aphasia:** a disturbance of speech with an absolute or partial loss of ability to understand anybody’s speech or use words and phrases for expressing one’s own thoughts; the articulation apparatus and hearing are intact.

**Amnesic aphasia** (nominal aphasia): loss of the ability to name objects with preservation of the ability to describe them. An inability to name fingers is the initial manifestation of amnesic aphasia.

**Motor aphasia** (expressive, Broca’s aphasia): a disturbance in the motor activity of speech with preservation of understanding oral and written speech.

**Sensory aphasia** (semantic aphasia): a disturbance in understanding speech.

**Dysarthria** (dysarthric speech): a disturbance of articulation with an unclear pronunciation (slurred, staggering speech), slow or interrupted speech.

**Jargonaphasia:** a variety of sensory aphasia with incoherent speech, garrulity and abundance of paraphasiae (literal and verbal).

**Logoclonism:** a convulsive, interrupted multiple repetition of some syllables or interjections (“ta, ta,, ta, ta,” etc.).

**Palilalia:** a multiple repetition of the last syllable in a word or the last word in a sentence.

**Paraphasia:** a distortion of certain elements of speech in aphasia (a disturbance in the order of words in a sentence, replacement of some words or sounds with incorrect ones).

**Neurotic speech disturbances** include aphonia, psychogenic aphonia and stammering.

**Aphonia:** absence of the sonority of voice with preservation of the whisper speech.

**Psychogenic aphonia:** aphonia caused by a psychic trauma. Hysterical aphonia is a variety of the psychogenic one.

**Stammering:** a disturbance in the fluency of speech with appearance of involuntary delays in pronouncing some sounds and syllables or with their repetition.

### **Disturbances of intellect**

**Mental deficiency:** a steady decrease in the level of intellect. There are two kinds of mental deficiencies: congenital (**oligophrenia**) and acquired (**dementia**).

An acquired mental deficiency is caused by epilepsy, as well as organic diseases characterized by atrophic processes in the cerebral matter (syphilitic and senile psychoses, vascular or inflammatory diseases of the brain, severe brain injuries), schizophrenia.

In schizophrenic dementia any severe disturbances of memory are never observed; a deficiency in schizophrenia concerns the emotional life and thinking in the form of the increasing apathy and splitting, disintegration in the unity and integrity of mental processes.

In epilepsy, a foreground of the picture of dementia contains changes in thinking: excessive thoroughness, “stickiness”, stiffness, prevalence of the concrete-descriptive element over the generalizing one.

Lacunar and total dementiae are distinguished. The former is characterized by a decrease in the capacity for work, a progressive loss of knowledge and skills, an irregular weakening of memory, poor judgements, affective instability, loss of flexibility in mental processes, deterioration of adaptability, decrease of self-control. As a rule, the patients critically assess their intellectual defect. But the patient’s attitude to the surroundings, his relatives and friends remains like it was before, a sphere of interests undergoes little changes, the convictions formed before are preserved. The personality becomes poor, but preserves its own system of relations, basic moral-ethic properties. In such cases one says about an organic decrease in the level of the personality, formation of “a residual personality”.

In total dementia, a complete disintegration of the personality takes place. It is characterized by a sharply expressed narrowness in the sphere of interests coming to satisfaction of the elementary biological necessities. In the first turn, the highest levels of the personality and higher emotional manifestations suffer here. The patients are roughly uncritical to their mental deficiency. In some cases, the lacunar and total dementiae are stages in the development of a pathological process. The clinical picture of cerebral atherosclerosis and syphilis of the brain may demonstrate development of lacunar dementia into total one.

Depending upon the degree of expressiveness, it is customary to divide oligophrenia (congenital mental deficiency) into idiocy, imbecility and debility. Oligophrenia has different causes: hereditary factors (50 % of all cases of oligophrenia); mother's diseases during pregnancy (intoxication, infection); a physical injury of the foetus; a difficult childbirth causing a cerebral haemorrhage or brain injuries in a newborn, etc. Unlike dementia, oligophrenia has no progradency, i.e. a further destruction of the nervous system. In oligophrenia, a regular deficiency of all aspects of the intellect is most frequently observed, while dementia is characterized by a lack of correspondence between fragmentary remainders of knowledge, testifying to abundance of the person's former experience, and a general decrease in reasonableness and criticism. Moreover, in oligophrenia there is underdevelopment of the whole body rather than of the psyche only.

Patients with a deep degree of idiocy are characterized by absence of speech, they do not recognize the surrounding people, their facial expression is vacant, their attention is almost not attracted by anything; they swallow food without chewing it well. A sharp decrease in all kinds of sensitivity is noticed. Such patients begin to walk late. Their movements are poorly coordinated. They do not respond to other people's facial expression and gesticulation, they are slovenly in relieving nature and are not capable of self-servicing. Sometimes it is possible to observe stereotyped movements, e.g., pendulum-like swings of the head or trunk from side to side.

Idiocy of the moderate and mild degrees is characterized by an ability to laugh and weep, some understanding of other people's speech, facial expression and gesticulation. Such patients are able to fix their look on objects. There is some development of the orientation reflex in them. They can independently eat food, but do it untidily; they may comprehend some simplest situation, and though they orientate themselves in a familiar place, they absolutely lose any orientation in time. Their vocabulary is limited by several dozens of words. They recognize their relatives and friends and may demonstrate an elementary attachment.

In case of imbecility, the patient's speech is more or less developed. But its development takes place with a delay, the patients begin to talk during the 3<sup>rd</sup>-5<sup>th</sup> year of their life. The stock of words is extremely poor. The patients understand other people's speech, facial expression and gesticulation within the range of their constant use. They do not comprehend a new situation to the end and need help, directions and guidance. They master the simplest skills but display them carelessly. With difficulty, they learn counting up to 20, can learn letters of the alphabet by heart, but are not able to master reading and writing.

Debility is a mild form of oligophrenia. The patients possess a significantly larger vocabulary than in imbecility, but lack flexibility of speech

and mostly resort to stereotyped expressions, hackneyed phrases, learned turns of speech. It is not in rare cases that speech defects in the form of lisping and agrammatisms are observed. Differentiated movements are insufficiently developed, but simple forms of labour activity may be mastered. It is possible to teach such patients in conditions of auxiliary school.

### **Syndromes with a prevailing disturbance of thinking**

**The paranoid syndrome** is characterized by presence of unsystematized delusions with various contents in combination with hallucinations and pseudohallucinations. An imagery delirium, most frequently a delusion of persecution, appears acutely and is notable for a variety of its plot, vividness and a large scope. The patients are anxious and uneasy, they feel fear, sometimes they are confused. They cannot understand who persecutes them, how and what for. More frequently, their behaviour is passive-defensive. It is observed in exogenous, psychogenic psychoses, schizophrenia.

**Kandinski-Clărambault syndrome** is a variety of the paranoid syndrome and characterized by phenomena of psychic automatism manifested in such forms as ideational (somebody guides the thoughts), motor (the patient's movements are directed by a strange force) and emotional ("they make the mood", "they excite joy, sorrow, fear, delight"). Pseudohallucinations (most frequently auditory), delusions of influence, mentism, symptoms of openness of thoughts (feelings that the patient's thoughts are understood by the surrounding people) and putting of thoughts (a sensation that the patient's thoughts are somebody else's ones transmitted to him). It is not in rare cases that the patients have a sensation that in their heads their own or somebody else's thoughts are heard or there is their forced interruption. Sometimes delusions of influence spread to the patient's relatives or acquaintances rather than to the patient only, in such cases the patients are sure that not only themselves but other people also are under somebody's influence. It is most typical for schizophrenia.

**The paranoiac syndrome** is characterized by presence of a systematized delirium with absence of disturbances in perception and psychic automatisms. The delusions are based on real facts, but the patients' ability to explain logical relations between phenomena of the reality is impaired, the selection of facts is one-sided, according to the plot of the delusion. It is not in rare cases that during a long period the patients try to prove their case, lodge complaints, bring actions, become "persecutors of their persecutors", that may be socially dangerous to some extent. It is observed in schizophrenia, presenile and reactive psychoses, alcoholism.

**The paraphrenic syndrome** is a combination of a systematized or unsystematized delirium with psychic automatisms, verbal hallucinations,

confabulatory sufferings with fantastic contents, a tendency to high spirits. Most of all it is typical for the late stages of schizophrenia.

**Cotard's syndrome** is characterized by a combination of hypochondriac delirium with delusions of grandeur against a background of a melancholy mood. The patients develop delusions of damage, death, destruction of the world, self-condemnation for perpetration of grave crimes; typical are statements that their "intestines have rotten", they "have no heart", the patients may believe that they died long ago and now are being decomposed. Most frequently, Cotard's syndrome is observed in involutional depression.

### **Peculiarities of disturbances of thinking in children**

Prevailing here are elementary disturbances, mostly of the rate. A delirium is rare; as a rule, it is unsystematized. The delirium is simple, concrete and unstable. In obsessions, manifestation of the component of struggle is insignificant. The adolescent age is more frequently characterized by delusion-like fantasies, overvalued ideas of invention and dysmorphophobic ideas.

Diagnosis of disturbances of thinking and intellect is established by conversation, observation of the patient, as well as using experimental-psychological techniques (generalization of concepts, exclusion of concepts, comparisons, classification, interpretation of a figurative meaning of proverbs and sayings, an association experiment, explanation of plot pictures, determination of the sequence of events, determination of intellect by Wechler's technique).

## **DISTURBANCES OF MEMORY**

**Memory** is a mental process of imprinting, preservation and reproduction of the previous experience. Disturbances of memory in mental and somatic diseases manifest themselves by an inability to memorize, retain and reproduce the material mastered. Most frequently, disturbances of memory occur in exogenous-organic (infectious, toxic, traumatic) psychoses and atrophic diseases of the brain. It is possible to observe a reduced capacity for memorizing against a background of a disturbance of attention in cases of development of overstrain states, as well as at the period of convalescence following somatic diseases.

Quantitative and qualitative disturbances of memory are distinguished. The quantitative ones include extreme retentiveness of memory (hypermnnesia), defective memory (hypomnesia) or a complete loss of memory for a certain period (amnesia). Qualitative disturbances of memory (paramnesiae) are represented by cryptomnesia, confabulation and pseudoreminiscence.

### **Classification of disturbances of memory**

- I. Extreme retentiveness of memory (hypermnnesia)
  1. Fixation
  2. Reproductive
- II. Defective memory (hypomnesia), loss of memory (amnesia)
  1. Fixation
  2. Reproductive
  3. Retrograde
  4. Anterograde
  5. Anteroretrograde
  6. Progressive
  7. Affectogenic
- III. Paramnesiae
  1. Pseudoreminiscences
  2. Confabulations
  3. Cryptomnesiae
- IV. A disturbance in the sensation of familiarity
  1. Symptom of “deja vu”
  2. Symptom of “jamais vu”
  3. Symptom of one’s own negative and positive double

**Hypermnesia** means an extreme retentiveness of memory; most frequently it is observed in maniacal states, sometimes in syndromes of impaired consciousness. It is not in rare cases that hypermnesia is accompanied by facilitation of the association process. More frequently, an intensification of the process of reproduction takes place. Thus, in situations endangering their life, people, unexpectedly for themselves, remember episodes from their childhood which were forgotten long ago. Fixation amnesia manifests itself mostly by an extreme retentiveness of the mechanical memory rather than of the logical one.

**Hypomnesia** means defective memory. Development of hypomnesia begins with relaxation of spontaneous reproduction (reproductive hypomnesia): the patient cannot remember a necessary word or name. Concentration of attention only deteriorates results of the search for a forgotten word, but some time later, when this word loses its urgency for the patient, it arises in the memory as if itself. It is followed by a worsened retaining of information in the memory, after that a progressing insufficiency of remembering is noticed. Hypomnesia is also characterized by an initial defect in the mechanical memory and a longer preservation of the logical, associative memory.

**Amnesia**, a loss of events that took place in a certain period from the memory, occurs both following the states of disturbances of consciousness and owing to severe organic lesions of the brain. In the first case amnesia usually involves a more distinctly limited period of time.

The following types of amnesia are distinguished.

**Fixation amnesia:** a loss of the ability to remember, a lack of the memory for current events. Fixation amnesia indicates to severe disturbances of memory, it is observed in senile dementia, Alzheimer's disease, as well as in Korsakoff's syndrome of the infectious, toxic or traumatic genesis.

Fixation amnesia is easily revealed in a conversation. The patient is told his interlocutor's first and second names, asked some irrelevant question and immediately after that requested to repeat the first and second names he has just heard. Inability to repeat indicates to the presence of fixation amnesia. Also, the patient is not able to remember the contents of the book he has just read, what he ate for breakfast, where he has put a thing he needs. Coming to a shop, such patients are unable to remember what they wanted to buy. It is not in rare cases that such patients reveal amnesic disorientation: they cannot name the today's date, month, year, the town where they live, they are not able to find their ward, bed.

**Reproductive amnesia:** an inability to reproduce the information required at this moment. It occurs in asthenic states, fatigue, anxiety, cerebral atherosclerosis, etc. For example, patients with cerebral atherosclerosis are unable to remember the necessary name, date, term in some crucial situation,

but some time later, when the necessity in it passes away, this information may come back to their memory.

**Retrograde amnesia:** disappearance of some events in the memory which took place a few minutes, days or even weeks before the cause of amnesia (a brain injury, insult, epileptic seizure, poisoning, self-hanging, etc.). For instance, often a person who received a brain injury as a result of a car accident does not remember the very moment of the accident and also can say nothing about other events of that day preceding the accident, even if after the loss of consciousness he regained it and in outward appearance his behaviour is correct.

**Anterograde amnesia** is characterized by problems in recalling events which took and take place already after the onset of the disease. Expressiveness of the amnesia often depends upon the extent of the disturbance of consciousness. In deep disturbances (soporific state, coma) the amnesia is of a total character, while a return from delirium is followed by partial, fragmentary amnesia.

If under unfavourable exogenous effects the same patient reveals a combination of anterograde and retrograde amnesia, in these cases the term “**anteroretrograde amnesia**” is used. Retrograde or retroanterograde amnesia is one of the signs of Korsakoff’s syndrome.

**Progressive amnesia** is a loss of the ability for memorization and a gradually increasing impoverishment of the stock of memory. It is a typical sign of senile dementia. The development of progressive amnesia corresponds to the Ribot’s law: at first, the memory loses the recently acquired information, the patient forgets current events or those which took place recently, while recollections of the events which happened long ago are kept relatively long. Often at this stage of progressive amnesia there is brightening-up of recollections about the patient’s remote past: the patients live by feelings of their childhood and youth, tell about intercourse with their relatives who died long ago. For example, a female patient with senile dementia names the address at which she lived with her parents in childhood, her maiden surname, but does not remember her husband’s surname with whom she has lived several decades. The amnesia spreads from the new to the old, from the recent time to remote past.

Sometimes, amnesia develops in a psychogenic way. Then the patient’s memory loses some definite feelings which were usually hard and unpleasant. In such cases the term “**affectogenic, or catamimic amnesia**” is used.

Qualitative disturbances of recollections (**paramnesiae**) designate changes in the contents of recollections.

**Cryptomnesia:** a distortion of the memory manifested by disappearance of differences between the real events and those ones which were seen in sleep, heard or read by the patient. In cryptomnesia, the disturbances may be

both by the type of appropriation and alienation of the recollections. In the first case, somebody else's ideas or creative work, once perceived by the patient, are realized as his own, new, original. For instance, a patient may tell his interlocutor a story which he has heard himself from this person a few minutes before. In the other case, the patient may assess the events, whose participant he really was, as if they were read about or seen in a film. Cryptomnesia also includes reproduction of somebody else's thoughts as the patient's own ones, it sometimes resulting in an unrealized plagiarism.

**Confabulations:** false recollections with some fantastic contents, recollections of the events which did not and could not happen in the patient's life ("hallucinations of memory"). In confabulations, spotty memory defects are filled with fiction; the patient "recalls" what has never occurred in reality. For example, a female patient, who has been ill with cerebral insult, says that last week she was "launched into space" from a mountain which she describes, she states that she left there her slippers and remembers that she was very cold during the flight. Confabulations are usually picturesque, amorphous, unstable, by their plot they may resemble reality or have some evidently fantastic contents. Confabulations are observed in organic diseases of the brain (vascular lesions of the central nervous system, injuries, intoxications, infections, e.g., in cerebral syphilis) against a background of hypomnesia. Together with the fixation, antero- and retrograde amnesiae they are structural components of Korsakoff's syndrome.

**Pseudoreminiscences** are false recollections of the facts which did not take place at this period, but were or could be in the patient's past life ("illusions of memory"). Unlike confabulations, they are more stable and repeatedly mentioned by the patient. Pseudoreminiscences are characterized by distorted recollections of the time or place of real events. For example, when a male patient, who has been staying at a mental hospital for several months, is asked what he did a day before, he "recalls" that he was at home and lists different things which he allegedly made.

### **Disturbances in the sensation of familiarity**

Disturbances in the sensation of familiarity comprise a specific group among the symptoms of disturbances of memory. In such cases, disturbances of memory may be accompanied by a pathology of perception, emotions, consciousness.

The symptoms of "deja vu" ("already seen") and "jamais vu" ("never seen") are distinguished. The symptom of "deja vu" comes to the thing that seeing something for the first time in his life the man feels as if it already happened to him some time before. It is accompanied by a critical understanding of the erroneous nature of this sensation. Thus, having come to

a strange town for the first time, a person walks along its streets with a feeling as if he has already been here.

The symptom of “jamais vu” consists in the fact that something well familiar is perceived as strange, alien, as if seen for the first time. The criticism remains preserved, the person realizes the fact of the disturbance, he understands that it only seems to him, the knowledge of the phenomenon itself remains unchanged too. Thus, once entering his room the man actually does not recognize it, though he knows well all the peculiarities of the premise and its furniture.

**Capgras’ syndrome** (named after J.M. Capgras) is manifested by a disturbance in recognizing people. The following syndromes are distinguished: **the syndrome of a positive double**, when the patient regards unfamiliar people as his friends, and **the syndrome of a negative double**, when the patient does not recognize his relatives and acquaintances, considers them as dummies, twins, doubles of his relations.

**Fregoli’s symptom** is a variety of Capgras’ syndrome: such patients believe that their “persecutors” change their appearance in order not to be recognized by anybody.

Disturbances in the sensation of familiarity usually accompany psychosensory disorders and are revealed in the structure of the syndromes of depersonalization and derealization. Most frequently, these disturbances are observed in patients with encephalitis, brain tumour, consequences of a brain injury, in epilepsy, schizophrenia, manic-depressive psychosis.

**Korsakoff’s amnesic syndrome** includes disturbances of memory for the current events (fixation amnesia), retro- and anterograde amnesia, pseudoreminiscences, confabulations, amnesic disorientation.

Korsakoff’s syndrome is observed in an organic cerebral lesion caused by infectious diseases of the brain, intoxication (including alcoholic one), brain injury, vascular cerebral pathology, etc.

Peculiarities in the patient’s memory can be assessed with help of the clinical-psychopathological method: in the process of a conversation the physician checks his memory for recent and remote events asking special questions. It is necessary to check the memory for commonly known historic events. In order to assess short memory, the physician may suggest that the patient should remember and then repeat a phrase or a short story.

If the patient has paramnesiae, in a conversation with him the physician reveals contradictory answers, uncoordinated with one another. In order to facilitate detection of paramnesiae, it is possible to ask some leading questions which contain an element of suggestion. Thus, asking the patient how long ago we saw him last time we thereby cause in him a false idea that we already saw each other once. A positive answer demonstrates presence of false recollections in the patient.

When assessing the state of memory, it is necessary to take into consideration the patient's general state; e.g., in depression, patients may complain of defective memory and demonstrate its reduction caused by narrowing of the sphere of interests and reduced concentration of attention. In this case it is necessary to carry on an additional experimental-psychological study of the memory.

Presence of confabulations and pseudoreminiscences always indicates to a significant impairment of the memory. If the patients are inclined to false recollections, it is possible to receive answers which even contradict to one another rather than only do not conform to one another. It may happen that in his answers to the questions containing an element of suggestion in itself, the patient does not give a positive reply, but at the same time he does not decline the question, does not point out its groundlessness and tries to find some corresponding recollection. It shows that the patient is not sure in his recollections, he has defective memory. In an old age, false recollections are of the character of recollections whose development is not spontaneous but results from some prompted questions or a called direction of thoughts. For instance, we ask about some letter, and it reminds of a letter received, though the patient did not receive any letters.

The technique of investigating disturbances of memory in the hospital for psychoses presupposes such a form of its performance that it should not resemble an examination. Wherever it is possible, the physician should emphasize the medical character of the study. Usually, after some introductory phrases, the patient may be asked about the state of his memory, and after his answer the physician may pass to the investigation, making it delicately and carefully in order not to grieve the patient. For instance, it is possible to ask if he knows the first and second names of his physician, and after the answer that he does not know tell him these names and ask to remember them; then the patient may be asked one or two other questions, e.g., about the name of his wife and the number of his children, after receiving his answers it is possible to ask again if the patient remembers his physician's first and second names. If the patient does not remember them, he may be asked if he has been informed today about the first and second names of his physician. Naturally, in cases of disturbances of memory it is necessary to repeat studies of this type from time to time.

Some patients refuse to undergo investigations of their memory, as they are afraid to reveal its disturbance. In such cases the physician asks questions concerning recent feelings, for example, if the patient remembers what has recently happened to him, what he has eaten for breakfast today, whether he was visited by his relatives, when he saw his physician last time. And if the patient is not able to recall what his physician talked to him about or who visited him, whether he was given an injection, how much time he has been

staying at the hospital, or at different times gives different answers to the same questions, a conclusion about some pathology of his memory can be made.

In order to investigate the state of memory, experimental-psychological techniques are used: from the simplest methods (tests for memorization of words, repetition of increasing lines of figures in the direct and reverse order after an interlocutor) to rather complex techniques requiring some experience in their use (Wechsler's memory scale, Benton's test for visual retention).

## DISTURBANCES OF EMOTIONS

**Emotions** (from Latin “to excite, to agitate”) are responses in the form of subjectively tinted feelings of an individual which reflect significance of an acting stimulus or a result of his own act for him (pleasure, displeasure).

**Mood:** a prolonged emotional state which does not reach any significant intensity but tincture all mental processes during several hours or days; the emotional tone may be both positive and negative.

**Affect:** a short-term, wild emotion accompanied by excitation of the whole psychic activity rather than by an emotional response only.

**Physiological affect** appears under the effect of strong stimuli, it is characterized by some one-sidedness of thinking and a stormy motor response which, nevertheless, are controlled by the consciousness (a person preserves an ability to be aware of his actions and control them). The physiological affect is not accompanied by any cloudiness of consciousness, automatism, amnesia. It is most frequently observed in asthenic states.

**Asthenic affect:** a rapidly weakening affect accompanied by depression, a reduction in psychic activity, general state and vitality.

**Sthenic affect** is characterized by a good general state, an increased psychic activity, a feeling of one’s own strength.

**Pathological affect** appears in response to an outwardly insignificant cause; it is characterized by a wild emotional response with a disturbance of consciousness (its twilight state), a motor excitement with destructive actions, a sharp autonomic response. Typically, it is followed by a sleep and amnesia of the events taking place in the period of the affect. It may appear in patients with asthenia, but more frequently is observed in excitable psychopaths and patients who survived brain injuries, suffer from cerebral atherosclerosis, hypertension, etc.

Differentiation between the physiological and pathological affects is practically important in forensic psychiatric examination.

**Passion:** a strong, steady and deep feeling that embraces the whole person and overrides the main directions in his thoughts and activity.

### Classification of disorders in emotions and feelings

1. Disorders in the strength of emotions.

1) Pathological strengthening:

- a) hyperthymia
- b) euphoria
- c) hypothymia
- d) ecstasy

- e) depression
- f) alarm
- g) irefulness
- 2) Pathological weakening:
  - a) paralysis of emotions
  - b) apathy
  - c) emotional flattening
  - d) emotional bluntness
- 2. Disorders in the motility of emotions:
  - 1) faint-heartedness (unrestrained emotions)
  - 2) lability
  - 3) inertness (stickiness) of emotional feelings
  - 4) explosiveness
- 3. Disorders in the adequacy of emotions:
  - 1) inadequacy
  - 2) ambivalence
  - 3) phobiae
  - 4) dysphoriae
  - 5) dysthymiae
  - 6) pathological affect.

**Hyperthymia:** a merry, joyful mood accompanied by a surge of cheerfulness, an excellent general state, easiness in solving problems. It is accompanied by a lively and rapidly changing facial expression which reflects a picture of rapidly appearing and disappearing emotions. Manifestation of the facial expression responses is often exaggerated, extremely wild and vivid. Expressive actions are intensified and accelerated, they rapidly change and in a number of cases achieve the maniacal excitement.

**Euphoria:** pathologically high spirits, often appearing without any connection with the surrounding reality and the physical state of the patient himself. It is usually observed in maniacal states, as well as some serious diseases (tuberculosis, cardiac diseases). In organic processes, euphoria is often of an incongruous, foolish character (the moria-like and hebephrenic states). It is a structural component of the maniacal, maniacal-delirious, oneiric, paraphrenic syndromes, drunkenness, intoxication and narcotic inebriation.

**Moria** is characterized by a combination of high spirits with a disinhibited drive, foolishness, stupid and incongruous jokes, sometimes against a background of obnubilation of consciousness. It is more frequently observed in lesions of the frontal lobes of the brain.

**Hypothymia:** low spirits, a feeling of depression, melancholy, inconsolability. The attention is concentrated only on negative events; the present, past and future are perceived only in dark colours.

**Depression:** a pathologically depressed, melancholic, sad mood, deep grief, low spirits. It is often accompanied by various physical painful feelings, a sensation of difficulty in breathing, heaviness in the heart region (precardiac melancholy). It is observed in the depressive phase of the manic-depressive psychosis, presenile psychosis, reactive psychoses, schizophrenia. In a number of cases the patients lose sensations, become indifferent to the people and events that gave rise to expressed emotions in them before. Such an absence of usual emotions causes an agonizing feeling of spiritual bankruptcy, it is painfully felt by the patients, gives rise to blues (a morbid anaesthesia of the psyche) in them. The morbid anaesthesia is observed in the manic-depressive psychosis, involuntional depression, the circular form of schizophrenia. Sometimes the painful feeling of inconsolable melancholy is accompanied by excitement (agitated depression or a melancholic burst).

**Alarm:** a feeling of internal anxiety, expectation of some trouble, misfortune, catastrophe. The feeling of alarm may be accompanied by a motor anxiety, autonomic responses. The alarm may grow into panic, when the patients rush about, fret or are paralysed with horror expecting a catastrophe. It is a structural component of the neurotic, anxious-depressive, acute delirious, affective delirious syndromes and the syndromes of a cloudiness of consciousness.

**Irefulness:** the highest extent of irritability, maliciousness, dissatisfaction with the surrounding people accompanied by an inclination to aggression and destructive actions. It is a structural component of dysphoria, twilight states of consciousness, the psychoorganic syndrome.

**Apathy:** a weakening of emotions, a painfully felt indifference to the surroundings and the patient's own behaviour. The patients are not interested in the surroundings, do not express any wishes. It is usually accompanied by a sharp reduction in the mental, volitional activity. It may be observed in intoxications, after cranial injuries and infectious diseases.

**Emotional flattening** consists in a loss of fine differentiated emotional responses: delicacy and the ability to feel for other people disappear. The patients become importunate and impudent. It is observed in alcoholism and narcomaniae.

**Emotional bluntness:** a steady and absolute indifference, particularly to sufferings of other people. Weakening of emotional manifestations involves both higher and lower emotions connected with instincts. Such patients are indifferent to their disease, they do not suffer on the occasion of diseases and deaths of their parents and children. It is typical for schizophrenia.

**Paralysis of emotions:** a feeling of an absolute spiritual bankruptcy and indifference developing under the effect of sudden severe psychic traumas. Usually it is of a short-term character.

**Lability of emotions:** an easy change of emotions, a rapid transition from one emotion to another accompanied by a significant expressiveness of emotional responses. It is usually observed in hysterical psychopathy.

**Faint-heartedness, emotional weakness** is manifested by an unstable mood, “ unrestrained” emotions, when the person’s ability to control his feelings is weakened. It is particularly difficult for such patients to restrain tears in the moments of tender emotions, a sentimental mood. Fluctuations of the mood, a transition from negative to positive emotions and vice versa take place under the effect of insignificant causes, it testifying to an increased emotional sensitivity. It is observed in the state of asthenia, a period of convalescence following somatic diseases, brain injuries, at the initial stage of syphilis of the brain, and progressive paralysis, but particularly often in cerebral atherosclerosis.

**Rigidity** (inertness) is characterized by a protracted stickiness to some emotion whose cause has already disappeared. It is a structural component of epileptic changes of the personality, the psychoorganic syndrome.

**Explosiveness:** a failure to restrain affect. It is revealed in dysphoriae and manifested by strong emotional and sometimes motor responses, which are not adequate to their cause.

**Inadequacy of emotions:** a lack of correspondence between emotional responses and external situations, which caused them, or statements made by the patient himself. It is most frequently observed in schizophrenia.

**Ambivalence:** a simultaneous development of two contradictory feelings (e.g., love and hatred) to the same object. It is usually observed in schizophrenia.

**Phobiae:** morbid fears, characterized by the patient’s critical attitude to them, his yearning for getting rid of them (for instance: the morbid fears of height, open spaces, infections, etc.). More frequently, they accompany other fixed states (thoughts, drives, actions) in patients with the compulsion neurosis, sometimes in the initial stages of atherosclerosis, in schizophrenia.

### **Varieties of morbid fears (phobiae)**

- Agoraphobia: a morbid fear of squares, broad streets.
- Aerophobia: a morbid fear of some moving air.
- Acarophobia: a morbid fear of catching scabies.
- Algophobia: a morbid fear of pain.
- Astrophobia: a morbid fear of thunder and lightning.
- Vertigophobia: a morbid fear of having vertigo.

- Vomitophobia: a morbid fear of having vomiting.
- Haematophobia: a morbid fear of blood.
- Hydrophobia: a morbid fear of water.
- Gynaecophobia: a morbid fear of women.
- Claustrophobia: a morbid fear of close spaces, small rooms.
- Nyctophobia: a morbid fear of darkness.
- Nosophobia: a morbid fear of disease.
- Cancerophobia: a morbid fear of falling ill with cancer.
- Syphilophobia: a morbid fear of falling ill with syphilis.
- AIDS-phobia: a morbid fear of falling ill with AIDS.
- Radiophobia: a morbid fear of falling ill with a radiation-induced disease.
- Oxiphobia: a morbid fear of sharp objects.
- Octophobia: a morbid fear of food.
- Thanatophobia: a morbid fear of death.
- Phobophobia: a morbid fear of fears.

**Dysthymia:** a short-term (during several hours or days) mood disorder in the form of anxious depression with irreflexivity, displeasure, irritability.

**Dysphoria:** a suddenly appearing and unmotivated disorder of emotions characterized by a strained, depressed and malicious mood with an expressed irritability and inclination to affects of anger with aggression. It is most frequently observed in epilepsy, it also takes place in organic diseases of the nervous system and psychopathy of the excitable type.

Disturbances of emotions are accompanied by changes in the facial expression and expressive movements.

**Hypermimia:** manifestation of mimic responses is exaggerated, wild and vivid. Expressive movements are intensified, accelerated and rapidly change.

**Amimia, hypomimia:** impoverishment of facial expression, a set expression of the face. Expressive movements are delayed.

**Paramimia:** inadequacy of the facial expression and expressive movements to the situation. In some cases it is manifested by a smile at a funeral, tears and grimaces, crying during ceremonial and pleasant events. In other cases mimic responses do not correspond to any feelings; they are various grimaces. For example, a patient closes his eyes tight and opens his mouth, knits his brow, puffs out his cheeks, etc.

### **Syndromes of disturbances of emotions**

1. Depressive (melancholic) syndrome.
2. Maniacal syndrome.
3. Generalized anxious disorder.

4. Panic disorder.

5. Phobic disorders.

The most frequent of them are the depressive and maniacal ones which are characterized by a triad consisting of mood disorders, motor disturbances and changes in the course of associative processes. Also typical are disorders of the attention, sleep and appetite.

The **depressive syndrome** is characterized by a depressive triad: a depressed, sad and melancholic mood, a delayed thinking and a motor inhibition. Expressiveness of the above disorders is various. The range of hypothymic disturbances is wide: from mild depression, sadness and disappointment to a deep melancholy when the patients feel some heaviness, a pain in the chest, lack of any prospect, uselessness of their existence. Everything is perceived in dark colours: the present, the future, the past. In some cases the melancholy is perceived as a painful physical sensation in the region of the heart, some “precardiac melancholy” in the chest, rather than as a mental pain only.

Inhibition in the association process is demonstrated by an impoverishment of thinking; there are scant thoughts, they flow slowly and are confined to unpleasant events (diseases, ideas of self-condemnation). No pleasant events are able to change this direction of the thoughts. Answers to questions in such patients consist of one word, often there are long pauses between the question and the answer.

Motor inhibition is manifested in delayed movements and speech, the speech is low and slow, the facial expression is sorrowful, the movements are delayed, monotonous, the patients may remain in the same posture for long periods. In a number of cases, motor inhibition achieves absolute immobility (depressive stupor).

The psychotic variant of the depressive syndrome is characterized by delusions of self-condemnation, self-humiliation, sinfulness and culpability which may make the patient think about suicide.

The depressive syndrome is usually accompanied by some expressed autonomic disturbances: tachycardia, unpleasant sensations in the heart region, fluctuations in the blood pressure with a tendency to hypertension, disturbances in the gastrointestinal tract, loss of appetite and body weight, persistent constipations, endocrine disorders.

In recent years, physicians often reveal so-called “latent”, “masked” depressions in their patients, where expression of the emotional component of the depressive syndrome is insignificant and somatoautonomic disturbances prevail. “Masks of depression” may have various clinical forms.

1. *“Masks” in the form of psychopathological disorders:* anxious-phobic (a generalized anxious disorder, anxious doubts, panic attacks, agoraphobia), obsessive-compulsive (obsession), hypochondriac, neurasthenic.
2. *“Masks” in the form of a disorder of the biological rhythm:* insomnia, hypersomnia.
3. *“Masks” in the form of autonomic, somatic and endocrine disorders:* the syndrome of autonomovascular dystonia, vertigo, functional disturbances of the internal organs (the syndrome of hyperventilation, cardioneurosis, the irritable colon syndrome, etc.), neurodermitis, skin itching, anorexia, bulimia, impotency, disorders of the menstrual cycle.
4. *“Masks” in the form of algiae:* cephalgia, cardialgia, abdominalgia, fibromyalgia, neuralgia (of the trigeminal and facial nerves, intercostal neuralgia, lumbosacral radiculitis), spondylalgiae, pseudorheumatic arthralgiae.
5. *“Masks” in the form of pathocharacterological disorders:* disturbances of drive (dipsomania, narcomania, toxicomania), asocial behaviour (impulsiveness, disputability, fits of aggression), hysterical responses.

When diagnosing “latent depressions” it is necessary to take into consideration such their symptoms as:

1. The highest manifestation of the subjectively unpleasant feelings is in the morning.
2. Polymorphism, indefiniteness, abundance of persistent somatoautonomic complaints which exceed the limits of a certain disease.
3. Disruption of the vital functions (sleep, appetite, menses, potency, loss of weight).
4. Periodicity of the disorders, their spontaneous appearance and disappearance.
5. Their seasonal character (most frequently in spring and autumn).
6. Application of different methods of investigation does not reveal any concrete somatic disease.
7. Absence of the effect of somatic therapy.
8. The patient is treated by doctors of different specialities for a long period of time, persistently and without any result, but despite failures in the treatment he persistently goes on visiting doctors.

Different variations of masked depression are observed at the depressive phase of the manic-depressive psychosis, presenile and reactive depressions, schizophrenia, somatogenic psychoses (in combination with asthenia, alarm, melancholy).

**Maniacal syndrome** is characterized by the maniacal triad: euphoria (inadequately high spirits), acceleration of associative processes, and a motor excitement with a yearning for activity.

Typical for the maniacal syndrome is distraction; for this reason the patients are not able to complete what they began to do, consistently inform their anamnestic information. Despite the fact that the patient talks with his physician willingly and without a stop, this conversation is fruitless, as the patient distracts to various external events or associations which appear in him. Usually these associations are of a superficial character.

Patients in the maniacal state usually do not produce any somatic complaints, they feel a fresh surge of physical strength rather than “high spirits” only. In this state they are inclined to overestimate their abilities and opportunities.

The sexual drive may be intensified, the patients would easily come into contacts, strike up sexual acquaintances, marry, give empty promises.

Mild variants of maniacal states are customarily termed as hypomaniae.

Different variants of the maniacal syndrome are observed in the manic-depressive psychosis, as well as in schizophrenia, protracted symptomatic psychoses, after brain injuries, in progressive paralysis and acute intoxications.

**A generalized anxious disorder** is manifested by complaints about some internal stress, alarm, foreboding of some imminent trouble, but they are not connected with any definite circumstances. It is characterized by anxiety and restlessness, difficulties in concentration, muscular tension, tremor, various autonomic disturbances.

**A panic disorder:** an episodic paroxysmal alarm which appears suddenly, mostly at night, with fits of a painful alarm and the fear of death, a sensation of a lack of air, tachycardia, nausea, sensations of numbness in the extremities, fever or cold, cold sweating for up to one hour or even longer.

**Phobic disorders:** periodically appearing fits of fear which have concrete sensual contents: a sudden cardiac arrest, loss of consciousness, accident, etc., where a psychological defence against a conflict of the personality unrealized by the patient is manifested. The fits may be timed to a certain situation: being alone, in a close space, in a crowd of people, when crossing a street, going in the public transport, etc., but they rarely take place in medical establishments, in presence of a physician. They are accompanied by autonomic signs. *Social phobiae* are connected with the fear to find himself in an awkward situation before other people: to turn red in the face, to look ridiculous; for this reason the patient avoids crowded places, public performances, etc.

### **Comparative age-related peculiarities of the maniacal syndrome**

It is possible to suspect the hypomaniacal state in children of the preschool age and young pupils only in those cases when their high spirits with euphoria and rough disorders of behaviour last long. Hypomania at this age may be manifested by a motor disinhibition, fussiness, disobedience, stubbornness, garrulity.

At the early pubertal and pubertal age, the euphoric mood in the maniacal state may be rather clear, but behavioural disorders remain to play a leading part. The patients actively move, they are aggressive, pugnacious, sexually disinhibited, voracious.

Maniacal states in older adolescents resemble the same disorders observed in adults.

### *Comparative age-related peculiarities of the depressive syndrome*

At an earlier age, depressions are manifested by listlessness, motor anxiety, a bad appetite, a loss of the body weight, a disorder in the rhythm of sleep.

Depressive states may appear under emotional deprivation, when a child has no contacts with his mother. Such states are more frequently termed as “anaclitic depression”.

The anaclitic depression appears in children at the age of 6-12 months, who are separated from their mother and live in bad conditions; it is manifested by adynamia, anorexia, a reduction or disappearance of the response to external stimuli, a delayed development of the psyche and motility.

Children of an early age reveal adynamic and anxious depressions. The adynamic depression is manifested by listlessness, sluggishness, monotony, a joyless mood, anxious tearfulness, capriciousness, negativism, a motor anxiety.

At the preschool age, autonomic and motor disturbances prevail, but the children's appearance demonstrates blues: some suffering facial expression and postures, a low voice.

In a foreground of young pupils there are behavioural disorders: listlessness, reserve, a loss of interest in games, difficulties in mastering school subjects.

The pubertal age already reveals a depressive effect which is combined with expressed autonomic disorders: headaches, disorders of the sleep and appetite, constipations, persistent hypochondriac complaints. Often irritability prevails in boys, while blues, tearfulness and listlessness are observed in girls.

### **Methods of investigation of emotions**

It is necessary to take into consideration the patient's subjective report about his mood, an observation of his facial expression and pantomimics, the state of autonomic functions. The physician should pay attention to the quality of sleep and appetite, the size of the pupils, moisture of the skin and mucous membranes, heart rate, blood pressure values.

Besides the clinical examination, experimental-psychological methods are used (the topical aperceptive test, Rorschach's method, Rosenzweig's method, etc.).

## **DISTURBANCES IN EFFECTOR-VOLITIONAL SPHERE**

**The effector-volitional sphere** is a complex psychic function realizing a purposeful activity of the human being in accordance with certain motives caused by his internal needs and requirements of the environment.

The effector-volitional sphere consists of two main components: a) *effector*, or *motor* (simple and complex movements, actions and acts), and b) *volitional* (an ability for a conscious and purposeful control of one's own activity and acts).

The effector-volitional activity in the human being is motivated by requirements: lower, instinctive ones in the form of a requirement in food, etc. (instinctive drives for food, sex, self-preservation), and higher, socially conditioned ones in the form of a requirement for labour, self-perfection, etc. (higher drives).

### **Classification of purposeful activity**

1. Voluntary, or complex volitional actions.
2. Automated actions.

### **Classification of instinctive drives**

1. Food.
2. Sexual.
3. Self-preservation.

**Instinct** is the most complex chain unconditioned reflex directed at satisfaction of biological requirements of the organism (food, sexual, self-preservation). It may include simpler actions of an involuntary character.

**Voluntary actions:** realized purposeful volitional actions based on the past experience and directed at adaptation of the human being to the environment, at achievement of some task consciously set as an object.

**Automated actions** are simple and complex motor acts, which are voluntary by their origin, but in the process of training acquire an automated character not controlled by the consciousness.

### **Disorders in the effector-volitional sphere**

Disturbances of the effector-volitional sphere in the form of a pathological intensification, weakening or perversion of some of its components (motor and volitional) may be manifested by disruption of both complex behavioural responses, based on instinctive and higher drives, and certain motor functions.

## **Classification of effector-volitional disturbances**

### **I. Disturbances of drives**

#### **1. Disturbances of food drives:**

- a) intensification (bulimia, polyphagia)
- b) weakening (anorexia)
- c) polydipsia
- d) perversion: parorexia (coprophagy, etc.)

#### **2. Disturbance of the instinct for self-preservation:**

- a) intensification (active-defensive form: aggressiveness, etc.; passive-defensive form: “an imaginary death”, etc.)
- b) weakening (suicidal acts)
- c) perversions (self-torture)

#### **3. Disturbances of sexual drives:**

- a) intensification (hypersexualism: satyriasis, nymphomania)
- b) weakening (hyposexualism, frigidity)
- c) perversion (narcissism, exhibitionism, voyeurism, transsexualism, transvestism, onanism, fetishism, sadism, masochism, pedophilia, gerontophilia, homosexuality, etc.)

#### **4. Obsessive actions**

#### **5. Forced actions**

#### **6. Impulsive actions**

### **II. Disturbances of volitional motives**

#### **1. Hyperbulia**

#### **2. Hypobulia**

#### **3. Abulia**

#### **4. Parabuliae**

#### **5. Ambivalence**

### **III. Disturbances of attention**

#### **1. Distractibility**

#### **2. Rivetting**

#### **3. Exhaustibility**

### **IV. Psychomotor disturbances**

#### **1. Signs with difficult motor activity:**

- a) catalepsy
- b) hood sign
- c) passive-subjected state
- d) negativism
- e) mutism

f) specific disorders in the development of school skills (dyslexia, dysgraphia, dyscalculia, acalculia, dyspraxia)

2) Signs with excitement and inadequacy of motor activity:

a) hyperkinetic disorders

b) impulsiveness

c) stereotypies

d) echopraxia

e) verbigeration

f) miss-speech

V. Syndromes of motor disturbances

1) Stupor:

a) catatonic

b) depressive

c) apathetic

d) psychogenic

2) Excitement:

a) catatonic

b) maniacal

c) hebephrenic

d) hallucinatory-delirious

e) in disturbances of consciousness

3) Catatonic syndrome

4) Hebephrenic syndrome

5) Apathoabulic syndrome

**Bulimia** and **polyphagia** result from a morbid enhancement of the food instinct (drive) characterized by a constant overmastering strong desire for food, voracity and an absence of the sensation of satiation. They are observed in organic lesions of the brain, endocrine disorders.

**Anorexia**: a morbid oppression of the food instinct (drive) expressed in absence of appetite or aversion for food. It may be of the psychogenic origin (psychogenic anorexia). It should be differentiated from a refusal to eat caused by hallucinations or delusions. Anorexia is observed in depressive, severe asthenic states and a number of endocrine disorders. In anorexia, one has to resort to artificial feeding of the patients. If the loss of appetite is accompanied by apathy and abulia, it is possible to feed the patient sitting near him, or administer some drugs which arouse the appetite. In catatonic stupor, it is possible to use the symptom of active negativism in the patient, taking his plate with food from him. If there is an active resistance to feeding, it is possible to carry out drug (caffeine-barbamil) disinhibition.

In some cases, artificial feeding through a catheter introduced into the stomach via the nose (to avoid its biting with teeth) is used. The manipulation of artificial feeding should be performed with care in order to avoid asphyxia with food.

**Polydipsia:** unquenchable thirst, an increased consumption of fluid. It is typical for endocrine diseases.

**Perversion of the food instinct (drive)** is manifested by eating inedible substances (earth, slaked lime, faeces, etc.). It is observed mostly in schizophrenia, organic lesions of the brain.

**Intensification of the instinct for self-preservation** may be basically manifested in two contradictory phases: a) passive-defensive (a striving for avoiding dangerous, complex situations and responsible decisions, timidity, indecision, cowardliness, responses of “an imaginary death”, etc.), and b) active-defensive (responses of protest, various kinds of aggression, etc.). It is observed in complex forms of behaviour in psychopathies, neuroses and other morbid states.

**Weakening of the instinct for self-preservation** is manifested in a reduction of the interest, i.e. indifference to one’s own life, and in suicidal acts (particularly combined with the depressive affect). It is observed in psychopathy, psychogenic diseases, schizophrenia, the manic-depressive psychosis, etc.

**Perversion of the instinct for self-preservation** is manifested in acts of self-torture, inflicting various mutilations to oneself, swallowing metal and other objects, etc. It is observed in schizophrenia, organic lesions of the brain, psychopathies, etc.

**Hypersexualism:** an excessive sexual drive with corresponding behaviour, which sometimes acquires the character of sexual dissoluteness (satyriasis in males, nymphomania in females).

**Hyposexualism:** lessening of sexual drive (some forms of impotency in males, frigidity in females) with absence of sexual feelings to people of the opposite sex. Its origin may be different (psychogenic and endocrine-organic).

**Sexual perversions** are disturbances of the sexual instinct manifested in perversion of its direction or forms of its manifestation. They are observed in oligophrenia, dementiae, psychopathy and a number of other morbid states; rather often their manifestations result in sexual offences.

#### **Varieties of sexual perversions are as follows:**

- a) **narcissism:** finding sexual satisfaction in self-admiration, admiration with one’s own naked body;

- b) **exhibitionism**: finding sexual satisfaction in exposing one's own genitals and sometimes masturbation in presence of people of the opposite sex;
- c) **onanism (masturbation)**: sexual self-satisfaction by means of masturbation (stimulation of one's own genitals);
- d) **fetishism**: finding sexual satisfaction by means of admiration with a fetish (a toilet article of people of the opposite sex, etc.), sometimes in combination with masturbation;
- e) **sadism**: finding sexual satisfaction in torturing one's sexual partner;
- f) **masochism**: the opposite phenomenon (sexual satisfaction while receiving pain stimuli from the partner);
- g) **pedophilia**: a sexual drive (and its satisfaction) towards children; **gerontophilia**: the same towards old people; **necrophilia**: a drive towards corpses; **zoophilia**: a drive towards animals;
- h) **homosexuality**: a sexual drive and its satisfaction with people of the same sex;
- i) **transsexualism**: a disturbance in the sexual identification, a constant feeling of the inadequacy of one's own sex and an active yearning for changing it;
- j) **transvestism**: a pathological stable striving for wearing clothes, having haircut/coiffure, playing the part of a person of the other sex, but it is not characterized by any striving for an anatomical change of one's own sex or a wish to get rid of the primary and secondary sexual characters;
- k) **voyeurism**: a drive for viewing somebody else's genitals and spying sexual intercourses between other people.

**Obsessive actions and drives**: these are suddenly appearing drives and actions which are alien to the contents of the consciousness at the given moment, with a critical attitude towards them and a yearning for getting rid of them. Often they are of a contrast character, i.e. they are manifested in the striving for realization of the thing which is inadmissible at this moment. They are structural components of the syndrome of obsessional states. They are observed in the obsessive-compulsive neurosis, cerebral atherosclerosis, schizophrenia.

**Forced actions**: actions or acts appearing without one's own will, irrespective of the personality; they are fulfilled without any struggle of motives, with a feeling of their forced and alien character.

**Impulsive actions**: sudden, outwardly unmotivated, meaningless actions and acts. They include:

- a) dromomania – a periodically appearing yearning for a change of places, vagabondage;
- b) kleptomania – a periodical drive for unmotivated stealing, thieving;

- c) pyromania – an overmastering desire for arsons;
- d) a pathological inclination to gambles;
- e) trichotillomania – a pathological desire for pulling out one’s own hair;
- f) dipsomania – an overmastering desire for alcoholic drinks;
- g) narcomania – an overmastering desire for narcotics.

**Parabulia:** a perversion of the volitional activity accompanied by a corresponding activity, negativism, impulsiveness, pretentiousness owing to the psychotic symptoms the patient has (delirium, hallucinations, etc.).

**Ambivalence:** a double contradictory response to the same stimulus, a duality of acts, actions, movements.

**Hyperbulia:** a pathologically intensified desire for activity (general – in hypomaniacal and maniacal states, unilateral – in drug addicts, in paranoid and paranoiac states).

**Hypobulia** and **abulia:** a morbid decrease or an absolute absence of any motive for activity. They are observed in the apathoabulic syndrome of various genesis (in schizophrenia, severe injuries, etc.).

**Distractibility of attention:** inability to concentrate on one kind of any work and objects, sometimes in combination with increased attention to some unessential things.

**Rivetting of attention:** a reduced ability to switch attention, sticking to the same thoughts, desires. It is characterized for depressions, the patients are unable to switch to any thoughts and events which do not correspond to their feelings.

**Exhaustibility of attention:** in the beginning of a conversation the patients are adequate, but rapidly get tired and their answers become less productive. It is typical for asthenic states.

**Catalepsy:** an increase of the muscular tone creating an ability for keeping a given posture long.

**The hood sign:** the patient lies or sits immovably, having pulled a gown or a sheet on his head and leaving his face open.

**Passive subjection:** having the usual muscle tone, the patient does not resist to changes in the position of his body, posture, extremities.

**Negativism:** the patient’s resistance to requests made by the surrounding people. In the *passive* negativism, the patient simply does not follow an instruction, in the *active* one he makes an action contrary to the instruction.

**Mutism:** absence of speech with preservation of the speech apparatus.

**Dyslexia:** difficulties in recognizing words and understanding the written speech.

**Dysgraphia:** an isolated disorder of spelling. The written speech is characterized by a large number of grammatical and stylistic mistakes, in many places the text is crossed out and rewritten.

**Dyscalculia, acalculia:** difficulties in making the simplest arithmetical operations, in using mathematical terms, in recognizing figures and mathematical symbols.

**Dyspraxia:** a disturbance in the development of the motor functions (awkwardness, clumsiness of movements and fine motility, it is difficult to button up the clothes, take objects without dropping them, children often fall down in the process of walking).

**Hyperkinetic disorders** are more frequently observed in boys at the prepubertal age. Their main signs are as follows:

1) a disturbance of attention (inability to fulfill any task without mistakes, to put a finish to any work begun, to organize one's own work, to listen to reproofs made by older people, the patients refrain from any work requiring assiduity);

2) hyperreactivity (the patients wave their arms and legs, often fidget on seats, cannot stay in one place long, run, make noises, do not respond to reproofs);

3) impulsiveness is manifested by violations of discipline, as the child is unable to foresee consequences of his acts; the children are often aggressive; they would answer a question without having listened to its end, they cannot wait for their turn in games, interfere in talks or games of other children, are too garrulous and disobedient.

**Stereotypy:** a multiple repetition of the same movements.

**Echopraxia:** repetition of gestures and movements made by the surrounding people.

**Echolalia:** repetition of words and phrases said by the surrounding people.

**Verbigeration:** repetition of the same words.

**Miss-speech:** the patient's answers do not correspond to the meaning of the questions asked to him.

**General psychomotor excitement:** a state of a pathological motor excitement accompanied by disturbances of thinking, emotions and other psychic functions.

**Maniacal excitement:** an increased motor activity, a yearning for some purposeful activity accompanied by euphoria, rapid and superficial thinking. The activity and thinking are not productive owing to instability of attention. It is typical for the maniacal syndrome.

**Hebephrenic excitement:** an increased motor activity in the form of purposeful, fanciful, awkward movements in combination with foolishness and non-continuous thinking (the hebephrenic syndrome). It is observed mostly in schizophrenia.

**Catatonic excitement:** senseless, purposeless movements, sometimes an impulsive excitement with unmotivated aggression; it is accompanied by

stereotypies (stereotyped “hyperkineses”), echopraxiae (repetition of movements made by the surrounding people), echolaliae (repetition of words said by the surrounding people) and ambivalence (a duality of acts, actions, movements). It is observed mostly in schizophrenia.

**Psychomotor excitement in states of disturbed consciousness:** the states of an increased motor activity which is characterized by: 1) complex automatic and instinctive movements (in trance and somnambulism), 2) complex actions and acts caused by hallucinatory and delirious feelings (in the delirious and other syndromes), 3) a chaotic subcortical excitement (in a deep cloudiness of consciousness).

Different types of psychomotor excitement require urgent aid; in order to control the excitement it is necessary to give intramuscular injections of neuroleptics (chlorpromazine hydrochloride: 2.5 % solution, 2.0-3.0 ml; tizercine: 2.5 % solution, 2.0-3.0 ml; haloperidol: 0.5 % solution, 1-2 ml). Administration of large doses of chlorpromazine hydrochloride and tizercine may sharply reduce blood pressure and cause a collapse; for its prevention it is necessary to make a simultaneous injection of cordiamine. One of side effects of haloperidol is neuroleptic parkinsonism; in order to prevent it, antiparkinsonic drugs should be administered (benzhexol hydrochloride, norakine, tremblex, etc.).

**General psychomotor inhibition:** a state of a pathological motor inhibition with a slowed rate in the course of all psychic functions (thinking, speech, etc.). It is a structural component of the depressive, apathoabulic and asthenic syndromes.

**Stupor:** a state of immobilization resulting from an inhibition of the motor functions.

**Catatonic stupor:** an absolute or partial immobilization accompanied by a passive or active negativism and mutism. In some cases, the patients keep a given posture (wax flexibility, catalepsy), keep their head over a pillow long (“an air pillow”). It is a structural component of the catatonic syndrome, it is more frequently observed in schizophrenia.

**Depressive stupor:** a state of immobilization accompanied by slow speech, a feeling of melancholy, sometimes alarm and fear, a set suffering facial expression, ideas of self-condemnation and self-humiliation. It is a structural component of the depressive syndrome.

**Apathetic stupor:** a state of immobilization accompanied by an emotional bluntness and absolute indifference observed in organic lesions of the brain (an impairment of the frontal lobes), in some forms of schizophrenia.

**Psychogenic stupor:** a general immobilization up to an absolute rigidity which appears in strong sudden psychic traumas (catastrophes, natural calamities, etc.).

**The apathoabulic syndrome:** a combination of indifference (apathy) and absence or weakening of motives for activity (abulia). It is observed in exhausting somatic diseases, after brain injuries, in intoxications and schizophrenia.

**The catatonic syndrome** is manifested in the form of the catatonic absurd and senseless excitement or stupor, or a periodic change of these states. It is observed in schizophrenia, infectious and other psychoses.

**The hebephrenic syndrome:** a combination of the hebephrenic excitement with foolishness and non-continuous thinking. It is observed mostly in schizophrenia.

## **DISTURBANCES OF CONSCIOUSNESS**

**Consciousness** is an integrative sphere of the psychic activity, the highest form of reflecting the objective reality, a product of a long historical development. With appearance of the consciousness, the human being received an ability to isolate himself from the nature, cognize it and master it. The consciousness is realized by means of the language, the words which form the second signal system. The individual consciousness is formed in the process of the man's mastering socially produced representations, concepts and norms.

It is worth mentioning that there are physiological changes in the consciousness which appear in fatigue, during sleeping, in emotionally stressful situations.

**Fatigue:** a state of tiredness which appears after some physical or mental overstrains and is accompanied by a higher excitation threshold. Outwardly such a person looks inhibited, his responses to stimuli are delayed, the speech is meagre, the answers after a pause consist of one syllable. Some difficulty in the process of memorization is noticed, the attention is hardly attracted, the rate of thinking is delayed, the facial expression is not expressive, the person is apathetic. The state of fatigue does not require any drug treatment, it disappears spontaneously after some rest and sleep. Recollections of it are fragmentary, usually only of the strongest stimuli.

**Sleep with dreams:** it is a normal physiological state of man and animals, necessary for them as much as food; it is a manifestation of the instinct for self-preservation. Sleep is a functional state of the brain and the whole organism; it is characterized by an incomplete inhibition of the psychic activity and a reduced active cooperation with the environment. There are several theories for origination of the sleep and its functional significance. They are: the theory of a diffuse cortical inhibition, the anabolic theory considering the sleep as a state that facilitates renovation of energy stores in the brain and the organism at large; the information theory according to which during the sleep some information is fixed in the prolonged memory without processing. The sleep contributes to a valuable use of the acquired information and experience in the interests of the activity in which the person is involved in the state of wakefulness.

By their physiological manifestations, two phases of the sleep are distinguished: slow and fast. The moment of falling into the stage of the slow sleep is characterized by deceleration of the breathing and heart rate, reduction of the blood pressure and muscle tone. In the deep stage of the slow sleep the rates of respiration and pulse become slightly increased, while the general motor activity of the sleeping person becomes minimum, it is difficult to wake him at this moment.

During the fast sleep, the activity of the cardiovascular and respiratory systems is sharply intensified, the blood pressure becomes higher, the motor activity of the sleeping person increases, movements of his eyeballs become rapid, thereby showing that at this moment the sleeping person sees dreams. In people, the sleep is of a cyclic character. Each cycle consists of separate stages of the slow and fast sleep. The duration of one cycle is 1.5-2 hours, every night up to 3-5 cycles are observed. During a night the depth of sleep is not the same and depends upon individual peculiarities and the state of the organism. In some people an inhibition of the cerebral cortex develops rapidly and the deep sleep comes in the first half of the night, while in others, on the contrary, the sleep is at first superficial and later becomes deep. As a rule, the superficial sleep is accompanied by dreams. Dreams are imagery representations which appear at the time of sleeping and are perceived by man as reality. The contents of dreams reflects some past events and feelings of the person, as well as the information which precedes the sleep and is perceived in a distorted form. The contents of dreams may be influenced by a possible direction before the sleep rather than only by light, smell and ambient temperature.

Physiologically, dreams are based on an incomplete inhibition of the cerebral cortex, some parts of which remain disinhibited. A rapid change of dreams is caused by a chaotic state of the processes of excitation and inhibition. The ancient people were not absolutely wrong when they said about prophecy of dreams. Sometimes they really could have a foretelling character. At the onset of a disease, impulses from an affected area of the body sometimes are so weak that they are not fixed in the consciousness. In the state of sleep these impulses come to the cerebral cortex which is at the hypnotic phase, when weak external and internal factors are more significant than strong ones. Dreams in such cases are the first signals of a disease.

Besides, dreams are also characterized by activation of unrealized forms of the psychic activity. It may explain the known facts of scientific discoveries made in sleep (D.I. Mendeleev's discovery of the periodical table of elements).

From the viewpoint of physiology, dreams may be caused by the same material processes which are responsible for appearance of the psychic activity in the state of wakefulness.

**Affectively narrowed consciousness, or the physiological affect:** an emotional state which does not exceed the limits of the norm and is a short-term, swiftly and wildly passing emotional explosive response accompanied by sharp changes in the psychic activity (consciousness included), marked autonomic and motor manifestations. They are fragmentary recollections of dreams, a strong and short-term feeling in the form of anger, fury, horror, delight, despair without a loss of self-control. The physiological affect is an

extraordinary response of the personality to exceptional circumstances. It is followed by a change of the psychic activity in the form of fragmentation of the perception, narrowing and concentration of the consciousness on the object which traumatizes the psyche. The vividly manifested signs of an emotional excitement (a change of the appearance, facial expression, pantomimics, voice) reflect physiological, biochemical shifts in the organism. Affective actions are notable for stereotypies, impulsiveness, a sharp reduction of the intellectual and volitional control, a disturbed ability to prognosticate possible consequences of one's own actions. Appearance of some forms of behaviour which were not peculiar to the subject before is one of the important signs of the physiological affect; here the behaviour comes in conflict with the basic life directions and value orientations of the personality, acquiring features of an involuntary and situational character.

Diagnosis of the physiological affect is significant in forensic psychiatric practice. The state of a person who has made an illegal act is considered as responsible and the subject bears responsibility for what he has done. It is very important to differentiate the physiological affect from the pathological one.

In everyday life, the state of the affectively narrowed consciousness occurs rather frequently. It may be especially manifested in a situation of panic, when during a fire people would throw themselves out from a window of a many-storeyed building on fire trying to save themselves but herewith doom themselves to an inevitable death. In a shipwreck, when it is possible to take a boat, people would jump down into the water even if they cannot swim. Similar situations may occur in the practical activity of any doctor, when the relatives are informed about a grave disease or death of their close relative, a child in particular. In such cases the relatives may cry, blame the doctor wrongly, demand his punishment. The tactics of the doctor should be qualified, with observation of the norms of deontology.

A difficulty in the clinical determination of a "cloudiness of consciousness" is caused by the fact that this term unites various syndromes with their peculiarities. It was said about in Prof. P.B. Gannushkin's lectures, "This syndrome is almost irresistible for describing. It is easiest of all to characterize it by its negative sign: an inability to correctly assess the surroundings". At the same time, all the syndromes of a cloudiness of consciousness have a number of common signs.

1. Estrangement from the surrounding world. The real world, any events and changes that take place in it do not attract the patient's attention; even if they are perceived by him, it is only in a fragmentary and inconsistent way. The ability to realize and comprehend phenomena of the surrounding life is weakened or, sometimes, absolutely lost.
2. Disorientation in one's own personality, place, time, situation, surrounding people. Being one of the leading signs in any disturbance of consciousness,

the allo- and autopsychic disorientation in each particular case has characteristic peculiarities in its structure, expressiveness and development.

3. The thinking is sharply destroyed, the speech becomes fragmentary, inconsistent and incoherent.
4. Disturbances of memory are observed. After a return from the state of a disturbance of consciousness, recollections are always incomplete, fragmentary, inconsistent, in some cases they are absent at all.

A practical task of any physician is to reveal a pathology of consciousness (an important mental process) and give qualified medical aid.

The consciousness is regarded as **clear** if the subject is able to orientate in his own personality, place, time, situation, surrounding people and at the same time he has no disturbances in any mental sphere.

### **Classification of disturbances of consciousness**

1. Non-psychotic (non-productive) forms (disengagement of consciousness)
  - 1) Obnubilation
  - 2) Torpor
  - 3) Somnolence
  - 4) Sopor
  - 5) Coma
2. Psychotic (productive) forms accompanied by delirium, hallucinations, a disturbance in behaviour
  - 1) Delirious syndrome
  - 2) Oneiroid syndrome
  - 3) Syndrome of asthenic confusion
  - 4) Syndrome of perplexity
  - 5) Amentia
  - 6) Twilight state of consciousness
    - a) with outwardly regulated behaviour – a simple form (ambulatory automatism, somnambulism)
    - b) psychotic form
    - c) pathological affect
    - d) pathological intoxication
    - e) drowsiness
    - f) “short-circuit” response
    - g) hysterical twilight states (puerilism, pseudodementia, Ganser’s syndrome)

**Disengagement of consciousness:** a total disturbance of reflection accompanied by an instantaneous or consecutive reduction, and sometimes an

absolute disappearance, of the scope and depth of the whole psychic activity. At first, the cognitive ability is narrowed and gradually decreased, the logic is disturbed; then it is accompanied by a deepening disturbance in the sensual-imagery reflection of the surrounding reality. It is followed by the dying away of the conditioned reflex activity of the organism. In the last turn, the unconditioned reflex functioning of the organism, which ensures the basic vital functions, is disrupted; as the functions are dying away, the death comes.

**Torpor:** a decrease in the clarity of consciousness down to its absolute disappearance with a simultaneous impoverishment of its contents. It is characterized by two main signs: a higher excitation threshold for all the stimuli and an impoverishment of the psychic activity. The patients would not respond if they are addressed in a low voice, common stimuli elicit only a weak orienting response (the patient may open his eyes, turn his head towards a voice), and only a strong stimulus may evoke an adequate but delayed response through speech, facial expression and motor activity. Such patients do not complain of any noise, they do not respond to other inconveniences (a damp bedding, a hot water bottle is too hot, etc.), they are apathetic, the surroundings do not attract their attention, their facial expression is meaningless, the thinking is retarded and difficult. The speech is meagre, the answers consist of one syllable. The motor activity is reduced, the movements are slow and awkward. Some impoverishment in the facial expression responses is observed. Disturbances in the memorization and reproduction are marked, the patients look as if they dozed. Usually, the period of torpor is absolutely or almost absolutely forgotten.

Depending upon the extent of a decrease in the clarity of consciousness, the following stages of torpor are distinguished:

- obnubilation;
- somnolence;
- sopor;
- coma.

**Obnubilation:** “a veil on consciousness”, “a cloud on consciousness”; it is characterized by twinkling in the clarity of consciousness. The patients’ responses, first of all speech ones, are delayed, the patients develop absent-mindedness, inattention, mistakes in answers. Some carelessness of the mood is observed. Such patients resemble a person in a state of a mild alcoholic intoxication. The duration of obnubilation ranges from a few minutes to several months. It is observed in intoxications, brain injuries, voluminous processes in the brain, progressive paralysis, infectious diseases, vascular pathology.

**Somnolence:** a deeper extent of torpor, the state of half sleep when during a greater part of the time the patient lies with closed eyes. The phrase speech is absent, but the patients are able to give their answers to simple questions,

the answers consisting of one syllable. More difficult questions are not comprehended. Adynamia is expressed.

**Sopor** means pathological sleep. The patient would lie motionless, his eyes are closed, there is no expression on his face. Any verbal contact with the patient is impossible, orientation is absent, activity of the second and first signal systems is discontinued. Adynamia reaches the extent of the absolute immobilization, but some undifferentiated stereotyped defense motor and, sometimes, vocal responses may appear. The pain, cough, corneal, pupillary, vomiting and swallowing reflexes are preserved. A return from sopor is accompanied by the absolute amnesia.

**Coma** is the deepest extent of the disengagement of consciousness. It belongs to extreme states. Only vital functions of the organism (cardiac and respiratory activities, vascular tension and thermal regulation) are preserved. Conditioned reflexes die away, pathological ones develop. As the coma deepens, the cardiac activity, vascular tension and thermal regulation are affected, pathological forms of respiration appear. If no urgent aid is given, the outcome is lethal.

Disengagements of consciousness may develop in somatic intoxications (uremia, hepatic insufficiency, hypo- and hyperglycaemia), drug intoxications (neuroleptics, tranquilizers, barbiturates, opiates), intoxication with methyl alcohol and solvents, in industrial intoxications (tetraethyl lead, carbon monoxide), radiation lesions, neuroinfections and brain injuries, cerebrovascular pathologies, voluminous processes in the brain.

**Cloudiness of consciousness:** this term embraces disturbances in which there is a total disintegration of the whole psychic activity consisting in a qualitative change of the contents of consciousness. These disturbances are polymorphous by their structure and, besides different variants of disorientation, include psychopathological symptoms, where the leading ones are hallucinations, delusions, false recognitions, emotional and motor excitement, disturbances of memory. In cases of a cloudiness of consciousness, the latter reflects a world of morbid feelings rather than the objective reality.

**The delirious syndrome** is the most frequent form of a cloudiness of consciousness, accompanied by an influx of vivid visual hallucinations and illusions, delusions, and a changeable affect where some fear and alarm prevail. The patients are characterized by motor excitement, their orientation in place and time is disturbed, but in the self is preserved. A delirious cloudiness of consciousness gradually increases and its first signs become clear usually by the evening: the speech, facial expression and motor responses become animated and accelerated, some general excitement and anxiety develop. The patients are garrulous, inconsistent in their statements, their movements acquire an exaggerated expressiveness. The mood is

changeable, the sleep is superficial, interrupted and accompanied by vivid, often nightmarish, dreams, alarm and fears. In the morning, the patients feel weak and jaded. Later, against a background of intensification of the above disturbances, there is appearance of visual illusions changing into hallucinations at the moment of falling asleep, a distinction between the sleep and reality is obliterated. It is followed by a further increase of the symptoms with development of real visual hallucinations. In some cases it is impossible to reveal any concrete plot in the contents of the visual hallucinations and apparitions change one another without any relation between them, while other cases are characterized by appearance of consecutively changing scenes which are connected by their contents. Depending upon the etiological factor, visual hallucinations may have their own peculiarities. Thus, delirium tremens is characterized by presence of animals in morbid feelings; in people who received a brain injury in a tactical situation, subjects of war episodes prevail. In delirium, the patient is an active participant in his morbid feelings, his emotional state and acts correspond to the contents of what he has seen, he is seized with bewilderment, curiosity, fear and horror, at the same time he may run, hide, defend himself. The speech excitement is often limited to short phrases, words, cries. In the period of an extensive delirium, some auditory, tactile and olfactory hallucinations, as well as delusions, may develop. The night period is characterized by either absolute insomnia or superficial interrupted sleep which comes only by the morning. In the first half of the day the symptoms of delirium may be significantly or absolutely reduced with predominance of asthenia, in the second half of the day the psychosis recommences again. It is possible to periodically observe so-called light gaps lasting up to an hour. At this time, the hallucinations disappear absolutely or partially, the correct orientation in the surroundings appears, the patients realize that the previous disturbances resulted from a disease, a critical assessment of his own state by the patient may be observed. Sometimes a morbid state may develop very rapidly, it occurring in cases of poisoning with tetraethyl lead, atropine, an antifreeze substance. An unfavourable course of a prior (somatic, infectious) disease may entail development of grave forms of delirium: occupational and muttering.

**Occupational delirium** is a delirium with predominance of a monotonous motor excitement in the form of usual actions made in everyday life (having meals, doing premises) or directly related to the patient's occupation (sewing, work with a cash register). The motor excitement takes place, as a rule, in a limited space (a bed). Usually, there are no light gaps, a verbal contact is more frequently impossible.

**Muttering delirium (delirium mussitans), quiet delirium:** a delirium with an uncoordinated motor excitement which is deprived of any integral actions and takes place within the limits of a bed. The patients would shake

off something, feel with their fingers, “gather”. It is impossible to come into any contact with such patients, an absolute estrangement from the surroundings is observed, the speech excitement is in the form of some low inarticulate muttering. Usually muttering delirium is followed by occupational one; moreover, these two states may be aggravated by torpor, that is a bad prognosticating sign. Severe forms of delirium may be accompanied by neurological disturbances: tremor, ataxia, nystagmus, hyperreflexia, rigidity of the occipital muscles, etc., rather than by autonomic ones only. As the state deteriorates, dehydration of the organism increases, blood pressure reduces, therefore a collapse may develop, there is a marked hyperthermia of the central origin. A return from delirium is usually made through a severe asthenia, real events are forgotten, only recollections of morbid feelings are preserved. Severe deliria end with formation of the psychoorganic syndrome. A transfer of delirium into amentia is possible.

Delirium is observed in infectious and acute somatic diseases, intoxications (alcoholic, caused by narcomania and toxicomania), vascular diseases of the brain, brain injuries.

**Delirium acutum** (acute psychotic azotemic encephalopathy): this is a combination of a deep cloudiness of consciousness of the amentia-oneiroid type accompanied by a continuous motor excitement with autonomic, neurological and metabolic disturbances. Delirium acutum is characterized by a malignant development of the symptoms of the disease with a frequent lethal outcome.

The prodromal period usually lasts several hours or days and is accompanied by general somatic complaints: a malaise, a headache, sleep disturbances. At the period of a complete development of the disease, there is prevalence of a violent uncoordinated motor excitement in the clinical picture, usually within the limits of a bed. The speech is incoherent, it consists of separate words and cries. Addition of hyperkineses, clonic and tonic convulsions, epileptiform seizures indicates an aggravation of the state.

A cloudiness of consciousness is accompanied by hallucinations, delirium, alarm or fear. No contact with the patient is possible. The marked autonomic disturbances are manifested by tachycardia, a sharp drop of pressure down to a collapse, profuse perspiration, hyperthermia up to 40-41°C, a sharp development of dehydration, a progressive loss of body weight, an increase of azotemia and oliguria. The patient's appearance is peculiar: pointed features, sunken eyes, dry and parched lips, a dry wrinkled tongue, his skin integuments are pale, sometimes with a sallow or cyanotic tint, there is an appearance of multiple bruises. The death comes in the state of a hyperthermal coma.

Delirium acutum is observed in puerperal psychoses, septic states, progressive paralysis, senile dementia and schizophrenia.

**The oneiroid syndrome** is a cloudiness of consciousness with an influx of some spontaneously developing fantastic representations; they contain modified fragments of what has been seen, heard, experienced and read, but they whimsically get entangled with distortedly perceived details of the surroundings; the appearing pictures (visions) are notable for their resemblance of scenes and dreams. Development of an oneiroid is gradual and begins with affective disorders. Depressive states are accompanied by listlessness, irritability, unmotivated alarm, loss of strength. Maniacal states carry an imprint of enthusiasm, touchingness, feelings of emotion and enlightenment. The above disorders are accompanied by disturbances of sleep and appetite, headaches, discomfort in the heart region. Later the surroundings seem to the patient as something incomprehensible, changed and full of an ominous meaning. Either some uncontrolled fear or foreboding of an inevitable evil, sometimes madness or death, appears. It seems to the patient that he is persecuted, that he is seriously ill, he develops perplexity, a delirious orientation in the surroundings, inadequate acts. At the same time he has a sensation that something, some action is taking place around him, like in the cinema or theatre, and the patient is a participant at one moment and a spectator at another; a transformation of some people into other ones is taking place. Periodically, a psychomotor excitement or inhibition may be observed. These symptoms tend to increase, and the real events occurring around the patient acquire some fantastic contents. The perplexity may be accompanied by a psychomotor excitement or substupor, when the patients feel fear and may be in the state of depression.

During the period of an extensive oneiroid, the patient's consciousness is characterized by predominance of fantastic representations connected with the inner world of the patient. They are based on visual hallucinations, and before the patient's "inner eye" pass scenes of immense situations, where he is the main character of the events which take place. Gradually, motor disorders in the form of stupor develop, the patients become speechless, no verbal contact with them is possible.

Reduction of the symptoms of an oneiroid is gradual, in the reverse order of their appearance. Memory to morbid feelings is partially preserved, but real events are forgotten. There are two forms of oneiroid: endogenous (in schizophrenia) and exogenous-organic (invascular, somatogenic psychoses, delirium tremens, senile psychoses, at a remote period of brain injuries). In acute intoxications, as, e.g., abuse of domestic chemical agents (inhaling of vapours of "Moment" glue), an oneiroid develops rapidly, sometimes during several minutes.

**The syndrome of asthenic confusion** is accompanied by some "twinkling" in the clarity of consciousness, an expressed exhaustibility of psychic processes, an increasing cloudiness of consciousness by the evening.

In the beginning of a conversation, as a rule, the patients are still able to answer questions, later their speech becomes inarticulate, “muttering”, a contact with the patient is affected. No delirium and hallucinations are observed. The syndrome of asthenic confusion may develop in infectious diseases, more frequently it is typical for children and juveniles. In case of an unfavourable development of a prior disease, the syndrome of asthenic confusion may turn into delirium or amentia.

**The syndrome of perplexity** (“affect of bewilderment”) is characterized by a disturbance of self-consciousness, cognition and adaptation to the surroundings. The patients are helpless, their facial expression is bewildered, the look is roving, the movements and answers to questions are uncertain, questioning and inconsistent, interrupted by silence. Sometimes the patients ask to explain what is going on with them and around. The perplexity is indicative of a relatively superficial disturbance of the psychic activity, when awareness of one’s own change is preserved. This perplexity develops in case of a sudden, inexplicable and unusual change in what is going on around or within the patient himself, and may manifest the initial stage of developing delirious, depressive and other syndromes. Often the structure of the syndrome includes symptoms of depersonalization and derealization.

**Amentia** is a form of a cloudiness of consciousness with prevalence of an incoherence of speech and motility, and perplexity. The patients’ speech consists of some words, syllables and inarticulate sounds pronounced in a low, loud or singing voice.

The patients’ mood is changeable: now it is depressed-anxious, now indifferent, now slightly high with some features of delight. A motor excitement in amentia is usually within the limits of a bed. It is confined to some separate movements which do not form a finished motor act: the patients fidget, make rotatory movements, bend, start, throw aside their extremities, sprawl in bed. Sometimes a motor excitement may be followed by stupor. Any verbal intercourse with the patients is impossible. Their thinking is incoherent, the facial expression is bewildered. The patients are perplexed and helpless. At night, amentia may change into delirium; at daytime, in aggravation of amentia, torpor develops. Amentia lasts several weeks. The period of a cloudiness of consciousness owing to amentia is absolutely forgotten. A return from amentia takes place through a severe and long asthenia. Formation of the psychoorganic syndrome with an intellectual-mnemonic reduction is possible. Amentia is observed in severe somatic, infectious and noninfectious diseases, more seldom in intoxications, at an acute period of epidemic encephalitis.

**Twilight state of consciousness:** a sudden loss of the clarity of consciousness with an absolute estrangement from the surroundings lasting from several minutes to several days. By its clinical manifestations, the

twilight state of consciousness is subdivided into a simple and psychotic forms without any distinct borders between them.

**The simple form** develops suddenly, the patient is disengaged from the reality. It is impossible to enter any verbal contact with him, the speech is either absolutely absent or may consist of some words or short phrases which are often repeated. The movements are delayed and impoverished up to development of a short-term stupor changing into episodes of an impulsive excitement. Sometimes an outwardly purposeful activity may be preserved. The patients may cover long distances, using transport, cross streets where it should be done, etc. In this case, the term of “ambulatory automatism” is used. The ambulatory automatism, which appears in sleep, is called somnambulism, or lunacy. The simple form of the twilight state of consciousness may last several minutes or hours and is accompanied by absolute amnesia.

**The psychotic form** of the twilight state of consciousness is accompanied by hallucinations, delirium and a change of mood. In morbid feelings, visual hallucinations with frightening contents prevail: a car, train or airplane rushing at the patient, collapsing buildings, approaching water, pursuit, etc. Auditory hallucinations are often deafening: explosions, tramp, thunder; olfactory ones have unpleasant contents too: a smell of burning, urine. Common delusions, as a rule, are persecution and physical annihilation, religious-mystic delusions also occur. These feelings are accompanied by wild emotional disturbances in the form of fear, frenzied anger or fury. A motor excitement is most often in the form of senseless destructive actions directed at the surrounding people. The patients’ words and actions reflect morbid feelings existing at this moment. After restoration of consciousness the whole period of morbid feelings is absolutely forgotten. The twilight state of consciousness is most frequently observed in epilepsy and traumatic lesions of the brain.

Besides, in the forensic medical practice, so-called **exclusive states** are found: a group of acute short-term disturbances in the psychic activity with various etiology and similar clinical signs. These disturbances begin suddenly in connection with an external situation, they are short-term, accompanied by a disturbance of consciousness and an absolute or partial amnesia. Exclusive states develop in the people who do not suffer from any mental diseases and, as a rule, are a single episode in their life.

The exclusive states include: the pathological affect, a pathological drowsiness, a “short-circuit” response, and pathological intoxication.

The purposefulness and clinical necessity of isolating exclusive states into a separate group are confirmed by the practice of forensic medical examinations. The experts are often asked a question about the mental state of the subject at the moment of accomplishing some socially dangerous actions. Therefore the substantiation of the very concept of an “exclusive state” and

the establishment of diagnostic criteria were made in compliance with legal norms: the problems of responsibility and irresponsibility.

### **Clinical manifestations**

The cardinal sign of all exclusive states consists in their psychotic nature. A leading place in their clinical picture is occupied by a disturbance of consciousness with disorientation, an absolute isolation from the reality and a morbidly distorted perception of the surroundings. A profound disorientation in the surroundings is accompanied by preservation of complex interrelated automatized actions. The behaviour in the twilight state of consciousness is conditioned by an imagery delirium, hallucinations, a strained affect of fear, anger, melancholy and fury, they determining socially dangerous actions. A subsequent amnesia both spreads to real events and often involves subjective feelings.

Exclusive states may be observed in actually healthy people. But case histories of the majority of people who had an exclusive state reveal smooth residual organic changes whose etiology contains injuries, infections or intoxications. In a number of cases one cannot exclude a part played by some constitutional predisposition, epileptic in particular. An especially great part is played by asthenia, an exhausting effect of some preceding stress and overexcitement, as well as insomnia.

Thus, a preliminary preparation of the ground is made by a complex of pathogenic factors. They determine a functional state of the nervous system by the moment of action of that stimulus which causes an acute psychotic disturbance. A lot of accidental relieving factors in uncommon and rare combinations take part in the appearance of such a temporary predisposition, it may be an explanation for an extraordinary rarity of exclusive states and a little probability of their repeated development in the same person.

**Pathological affect** is a short-term psychotic state, whose sudden appearance is caused by factors which traumatize the psyche. It is possible to isolate three phases in the clinical picture of the pathological affect.

□ First, preparatory. In connection with the factors which traumatize the psyche (offence, insult), an emotional tension is growing, a perception of the surroundings is changed, a capacity for observing what is going on, for assessing the situation and realizing one's own state is impaired. The consciousness is limited by a narrow circle of representations directly connected with the traumatizing feeling, all the rest is not perceived.

□ Second, the phase of explosion. A tense affect of anger or frenzied fury instantaneously reaches its culmination, is accompanied by a deep cloudiness of consciousness with a sharp elevation of the threshold of perception and an absolute disorientation. At the height of a disturbance of consciousness, some illusory representations and functional hallucinations are possible. An emotional discharge is manifested by a wild motor excitement

with automatic actions, a senseless aggression and destructive tendencies. They all are accompanied by a marked mimic and autonomic response: the face gets sharply reddened or becomes unusually pale. The features are distorted, an excessively expressive facial expression reflects mixing of various emotions, anger and despair, fury and bewilderment. The state achieves its maximum tension.

□ Third, the concluding phase. It is accompanied by a sudden exhaustion of the physical and mental strength. Deep, irresistible sleep comes. In some cases, instead of the sleep, there is prostration (general weakness, listlessness, an absolute apathy and indifference to the surroundings and what has been made).

Clear clinical criteria for diagnosing the pathological affect are of a paramount significance because of a necessity to differentiate it from the physiological affect, as different crimes, particularly against the personality, are often committed in a state of some mental excitement.

The main clinical distinction of the pathological affect is a disturbance of consciousness with a disengagement from the reality, its distorted perception, a limitation of consciousness to a narrow circle of representations, directly connected with an actual stimulus. The psychotic nature of the pathological affect is also manifested in a regular change of the phases which are traced despite an extraordinary acuteness of this state.

As an example of the pathological affect, an extract from a case history is cited below.

*An examined 29-year-old male C. is accused of inflicting grave bodily injuries to his father, they causing his death.*

*C. finished 10 forms of secondary school, then studied by correspondence in institute and at the same time worked as economic engineer. By disposition, he is impressionable, sensitive and delicate. He is married, his relations with his wife are good, despite a difficult situation in his family. The examinee's father abused alcohol, in the state of alcoholic intoxication he unmercifully beat his wife. In the recent period of time C. was graduating from the institute and worked much, he got very tired because of sleepless nights, as every day his father came home drunk and created scandals.*

*On the day of the accident, his father returned late, in a state of intoxication, made a row with his mother, demanded that she ask him to apologize her for something, used obscene words, insulted his mother in every possible way, hit her head with his fists. C., who was lying in an adjacent room, tensely listened; the scandal was flaring up still more and more. The father, having gripped a shoemaker's hammer from a table, began to threaten the mother with it. She made a loud cry, after what the examinee's little son woke up and began to cry. His son's cry "acted like a siren" on him and aroused some unbridled rage. Having jumped out of bed, C. rushed to his*

parents' room, ran up to his father and attacked him with the hammer. Everything went dark before his eyes, he saw only a distorted face of his son; now it was approaching and enlarging, now it was vanishing somewhere; he felt that he "was being wrapped in mist". He does not remember what happened later. He regained consciousness at his parents' room, feeling that he was sharply weak, jaded and sleepy at that time. He was shocked when he learnt from his wife what had happened. Overcoming his fatigue, he tried to give aid to his father, but he failed to wait for doctors and fell asleep.

From the materials of the case it is known that when the examinee's mother cried for help and at the same time his child began to cry, C. jumped out of bed and swiftly rushed to his father who raised the hammer against him. When the wife of C. ran out of another room she saw the hammer in her husband's hands. C. stood bending over his father who lay in blood on the floor. He was very pale and shaking all over. He did not respond to his wife's questions, "his eyes were some glassy, immobile", "he looked and saw nothing", going on mechanically hitting his father's head with the hammer. When his wife snatched the hammer out of his hands and cried loudly, calling him by his name, he apparently came to himself and looked at his bloody father with surprise. At that time he was perplexed, tried to go somewhere, but suddenly "stood stock-still, as if dead". Then he approached to his father, bowed over him, then rested against a chair somehow with his side and instantaneously fell asleep. The surrounding people laid him on a bed, but he did not wake up and went on sleeping even at the moment when his father was being carried near him on a stretcher. His father was admitted to hospital in an unconscious state with multiple fractures of his cranial bones and an injury of the matter of his brain.

A short-term psychotic state in this case developed as a response to an affective irritation against a background of asthenia caused by action of some temporarily relieving factors (overstrain, insomnia) with phenomena of autonomovascular dystonia, which were constantly peculiar to the examinee.

**Pathological drowsy states;** before they were described as "sleep intoxication". Most authors emphasized a rate of aggressive actions made in such states.

A pathological drowsiness should be understood as a state of an incomplete awakening after deep sleep with an uneven transition of some systems of the brain from sleep to wakening. After "awakening" of simpler motor functions the higher mental ones (consciousness, first of all) remain in the state of sleep inhibition. Such an uneven, delayed transition from sleep to wakening is accompanied by a cloudiness of consciousness and a deep disorientation. The continuing dreams may be vivid, imagery, frightening. Some distortedly perceived real events are interspersed into a frightening

dream and combined with illusory or even short-term hallucinatory-delirious feelings.

The motor functions, released from the sleep inhibition, make the subject capable for aggressive-defensive actions. They are manifested in the form of either single automatic acts or integral motor ones reflecting pathological feelings. It is not rarely that people in drowsy states commit murders and inflict grave bodily injuries. The period of excitement is usually followed by a final awakening with a complete regain of consciousness and a subsequent adequate response of perplexity and surprise at what has happened. After the final awakening, no recollections of the morbid state are usually left. In some cases, they are partially preserved, mainly concerning dreamy images. Sometimes drowsy states last only a few moments, but in some cases take more time.

Usually, drowsy states appear in people with feebly marked organic changes in their central nervous system, more frequently of a traumatic origin, as well as in the people whose sleep is deep and sound. Side by side with this, significantly important in the genesis of pathological drowsy states is a complex of temporary hazards which produced their effect prior to falling asleep. The first place among them belongs to the use of alcohol. A pathogenic role of a preceding emotional strain, overstrain, forced sleeplessness and somatopsychic asthenization was also noticed.

An examined 35-year-old male P. is accused of killing his wife.

At the age of 20 he suffered a contusion with a short-term loss of consciousness. Upon his demobilization from armed forces he worked as wood-cutter. By disposition, he was always joyful, cheerful and sociable. At the age of 22 he was operated on for gastric ulcer; after the operation he became irritable and reserved. He began working as night guard at bakery. He bore alcoholic drinks bad, grew inebriated after small quantities of alcohol and in the state of intoxication rapidly fell asleep. He always slept very soundly and felt an increased need of sleep. If he did not sleep enough, he felt jaded and irresistibly sleepy.

On the day of the accident, he had supper with his wife and drank about 300 g of vodka. That evening he was upset as the wife refused to go to his parents with him. At about 10 p.m. he went for his night duty. During the duty he grew cold, "was chilled", came home several times, but could not grow warm. He felt tired and jaded. Having not waited for his relief, he went home before the end of his duty, immediately went to bed and fell asleep at once. He remembers that he had a terrible dream. He dreamt that the bakery was ruined, its windows were broken. In the opening of the broken window he saw some figure in white who was approaching to him having stretched his arm forward, he heard a baby's cry, cries for help. Saving himself, he tried to run, but all the time that person was nearby; out of fear he hit him with an axe. He does not

remember anything about subsequent events. He woke up “because of some push”, having heard a knock at the door, from force of habit he lit, opened the entrance door. Having seen people near the house, “he felt something wrong”; only after that he saw a corpse of his wife in the corner of the room and some blood on the floor, he got very frightened and could not understand what had happened.

From the materials of the case it is known that P. returned from his duty at 4 a.m. and went to bed where a baby was sleeping. In the same room were sleeping the examinee’s wife, his 5-year-old daughter and their female relative. At about 6 a.m. P. suddenly jumped out of bed, began to dash around the room, muttering something. As the relative testifies, at that time his appearance was perplexed, he was pale, trembling all over and repeating again and again, “The windows are being broken, the bakery is being ruined”. The relative woke the wife, who immediately rose to her feet, while the relative grabbed the baby and ran out of the house to cry for help.

Further events were witnessed only by the 5-year-old daughter of P., who testified that when her mother ran up to her father, he silently gripped an axe which was standing near the oven and “began to hack the mother”. The girl cried for help, but nobody was nearby. She covered her head with a pillow and heard nothing any more. The neighbours, who came 15 minutes later, saw a corpse of the wife of P. on the floor, while P. was lying across her bed on his back, with his face up and semibent legs. His wife’s arm was cut off and squeezed between his knees. He did not give any answers to calls made by the surrounding people. The neighbours carried out the girl and closed the door.

The witnesses who were standing near the window inform that 15-20 minutes later the neighbour knocked at the door again. P. rose to his feet, lit and opened the door, looking around in perplexity. Having seen his wife’s corpse on the floor, he dashed to it and was crying.

*At the moment of making the kill P. developed a pathological drowsiness with a morbidly distorted perception of the surroundings after a spontaneous but incomplete awakening from deep sleep. Vivid frightening dreams went on after the time when motor functions were released from the sleep inhibition. Separate fragmentary statements were indicative of a relation between pathological feelings and dreams, and disclosed their contents. The real events (a figure of the wife who had awoken, the baby’s cry, cries for help) were interspersed into the situation created by the dream. The dreams, which went on, were accompanied by alarm and fear. The examinee’s actions were connected with pathological feelings, by their character they were automatisms with a senseless aggression, as it is demonstrated by numerous stabs made at the same place. The excitement changed into deep sleep followed by an absolute amnesia of the real events with preservation of recollections concerning the dream.*

**The “short-circuit” response.** Such a pathological response develops owing to a protracted situation, which traumatizes the psyche, and as a result of a discharge of some long and intensive affective strain accompanied by anxious apprehensions and expectation of troubles, on which almost all the representations of the subject are concentrated. A socially dangerous action, which was not intended before, is caused by an instantaneously formed and often absolutely accidental situation. The clinical picture is determined by either a disturbance of consciousness or sharply marked affective disturbances (frenzied rage, despair, etc.) which do not correspond to their cause and are accompanied by impulsive, automatic actions, including those ones which are dangerous for the surrounding people. Like after the pathological affect, the “short-circuit” response is followed by sleep or a sharp psychophysical exhaustion.

**Pathological intoxication** is a twilight cloudiness of consciousness with various structure; it belongs to a group of acute short-term mental disorders.

Pathological intoxication is characterized by a sudden development of a sharp change of consciousness, like the twilight one; it qualitatively differs from “clouded” consciousness or torpor in a common alcoholic intoxication. A person with pathological intoxication perceives the surrounding reality in a morbid way, the external situation becomes threatening to him. It is accompanied by alarm, fear, sometimes reaching uncontrolled horror. In the state of pathological intoxication it is possible to observe animation of some dangerous situations from the past, a pathological reproduction of a number of events from some books read before and their transfer to the reality imagined. In such cases, the ability to make rather complex purposeful actions, use transport, find a correct road, etc., is usually preserved. But most frequently a subject, who is in the state of a changed consciousness, is pathologically disorientated, unable to have any speech intercourse with the surrounding people, always acts alone, any combined actions in such cases are impossible. The speech production in pathological intoxication is extremely meagre, and even if it is available it always reflects aspects of morbid disorders. A person in this state usually does not respond to any real stimuli, does not answer any questions, his attention cannot be attracted.

The acts made in pathological intoxication do not result from real motives and real circumstances, but at the same time they rarely are chaotic disorderly actions. Such acts are always based on morbid impulses, motives, representations. Forced actions are of a particular character, defensive for the subject; they are usually directed at elimination of an imagined danger.

In pathological intoxication, as a rule, the nervous-mental mechanisms, controlling complex automatized skills, equilibria and actions, associated with motor processes, are little involved. Often it contributes to making

exceptionally adroit, complex and quick actions directed at realization of morbid motives.

Pathological intoxication ends as suddenly as it begins. Sometimes it turns into sleep, followed by an absolute amnesia or a dim recollection of what has been felt.

An examined 33-year-old male L. is accused of killing female B.

In the evening he drank 100 g of home-brew and went for his duty. He does not remember what he did later, he “came to himself” tied together in a car on the way to a police station.

*From the materials of his criminal case it is known that having come to his job, L. suddenly gripped a gun and, shooting, began to run on the territory in charge. His expression was “furious, wild”, he was running “evenly, without staggering”. L. repeatedly shot inside the buildings he guarded and did not pay any attention to cries made by the surrounding people. Later L. ran into one of the buildings and opened an aimless shooting, during which he killed B. At that time L. was hiding and shouting “Where ... they...o...o...o...”. After a blow against his head L. fell down to the ground, did not resist, and muttered something. Having regained consciousness, he did not remember anything about what had happened.*

Besides the above forms of the twilight cloudiness of consciousness, there may be “twilight” ones which can be defined as hysterical. They develop after psychic traumas, and the patients’ behaviour reflects the contents of the psychic trauma. The most frequent forms of the hysterical twilight cloudiness of consciousness are puerilism, pseudodementia, Ganser’s syndrome.

**Puerilism** appears most often in a situation of a threat for an act made. The patient’s behaviour clearly reveals some “age-related regression of the personality” with features of infantile behaviour: addressing official persons as “uncles” and “aunts” with an attempt to climbing up to their lap, the babbling speech, crawling on all fours, etc. At the same time, some acquired habits of an adult are observed (smoking).

**Pseudodementia:** a twilight state of consciousness with incorrect forms of behaviour and a vivid demonstration of dementia. The patients are not able to follow the simplest instructions, at the same time fulfilling more complex tasks.

**Ganser’s syndrome:** a twilight state of consciousness when the patients answer beside the point of the question asked (“miss-talking”, “miss-speech”), but the patient’s answer always exists in the context of a conversation with him.

The above forms of psychosis may last several days and be accompanied by a total amnesia.

### **Age-related peculiarities in disturbances of consciousness**

A disturbance of consciousness depends upon the age stage in the formation of consciousness. Infants before 1 year of age mainly develop disengagements of consciousness: obtundation, torpor, coma. The first two disturbances may be not always vivid for the surrounding people and are manifested by inhibition, listlessness, sleepiness, sometimes one episode of vomiting. Such disturbances are also typical for children up to 3 years of age. In this state the child does not show any interest to anything, does not respond to his mother, he is indifferent, his responses are delayed.

If a child jumps to his feet at night, makes loud cries, waves off, does not respond to any persuasions, but a few minutes later this state passes away and he cannot explain what was with him, this behaviour may be regarded as a manifestation of the twilight cloudiness of consciousness.

Disturbances of consciousness in children at the age of 5-9 years are more variable than in the age category described above. Delirium at this age is notable for its obliterated, fragmentary and less prolonged course, presence of illusions and hallucinations. In a carpet design a child may see some cat heads who nod him, wink, etc. The child is not able to understand what was in a dream and what in the reality; he states that a beautiful toy lay on the bed and a small dog was walking along the room.

Twilight states of consciousness at this age period are short-term and not developed. The most frequent here are some monotonous actions with arms or lips: smacking, licking, fingering.

At the age of 9-16 years, the delirious syndrome is the most typical. At the pre-delirious stage the child becomes restless, fearful, touchy; later appear illusions and hallucinations, as a rule, of some frightening or zoöptic character: the patient sees cats, dogs, beetles, spiders, etc.

Oneiroid states at this age are not completely developed yet, but the patients may see themselves in space, at war, etc.

Twilight states at the juvenile age are accompanied by feeling fear and anger, as well as by aggressive behaviour.

At a young age, all the clinical forms of disturbances of consciousness typical for a mature age are observed.

## **PSYCHOPATHOLOGICAL SYNDROMES**

**The psychopathological syndrome** is a more or less stable totality of symptoms pathogenetically connected with one another.

The syndromes are not strictly specific for a certain nosological form, and the same syndromes may be observed in many mental diseases. At the same time, symptoms and syndromes are the basis for forming the clinical picture of mental diseases.

Revealing of the leading syndrome (syndromological diagnosis) is the initial stage of the diagnostic process which is of a great practical significance. There are various classifications of syndromes: by the preferential disruption of some mental function, by the depth of the impairment of the personality, etc.

In the previous chapters were described some syndromes of the preferential involvement of some sphere. The classification of psychopathological syndromes with regard for the above registers of mental disorders, reflecting the depth of the impairment of the personality, is the one which most completely satisfies requirements of assessing the depth of mental disorders and indications for various kinds of therapy.

### **Classification of psychopathological syndromes depending upon the depth of the personality impairment**

#### **I. Nonpsychotic, borderline syndromes:**

1. Asthenic (asthenoneurotic, asthenodepressive, asthenohypochondriac, asthenoabulic).
2. Apathoabulic.
3. Neurotic and neurosis-like (neurasthenic, the syndrome of obsessive states, dysmorphophobic, depressive-hypochondriac).
4. Psychopathic and psychopathy-like.

#### **II. Psychotic syndromes:**

1. Syndromes of a cloudiness of consciousness
  - a) asthenic confusion
  - b) perplexity
  - c) delirious
  - d) amentia
  - e) oneiroid
  - f) twilight state of consciousness
2. Depressive (psychotic variant)
3. The syndrome of hallucinosis (verbal, tactile, visual)
4. The syndrome of derealization and depersonalization

5. Maniacal
  6. Paranoid (including hallucinatory-paranoid, hypochondriac, dysmorphomaniac, Kandinski-Clerambault syndrome of psychic automatism)
  7. Paranoiac
  8. Paraphrenic
  9. Hebephrenic
  10. Catatonic
- III. Defect-organic syndromes:
1. Psychoorganic (explosive, apathetic, euphoric variants)
  2. Korsakoff's amnesic
  3. Oligophrenia
  4. Dementia (total and lacunar)

### **Definition of concepts**

The **asthenic** syndrome (Greek: *a* - absence, *sthenos* - strength) is manifested by a marked physical and mental tiredness which appears even after some insignificant exertion. The patients have a difficulty in concentrating, therefore they memorize poorly. They develop a lack of emotional restraint, lability, an increased sensitivity to sounds, light, colours. A rate of thinking is delayed, the patients experience difficulties in solving complex mental tasks.

In **asthenoneurotic** states, the above phenomena of asthenia are accompanied by a hot temper, an increased irritability, tearfulness, capriciousness.

In **asthenodepressive** states, the phenomena of asthenia are accompanied by depression.

In the **asthenohypochondriac** syndrome, the asthenic symptoms are accompanied by an increased attention to one's own physical health; the patients pay much attention to various unpleasant sensations coming from their internal organs. It is not in rare cases that they develop thoughts about presence of some incurable disease.

In the **asthenoabulic** syndrome, the patients, who begin some work, get tired so quickly that actually are not able to fulfill the simplest tasks and actually become inactive.

The asthenic syndrome in its different variants is observed in all somatic exogenous-organic, psychogenic diseases.

The **apathoabulic** syndrome is characterized by a reduced strength of emotions, indifference to what is going on around and to the self in combination with an absence of any motives to activity. Such patients would usually lie or sit, doing nothing. They are slovenly and inert. It is observed in organic lesions of the brain and schizophrenia.

The **neurotic** syndrome is a symptom-complex that includes phenomena of instability in the emotional and volitional spheres with an increased mental and physical exhaustibility, with a critical attitude to one's own state and behaviour.

Depending upon peculiarities of the personality, it may be of the neurasthenic, hysterical and obsessive-phobic character.

The **neurasthenic** syndrome (the syndrome of irritable weakness) is characterized, on the one hand, by an increased excitability, unrestrained affect, an inclination to wild affective responses with volitional instability, and, on the other hand, by an increased exhaustibility, tearfulness, a weak will.

The **hysterical** syndrome is characterized by an increased emotional excitability and lability, theatrical behaviour, an inclination for dreaming and falsity, to wild affective responses, fits of hysteria, functional paralyses and pareses, etc.

The syndrome of **obsession** (the **obsessive** syndrome) is manifested by annoying thoughts, phobias, obsessive desires and actions. As a rule, the phenomena of obsession appear suddenly, they do not correspond to the contents of the patient's thoughts at this moment, his attitude to them is critical and he struggles with them.

The syndrome of obsession occurs in neuroses, somatic and exogenous-organic diseases of the brain.

The **dysmorphophobic** syndrome: the patients overestimate significance of the deformities they have, actively search for aid of specialists, demand making cosmetic operations on them. Most frequently it develops at puberty by the psychogenic mechanism. For instance, if juveniles are sure that they have some overweight, they strictly limit their food (psychic anorexia).

The **depressive-hypochondriac** syndrome is characterized by appearance of thoughts in the patient about presence of some serious or even incurable disease, they being accompanied by low spirits. Such patients would persistently search for aid from doctors, demand various examinations, administration of some drug therapy.

**Psychopathic** and **psychopathy-like** syndromes are symptom-complexes of emotional and effector-volitional disturbances, which are of a more or less stable character and cause the main type of neuromental responses and behaviour, usually insufficiently adequate to the real situation. They include an increased emotional excitability, inadequacy of voluntary actions and acts, an increased irresistibility to instinctive drives. Social dysadaptation of such patients is conditioned by their personality disharmony.

Depending upon peculiarities in the type of the higher nervous activity and conditions of upbringing, it is possible to observe the asthenic, hysterical, psychasthenic, irritable, paranoiac or schizoid variants of the psychopathic syndrome; they are the basis of various forms of psychopathy and

psychopathy-like states of the organic and other origin. They are often accompanied by sexual and other perversions.

The psychopathic syndrome develops by the moment of formation of the personality (by 18-20 years), the psychopathy-like syndrome develops in the people, who were harmonious before, under the influence of exogenous-organic lesions of the brain.

The syndromes of **a cloudiness of consciousness** are described in chapter “Disturbances of consciousness”.

The **depressive** and **maniacal** syndromes are described in chapter “Disturbances of emotions”.

The syndromes of **hallucinosi**s, **derealization** and **depersonalization** are described in chapter “Disturbances of sensations and perceptions”.

The **paranoid**, **paranoiac** and **paraphrenic** syndromes are described in chapter “Disturbances of thinking”.

The **dysmorphomaniac** syndrome is characterized by a triad of signs: delusions of deformity and reference, depression. The patients actively strive for correcting their deformities. When they are refused to make an operation, sometimes they try to change the form of misshapen parts of their body themselves. It is observed in schizophrenia.

The **hebephrenic** and **catatonic** syndromes are described in chapter “Disturbances of effector-volitional sphere”.

The **psychoorganic** syndrome is characterized by mild disturbances of intellect. The patients’ attention and fixation memory diminish, they recall dates of their life and commonly known historical events with difficulty. Their rate of thinking is delayed. The patients experience difficulties in acquiring new knowledge and skills. The level of their judgements and criticism decreases.

Either levelling of the personality or sharpening of streaks of the disposition takes place. Depending upon the fact what emotional responses prevail, the following variants are distinguished: explosive (explosiveness, rudeness, aggressiveness), euphoric (inadequate joviality, carelessness), apathetic (indifference). Some partial reversibility is possible, more frequently there is a gradual aggravation and development of the syndrome of dementia. This syndrome is typical for exogenous-organic lesions of the brain.

**Korsakoff’s** syndrome is described in chapter “Disturbances of thinking”.

The syndromes of **oligophrenia** and **dementia** are described in chapter “Disturbances of thinking”.

The **frontal** syndrome is a combination of signs of total dementia with a lack of spontaneity or, on the contrary, with general disinhibition. It is observed in organic lesions of the brain with a preferential impairment of its frontal lobes: tumours, brain injuries, Pick’s disease.

## **ORGANIC AND SYMPTOMATIC MENTAL DISORDERS**

This group of pathology includes mental disorders caused by constant or transitory cerebral disturbances which can be either primary, i.e. cerebral proper, or secondary, i.e. called forth by the causes producing their effect on various organs and systems of the body, including the brain. Psychopathological manifestations reflect either organic changes in the brain cells or a metabolic disturbance in the cerebral structures.

The most typical psychopathological manifestations of an organic pathology of the brain are *intellectual-mnestic disturbances* and *different variants of the asthenic syndrome*, on whose background some patients develop psychoses (in an acute pathology, mostly disturbances of consciousness, in a chronic one – affective or delirious syndromes).

The psychoses caused by an organic pathology are symptomatic, i.e. they represent one of the signs of this kind of a pathology. This circumstance should be taken into consideration while making a prognosis and devising therapeutic tactics for such patients.

### **Classification of organic and symptomatic mental disorders (by the nosological principle)**

- I. Exogenies
  - 1. Infectious
  - 2. Traumatic
  - 3. Caused by ecologically unfavourable factors
- II. Brain tumours
- III. Somatogenies and endocrinopathies
- IV. Vascular diseases
- V. Atrophic diseases of the brain

### **Mental disorders in general and cerebral infections**

Mental disorders develop practically in all acute and chronic infections, but their clinical picture depends upon many factors, including the characteristic of an infectious agent (virulence and neurotropism of the causative agent), the character of an impairment of the brain structure, acuity of the pathological process, localization of the morbid process, premorbid peculiarities of the patient's personality, his age, sex, etc.

Probability of the development of psychoses in infectious diseases depends upon a complex of factors, first of all the patient's individual resistance to the effect of unfavourable exogenous influences and peculiarities of the basic infectious disease, while the clinical picture of mental disorders reflects a degree of progradency in a lesion of the brain.

*Acute (transitory) and chronic (protracted) infectious diseases* are distinguished, it being also reflected on the clinical picture of mental disorders of the infectious genesis: in acute infections and exacerbations of chronic diseases, psychopathological symptoms are more vivid and pronounced, they are often accompanied by disturbances of consciousness in the form of the delirious and oneiroid syndromes, amentia, torpor, a twilight state of consciousness (epileptiform excitement). At the same time, chronic psychoses are oftener characterized by endoform manifestations (hallucinoses, hallucinatory-paranoid syndrome, apathetic stupor, confabulosis). In some cases there is development of organic, irreversible states in the form of the psychoorganic, Korsakoff's syndromes and dementia.

Depending upon the character of a lesion of the brain, the following disturbances are distinguished: 1) *symptomatic mental disorders*, which result from an intoxication, an impairment in the cerebral haemodynamics, hyperaemia; 2) *meningoencephalitic and encephalitic mental disorders* caused by inflammatory processes in the meninges, vessels and matter of the brain; 3) *encephalopathic disorders* which develop as a result of postinfectious degenerative and dystrophic changes in the brain structures.

*Classification of mental disorders of the infectious genesis:*

a) syndromes of disengagement of consciousness (a nonpsychotic change): *obnubilation, somnolence, sopor, coma*; b) functional nonpsychotic syndromes: *asthenic, asthenoneurotic, asthenoabulic, apathoabulic, psychopathy-like*; c) psychotic syndromes: *delirious, oneiroid, catatonic, paranoid and hallucinatory-paranoid, asthenic confusion, a twilight state of consciousness, amentia, hallucinoses*; d) psychoorganic syndromes: simple psychoorganic, Korsakoff's amnesic, epileptiform, dementia, parkinsonism.

Clinical manifestations of mental disorders depend upon the stage and severity of an infectious disease. Thus, within the initial period more frequently develop such syndromes as asthenic, asthenoneurotic (neurosis-like), some signs of delirium. The manifestation period of an infectious disease is characterized by presence of the asthenic and asthenoneurotic syndromes, those of disengagement of consciousness, cloudiness of consciousness, hallucinoses, hallucinatory-paranoid, paranoid, depressive- and maniac-paranoid syndromes. At the period of convalescence one may observe the asthenic, asthenoneurotic, psychopathy-like, psychoorganic, epileptiform, Korsakoff's amnesic, other psychotic (paranoid, hallucinatory-paranoid) syndromes, dementia, residual delirium.

In case of a mild course of an infectious disease, mental disorders are limited by nonpsychotic manifestations, while in severe acute infections and exacerbations of chronic infections the asthenic states are combined with the syndromes of disengagement and cloudiness of consciousness.

Recently, owing to the pathomorphosis of the mental pathology, mental disorders in infectious diseases most often manifest themselves by disturbances at the nonpsychotic, border-line level, mostly represented by the asthenic syndrome which is accompanied by pronounced autonomic disturbances, cenesthopathic, hypochondriacal, obsessive phenomena, disturbances in the sensory synthesis. Emotional disorders are more frequently characterized by depressive manifestations, often with a dysphoric tint: with low spirits, maliciousness, short temper. In a protracted course of a disease there is formation of the personality shifts, the character changes, and excitability or streaks of diffidence, anxiety and nervousness appear. These symptoms may be rather stable.

The most common psychotic syndrome in infectious diseases, particularly at a young age, is *delirium*. The infectious delirium is characterized by disorientation in the surroundings. Some vivid visual illusions and hallucinations, fear and delusion of persecution appear. The above symptoms intensify by the evening. The patients see scenes of a fire, death of people, destructions. It seems to them that they travel, suffer terrible catastrophes. The behaviour and speech are affected by hallucinatory-delirious feelings. The patient may have painful sensations in different organs, it seems to him that he undergoes quartering, amputation of his leg, shooting through his side, etc. The symptom of his double may appear: it seems to the patient that there is his double near him. It is not in rare cases that occupational delirium develops, when the patient makes actions typical for his profession, usual labour activity.

Another and rather common mental disorder in infectious diseases is *amentia*, which usually develops in the patients who are in a severe somatic state. Amentia is characterized by a deep cloudiness of consciousness, disorientation in the surroundings and one's own personality. It is possible to observe some sharp psychomotor excitement, hallucinatory feelings. The thinking is incoherent, the patients are confused. The excitement is monotonous, within the limits of a bed, the patient would toss from side to side (jactitation), start, stretch, he may try to run somewhere, feels fear. Such patients require strict observation and care.

*The oneiroid syndrome* in infectious diseases is accompanied by stupor or psychomotor excitement; the patients are estranged from the world around, anxious, feel fear. Their feelings are of a dramatic, fantastic character. The affective state is very unstable. The patients may be active participants in the events they see.

*Protracted psychoses* may develop in case of a prolonged or chronic course of an infection. In these cases mental disorders often pass without any cloudiness of consciousness. The depressive-paranoid or maniac syndrome is observed; it may be followed by delusions of persecution, hypochondriacal ones, hallucinatory feelings. In the initial states, prolonged asthenia appears, while in an unfavourable course the psychoorganic or Korsakoff's syndrome may form.

Mental disorders in *encephalitis* are represented by acute psychoses with cloudiness of consciousness, affective, hallucinatory, delirious and catatonic-like disorders, development of the psychoorganic or Korsakoff's syndrome.

*Lethargic encephalitis (von Economo's disease)* is a disease with a viral etiology. The acute stage of the disease lasting from 3-5 weeks to several months is characterized by a sleep disturbance, more frequently in the form of drowsiness which often appears after some delirious or hyperkinetic disorders. Sometimes the patients may develop stable insomnia. These disturbances are caused by a vascular-inflammatory and infiltrative process in the grey matter of the brain. Psychotic disorders in the acute stage of the disease manifest themselves by the maniac syndrome, delirium and amentia. In delirium, a disturbance of consciousness may precede appearance of neurological signs in the form of pareses of the oculomotor and particularly abducent nerves, diplopia, ptosis. Delirium is characterized by appearance of polymorphous hallucinations of some dream-like or frightening character, or elementary visual (a lightning, light), auditory (music, ringing) and tactile (burning) hallucinations. The plot of hallucinations in lethargic encephalitis reflects events of the past. It is not in rare cases that occupational delirium develops. Delusions may develop too. Often delirium appears against a background of general intoxication (an elevated body temperature, sharp hyperkineses, autonomic disturbances); in a severe course of the disease, muttering delirium may develop. In case of the amentia-delirium form, after several days the delirium is replaced by amentia. This form lasts 3-4 weeks and is followed by disappearance of the psychopathological signs with subsequent asthenia. An outcome of the acute stage may be different. Within the periods of epidemics approximately every third patient dies at this stage of the disease. Complete recovery is also possible, but more frequently it may be seeming, because a few months or years later signs of the chronic stage are revealed.

The chronic stage is accompanied by degenerative changes in the nerve cells and the secondary vegetation of the glia. The leading signs in its clinical picture are those of parkinsonism: rigidity of the muscles, a peculiar posture of the patient whose arms are adducted to the trunk and knees are somewhat bent, as well as a constant tremor of his hands, decelerated movements, particularly when making spontaneous acts, the patient may fall back, ahead

or aside at an attempt to move (retro-, antero- and lateropulsion). It is also characterized by changes of the personality in the form of bradyphrenia (a significant weakness of drives, reduced initiative and spontaneousness, indifference and apathy). Parkinsonic akinesia may be suddenly interrupted by short-term and very rapid movements. One may also observe paroxysmal disorders (convulsions of the vision, forced attacks of scream – clasomania, episodes of drowsy cloudiness of consciousness with oneiroid feelings). Relatively rare cases of hallucinatory-paranoid psychoses, sometimes even with Kandinsky-Clérambault syndrome, as well as protracted catatonic forms have been described too.

The acute stage of *tick-borne (spring-summer) and mosquito-borne (summer-autumn) encephalitis* is characterized by signs of cloudiness of consciousness. The most frequent disorders at the chronic stage are the syndrome of focal epilepsy and other paroxysms (psychosensory disorders, twilight states).

*Rabies* is the most severe encephalitis always passing with mental disorders. During the first (prodromal) stage of the disease the patient feels worse, he develops depression, hyperaesthesia, particularly to any movement of the air (aerophobia). The second stage is characterized by increasing motor anxiety and agitation against a background of an elevating body temperature and headaches. The patients develop depression, fear of death, frequent delirium and amentia, convulsions, speech disturbances, hypersalivation, tremor. This state is characterized by fear of water (hydrophobia), which consists in appearance of convulsive spasms in the larynx, asphyxia, rather often with some motor excitement, even when water is only imagined. At the third (paralytic) stage, pareses and paralyzes of the extremities occur. Disturbances of speech become intensified, the patients develop torpor passing into sopor. The death occurs under the phenomena of paralysis of the heart and respiration. The course of the disease in children is more rapid and catastrophic, the prodromal stage is shorter.

Mental disorders in *meningitides* may differ and depend upon the character of an inflammatory process in the brain. The prodromal period of meningococcal purulent meningitis is characterized by presence of asthenic signs. At the height of the disease, one may mostly observe torpor, episodes of delirious and amental cloudiness of consciousness, the most severe cases may develop sopor and coma.

*The course* of mental disorders in infectious diseases has its age-specific peculiarities. Thus, in children with acute infections manifesting themselves by an elevation of their body temperature, mental disorders are vivid and accompanied by general disinhibition, stubbornness, anxiety, attacks of fear, nightmares, delirious episodes with frightening hallucinations. At the initial period of an infectious disease children may complain of general

weakness, headache, disturbances of sleep (difficult falling asleep, night fears), capriciousness, tearfulness, some visual hallucinations, particularly at night. The manifestative period may be characterized by episodes of asthenic confused consciousness, fear and febrile delirium. The peculiarity of the initial (residual) period of an infectious disease consists in its effect upon the further mental development of the child. Under unfavourable conditions (in cases of a lesion of the brain of an infectious etiology, insufficient treatment, some mental overstrain at school, a bad family situation, etc.) it is possible to observe formation of psychophysical infantilism, oligophrenia and a psychopathic development of the personality, the epileptiform syndrome.

Children at the acute stage of an infection often develop torpor, sopor and coma, pre-delirious states: short temper, capriciousness, anxiety, nervousness, hypersensitivity, weakness, as well as superficial perception, attention and memorization, hypnagogic illusions and hallucinations. Children before 5 years of age often have convulsive states and hyperkineses, while productive signs in them are very rare and manifest themselves in motor excitement, disinhibition, rudimentary delirious states, illusions.

At the period of convalescence, against a background of the asthenic syndrome, children may develop fears, psychopathy-like disorders, puerile forms of behaviour, defective memory for current events, a delay in their psychophysical development. In epidemic encephalitis, children and juveniles develop psychopathy-like disorders, an impulsive motor anxiety, disturbances of drives, foolishness, asocial behaviour, an inability to carry out systematic psychic activity with absence of dementia. Meningitides in younger children are accompanied by listlessness, adynamics, drowsiness, torpor with periods of motor anxiety. Convulsive paroxysms are possible.

The course of infectious psychoses in elderly people may be often abortive, with predominance of asthenic and asthenoabulic manifestations. Gender differences are characterized by a higher rate of infectious psychoses in females than in males.

*The diagnosis* of infectious psychosis can be made only if there is an infectious disease. Acute psychoses with syndromes of disturbed consciousness most frequently develop against a background of acute infectious diseases, protracted psychoses are typical for a subacute course of an infectious disease.

*The treatment* of infectious psychoses is provided at mental hospitals or infectious in-patient departments under the observation of a psychiatrist and supervision of the personnel; it includes active treatment of the basic disease in the form of immune therapy, administration of antibiotics, disintoxication, dehydration, general health improving therapy. Psychoactive drugs are administered with regard for a leading psychopathological syndrome.

In acute infectious psychoses with cloudiness of consciousness or acute hallucinosis, neuroleptics are indicated. Protracted psychoses are treated with neuroleptics taking into consideration psychopathological signs: aminazine and other neuroleptics with a sedative effect. In depressive states, antidepressants are administered which can be accompanied by neuroleptics if the patients agitate. In the psychoorganic and Korsakoff's syndromes, nootropic drugs are widely used. In patients with prolonged protracted psychoses, as well as irreversible psychoorganic disorders, it is important to carry out rehabilitative measures, including an adequate solution of their social-occupational problems.

Acute infectious psychoses usually pass without leaving any traces, but often infectious diseases are followed by development of pronounced asthenia with emotional lability and hyperaesthesia. It is considered to be prognostically unfavourable if muttering delirium develops with deep cloudiness of consciousness and a sharply pronounced excitement in the form of disorderly tossing, particularly if this state is preserved when the body temperature falls. Protracted psychoses may result in personality changes by the organic type.

### **Mental disorders in AIDS**

*Acquired immunodeficiency syndrome (AIDS)* is one of the most dramatic and mysterious problems of modern medicine. Mental disorders in AIDS are so various that actually they include all the varieties of psychopathology, beginning with neurotic reactions and ending with severe organic lesions of the brain. Just because of this variety of mental disorders AIDS is sometimes called psychiatric encyclopaedia or psychiatric odyssey. In epidemiological studies, the people who have a seropositive reaction to AIDS but no signs of this disease make up a so-called grey area which is the first risk group. The people without any signs of the disease and no seropositive reaction to AIDS, but with a specific life style (homosexuals, bisexuals, narcomaniacs, prostitutes) belong to the so-called group of risk. This is the second risk group. People of these two risk groups also reveal a whole number of mental disorders requiring opportune diagnosis.

The spread of mental disorders in AIDS on the whole corresponds to the spread of the disease itself, because, as most authors report, in one or another way they occur actually in all the patients.

*Classification of clinical manifestations in people of risk groups. The first group (a "grey area")* consists of persons affected by AIDS virus. Though seropositivity by AIDS virus is a risk factor, it does not always show

presence of this disease in a human being. The incubation period between the viral infection and development of the disease lasts from 1 month to 5 years.

*The second risk group* includes the people who are the most vulnerable to a danger of AIDS infection, i.e. those engaged in narcomaniae, homosexuality and prostitution. A smaller part is composed of bisexuals, heterosexuals with numerous occasional intercourses, and those who suffer from haemophilia or another disease requiring frequent blood transfusions.

Mental disorders in each of the risk groups are similar, though in the so-called grey area their rate is much higher. These are, first of all, psychogenic disorders with neurotic and neurosis-like symptoms, though sometimes they acquire the form of psychotic ones with resultant anxiety, nervousness, shortness of temper, sleeplessness, loss of appetite, sometimes with a very expressed loss of body weight. Such patients are characterized by a reduced capacity for work with a disturbance of active attention, sometimes with absolute concentration on thoughts about a possibility to fall ill with AIDS. Also common for these people are constant rereading of literature about this disease, endless searches of some or others of its symptoms in themselves, a hypochondriacal fixing on their own state of health. Initiative is significantly reduced, a feeling of hopelessness develops, libido decreases, though many patients break off all their sexual relations not because of this fact, but out of some fear “to fall ill with another bad disease”. Significantly less people break off all sexual intercourses out of altruistic motives.

Some people of the risk group (especially seropositive ones), on the contrary, display evident antisocial tendencies, seeking either to broaden their sexual relations as much as possible or to communicate AIDS in another way. Typical for this group are the states in the form of apathetic, anxious or melancholic depression with frequent ideas of self-condemnation (which usually do not reach to the degree of delusions) and suicidal thoughts, though suicidal attempts in the risk group occur rarely. Sometimes depression in these people acquires a psychotic character with agitation up to appearance of the state of raptus melancholicus type. Patients from this risk group may also develop psychotic states in the form of sensitive delusions of reference, reactive delusions of persecution, hypochondriacal delusions accompanied by a described “feeling of untouchability”. Hysterical psychoses are also possible.

People from the risk group often develop psychosomatic diseases, first of all various pathologies of the alimentary tract.

The AIDS virus has both lymphtropic and neurotropic properties, i.e. it directly affects cells of the cerebral cortex; this fact explains development of mental disorders long before appearance of signs of reduced immunity in the patient. A few months, sometimes even years before the manifestation of the illness many AIDS patients suffer from apathy, sleep disturbances, a reduced

capacity for work, depression, narrowing of their sphere of personal contacts. But at this stage mental disorders are most frequently revealed at a so-called subclinical level.

With appearance of expressed clinical manifestations of the illness in the form of fever, profuse perspiration at night, diarrhoea, pneumonia, etc., all these mental disorders become clinically expressed and evident.

The fact of presence of AIDS is regarded as a manifestation of expressed psychological stress with prevalence of mostly psychogenic disorders of both the neurotic and psychotic register at early stages of the illness ("the stage of realization of the disease"). Most frequently, this is depression accompanied by anguish with ideas of self-condemnation, guilt to one's relatives, suicidal thoughts and tendencies. But, as most authors report, committed suicides occur relatively seldom. Most frequently they are observed in those people who were witnesses of their relatives or friends' death, caused by AIDS, or are psychopathic persons. Suicidal actions are also made by those patients whom the society treats as some strangers, rejects them, does not allow to attend public places, sometimes even live in their city. This period is also characterized by appearance of obsessive-compulsive disturbances developing with or without depression. The patients complain of an annoying fear of death, annoying representations about the very process of "dying", recollections about their sexual partners who could infect them. Some patients are very troubled by the thought (often annoying) about a possibility to infect their relatives or friends in everyday life, though they understand its absurdity.

Already at this stage, organic symptoms "sound" clearly: the patients develop dysphoriae, psychopathy-like forms of behaviour with explosiveness, irateness, aggressiveness, epileptiform seizures. A so-called psychological disorganization takes place. Often the anxiety which appears in the people after making a diagnosis of AIDS is accompanied by agitation, panic, anorexia, insomnia, as well as a feeling of irreparability and anger, often aimed at doctors. Here, anosognosia may be observed, when the patients deny presence of the illness in them, do not trust their doctors, accuse them of incompetence. Later, as the illness progresses, signs of an organic lesion of the brain become more and more evident. At the stage of formation of expressed signs of an organic defect, various psychotic disorders develop. Most frequently, these are states of cloudiness of consciousness, mostly in the form of delirium, acute paranoid, hypomaniac and maniac states. Therefore, psychopathological manifestations of AIDS are similar to the feelings of cancer patients at its terminal stage.

*The main manifestation of AIDS* consists in a brain lesion with a rapid growth of dementia described in 60-90 % of all the cases. In this connection, even such terms as "AIDS-dementia syndrome" or "AIDS-dementia complex"

appeared. In 25 % of the observations, the AIDS-dementia complex may be revealed as early as in the manifestative period of the illness. Dementia develops in connection with diffuse subacute encephalitis, meningitis, meningeal and cerebral lymphoma (pseudotumour manifestations of the disease), cerebral haemorrhages, cerebral arteritides. The patients gradually feel it more difficult to concentrate their attention, they lose memory for current events, have spotty memory defects for the past, symptoms of lethargy. Very rapidly (within a few weeks or months) the patients develop intensifying signs of dementia with a psychomotor retardation, periods of cloudiness of consciousness (at first, by the type of a twilight state), epileptiform seizures, often turning into epileptiform status, mutism. Later these signs are accompanied by incontinence of urine and faeces, the depth of the disturbance of consciousness increases from torpor to coma. In each 10 of 13 cases computed tomography reveals total cerebral atrophy, speech disturbances usually being its first sign.

Of AIDS patients, 80 % die within two years; 90 % die at the age of 20-49 years, 93 % of them being males. Many researchers hold an opinion that just an organic lesion of the brain is one of the main causes of death in AIDS. Besides, the death may be caused by a sarcoma in 35 % of the cases or other malignant tumours, as well as various somatic diseases with a severe course. More than half of the patients (60 % of cases) die from double pneumonia.

Rather often the doctors have to differentiate mental disorders, caused by AIDS, from AIDS-phobia or delusions of AIDS infection. The number of such patients steadily increases because of a wide spread of materials about AIDS in mass media. In this connection, such terms as “pseudo-AIDS”, “pseudo-AIDS syndrome” and “AIDS panic” have recently become even widespread. A diagnosis to such patients is made on the basis of clinical-psychopathological methods of examination (naturally, if seropositivity is excluded). Making a differential diagnosis of mental disorders in AIDS which are similar to schizophrenic, involuntional and other symptoms, it is very important to have the most detailed family and case histories, as it is not excluded that this AIDS patient before suffered, for example, from schizophrenia. In such a case, early stages of AIDS, prior to a sharp domination of organic dementia, may reveal various psychotic symptoms typical for endogenous psychoses. Symptoms of an organic lesion of the brain in AIDS require differentiation from quite a number of organic cerebral diseases having another etiology: multiple sclerosis, brain tumour, neurosyphilis, toxoplasmosis, Schilder’s disease, meningitides and encephalitides of various etiology, etc. In such cases, the problem is solved by special tests for AIDS, which must be also carried out in cases of mental disorders in seropositive people from the risk group (a “grey area”).

It is more difficult to diagnose mental disorders in people from the risk group without seropositivity. Such cases require the most careful objective and subjective anamnesis, the study of the “life style” of the people from the sphere of personal contacts of this person. Also it is very important to reveal a temporary relation between the appearance of some or other mental symptoms and a psychic trauma, somehow related to AIDS (a disease or even death of some of one’s close friends or relatives), reading of literature, watching of films on this subject, etc.

The etiopathogenesis of mental disorders in AIDS is mostly caused by two factors: 1) *a mental (psychological) stress* after receiving information about an incurable disease and related intrafamilial, interpersonal and social problems; 2) *general intoxication and increasing severe lesions of the cerebral tissues*, first of all nerve cells.

The AIDS virus possesses expressed neurotropic properties and can be isolated directly from the brain tissue. By the data of pathomorphological studies, some or other changes in the cerebral tissues are found in 60-90 % of observations; they are: diffuse demyelination, disseminated perivascular changes, reactive gliosis, microfocal brain infarcts. These disorders are revealed actually in all the cerebral structures, it making the clinical picture of neuro-AIDS similar to other nosological forms based on pathomorphologically close lesions of the brain tissue. Pathomorphological cerebral changes in AIDS may resemble viral encephalitides of different origin, neurosyphilis, toxoplasmosis, disseminated metastatic lesions, multiple sclerosis, etc.

*Treating* mental disorders in AIDS patients, it is possible to use psychoactive medicines, tranquillizers, antidepressants of the tricyclic line, but in small doses owing to a high sensitivity of AIDS patients to any drugs, as well as to alcohol. Taking into consideration a possible development of frequent side effects, the treatment must be given with great care. There are some data that thioridazine is the least toxic. Though AIDS is incurable, but its course may be chronic with states of some remissions, therefore relevant psychotherapeutic and psychocorrective work must be done not only with the patients, but also with their associates.

An augmentation of dementia should not be a contraindication for employing psychotherapy (especially supportive one) which will help the patients to cope, as far as possible, with a number of problems caused by intellectual defects. The programme of rehabilitation should also involve all the patients irrespective of the stage of the illness and its possible outcome.

## Mental disorders in brain injuries

Brain injuries are some of the most frequent causes of mortality and steady loss of capacity for work; annually the number of patients with a traumatic injury of the brain increases by 2 %. In the structure of peace-time injuries, prevail life, transport, industrial and sports ones. Such complications of brain injuries as development of the epileptiform syndrome, traumatic cerebraesthesia, encephalopathy, dementia, pathocharacterological disorders and their influence on the social adaptation of patients are of a great medical importance. In more than 20 % of cases, brain injuries cause disability owing to neuromental diseases. Brain injuries are divided into open (involving skin integuments and skull bones) and closed ones. In its turn, open injuries are subdivided into penetrating (with impairment of the dura) and nonpenetrating ones. They always give rise to complications in the form of meningoencephalitis, abscess, osteomyelitis. Among closed injuries, there are concussions (commotions) which occur most frequently, as well as contusions and compressions. It is not in rare cases that a concomitant injury of the brain is observed.

Mental disorders caused by a brain injury depend upon the period of the traumatic disease. Thus, at *the most acute initial period*, torpor, sopor, coma, disturbances in the cardiovascular activity and respiration are observed. *The acute period* is more frequently characterized by nonpsychotic syndromes (asthenic, apathoabulic syndromes, epileptiform seizures, anterograde and retrograde amnesia, surdomutism) and rarer by psychotic ones (a twilight state of consciousness, posttraumatic delirium, dysphoriae, Korsakoff's syndrome).

At *the late period*, nonpsychotic disorders are observed: the asthenic, asthenoneurotic, epileptiform, psychopathy-like (affective instability) syndromes, while late posttraumatic psychoses (hallucinatory-paranoid, manic-paranoid, depressive-paranoid) occur significantly rarer. Remote consequences of a brain injury include cerebraesthesia, encephalopathy, dementia, posttraumatic epilepsy, a posttraumatic development of the personality.

Mental disorders of the most acute period are mostly represented by states of *disengagement of consciousness with different degrees: coma, sopor, torpor*. The depth of a disturbance of consciousness depends upon the mechanism, localization and severity of an injury.

In most of the patients, mild or moderately severe brain injuries are followed by torpor characterized by retardation of their thinking and incomplete orientation. The patients are drowsy and respond only to strong stimuli. After a return from torpor, fragmentary recollections about this period are possible.

Mental disorders of the acute period are represented by nonpsychotic disorders in the form of *the asthenic syndrome* and *psychoses, occurring in the form of states of a changed consciousness: delirium, epileptiform excitement, twilight state*, which develop immediately after a return from the unconscious state.

The asthenic syndrome within the acute period of a brain injury is characterized by a reduced mental productivity, an augmented exhaustion, the feeling of tiredness, hyperaesthesia, autonomic disturbances, a reduced motor activity. It is not in rare cases that patients complain of headaches and dizziness.

Most frequently, delirium develops in patients overusing alcoholic drinks or in cases of toxicoinfectious complications. The patients are excited, would jump up, try to run somewhere, feel frightening visual hallucinations. Traumatic delirium is characterized by presence of vestibular disorders. A transfer from the delirium to amentia is prognostically unfavourable. A twilight state of consciousness most frequently develops in the evening, it manifests itself by a complete disorientation, desultory delusions, separate hallucinations, fear, motor excitement. A return from the twilight state is through sleep followed by amnesia of morbid feelings. The twilight state of consciousness may occur with attacks of motor excitement, stupor, motor automatisms, puerile-pseudodementia behaviour.

In cases of severe brain injuries, the patient's return from coma may be followed by development of *Korsakoff's syndrome* with fixation, retro- or anterograde amnesia, confabulations and pseudoreminiscences. Sometimes the patients lose an ability to critically assess the severity of their state. Korsakoff's syndrome may be transitory and disappear after several days, or have a long course and result in formation of organic dementia.

The duration of the acute period of a brain injury ranges from 2-3 weeks to several months. Within this period, it is also possible to observe affective and affective-delirious psychoses, an important part in whose development is played by exogenous factors: physical load, tiredness, intoxication, infectious diseases, etc. The clinical picture of the above disorders is characterized by maniac, depressive and affective-delirious disorders in combination with confabulations. Depressive states are accompanied by the hypochondriacal delusion. More frequently, maniac states appear together with euphoria, delusion of grandeur, anosognosia, a moderately expressed motor activity and a rapid development of exhaustion, headache, flaccidity, drowsiness; the latter symptoms disappear after some rest. Rather often, an irate mania is observed.

Within the late period of traumatic disorders, *subacute and protracted posttraumatic psychoses* are observed; they may occur periodically.

Mental disorders of the remote period are characterized by various kinds of the *psychoorganic syndrome*. Expressiveness of the formed defect

depends upon the severity of the brain injury, the volume of the cerebral lesions, the age at which it occurred, the quality of the treatment given, hereditary and personality peculiarities, additional exogenous hazards, the somatic state, etc.

*Traumatic cerebrasthenia*, developing in 60-75 % of cases, is the most frequent consequence of a brain injury. The clinical picture of the disease is characterized by prevalence of some gradually increasing weakness, a reduction of the mental and physical productivity, accompanied by shortness of temper and exhaustion. There are transitory fits of short temper, after which the patients usually regret their lack of restraint. Autonomic disturbances manifest themselves by fluctuations in blood pressure, tachycardia, dizziness, headache, sweating, vestibular disorders, a disturbance in the sleep-awaking rhythm. The patients badly endure going by transport, swinging, watching TV. It is not in rare cases that they complain of feeling unwell after changes of the weather and when staying at some stuffy premises. Typically, torpidity and rigidity of nervous processes are observed. An ability for a rapid switch-over from one activity to another is reduced, but a forced necessity to do this work results in decompensation of the state and an augmentation in the expressed cerebrasthenic symptoms. Traumatic cerebrasthenia is often combined with different neurosis-like symptoms, phobias, hysterical reactions, autonomic and somatic disorders, anxiety and subdepressive symptoms, autonomic paroxysms.

*Traumatic encephalopathy* develops against a background of residual phenomena of an organic brain lesion, whose localization and severity cause peculiarities in the clinical picture. The most frequently observed are affective disorders with underlying psychopathy-like disorders of the excitable and hysteric types. Patients with the apathetic variant of encephalopathy are characterized by expressed asthenic disturbances with prevalence of exhaustion and fatiguability, they are listless, inactive, with a reduced sphere of interests, memory disturbances and difficult psychic activity. Emotional excitability in these patients prevails over exhaustion, they are rough, hot-tempered and inclined to aggressive actions. Fluctuations in their mood are observed, inadequate fits of anger easily develop. The productive activity may be hampered owing to affective disorders, it causing still more dissatisfaction with themselves and responses of irritation. The patients' thinking is characterized by inertness and a disposition to stick to unpleasant emotional feelings. Dysphoriae may develop in the form of fits of depressed-malicious or anxious mood lasting several days; at this time the patients may make aggressive and autoaggressive acts, demonstrate a disposition to vagrancy (dromomania).

*Epileptiform paroxysmal disorders (posttraumatic epilepsy)* may form at various terms following a brain injury suffered, most frequently after

several years. They may be various, such as generalized, jacksonian seizures, paroxysms without contractions: absences, fits of catalepsy, so-called epileptic sleeps, psychosensory disorders (metamorphopsiae and disorders in the body scheme). Appearance of autonomic paroxysms with expressed anxiety, fear, hyperpathy and general hyperaesthesia is possible. Fits of contractions may be frequently followed by twilight states of consciousness, thereby demonstrating an unfavourable course of the disease. They are often caused by additional exogenous factors, first of all alcoholic intoxication, as well as by psychic traumatization. The duration of twilight states is not long, but sometimes it may last up to several hours.

Within the remote period of a brain injury, so-called *endoform (affective and affective-delirious) psychoses* may develop. Affective psychoses pass in the form of monopolar maniac or, rarer, depressive states. They are characterized by an acute onset, an alternation of euphoria with anger, moria-like foolish behaviour. It is not seldom that a maniac state appears against a background of exogenous factors (intoxications, repeated injuries, surgical interventions, somatic diseases).

Affective-delirious psychoses are characterized by hallucinatory-delirious and paranoid syndromes. As a rule, hallucinatory-delirious psychoses develop acutely against a background of symptoms of traumatic encephalopathy with prevalence of apathetic disturbances. The risk of falling ill with the disease increases in patients with somatic disorders, as well as after surgical interventions. Their delusion is concrete and not systematized, the hallucinations are true, there is an alternation of psychomotor excitement and inhibition, the affective feelings are caused by delusions and hallucinations. Depressive states may be triggered by psychic traumas. Along with melancholia, the patients develop anxiety, hypochondriacal feelings with a dysphoriac assessment of their own state and surroundings.

Paranoid psychoses develop more frequently in males 10 and more years after a brain injury. The clinical picture is characterized by presence of overvalued ideas and delusions of jealousy with litigious and querulous tendencies. The paranoid delusions of jealousy may be combined with delusions of damage, poisoning, persecution. The psychosis has a chronic course and is accompanied by formation of the psychoorganic syndrome.

*Posttraumatic dementia* develops in 3-5 % of cases of a brain injury. It may either be a consequence of posttraumatic psychoses or the progressive course of the traumatic disease with repeated injuries, as well as result from a developing cerebral atherosclerosis. Patients with posttraumatic dementia are characterized by prevalence of memory disturbances, a reduced sphere of interests, listlessness, faint-heartedness, sometimes importunity, euphoria, disinhibited drives, overestimation of their abilities, absence of criticism.

*Age-specific peculiarities of the traumatic disease.* Brain injuries in children occur rather frequently, especially at the age from 6 to 14 years. Mental disorders in children at the acute period appear against a background of an increased intracranial pressure: they reveal general cerebral and meningeal disturbances, expressed autonomic and vestibular symptoms and signs of a local brain lesion. The most severe symptoms develop a few days after a brain injury. Paroxysmal disorders, which occur both at the acute period and during convalescence, are a frequent symptom. As a rule, the course of the traumatic disease in children is benign, even severe local disorders are subject to regression. Asthenia within the remote period is slightly expressed, while motor disinhibition, emotional lability and excitability prevail. Sometimes after severe brain injuries, which patients suffered in early childhood, they reveal a mental defect resembling oligophrenia.

In young children (up to 3 years of age), no complete disengagement of consciousness is usually observed, their general cerebral disorders may be obliterated. Multiple vomiting and autonomic symptoms (an elevated body temperature, hyperhidrosis, tachycardia, dizziness, etc.) are clear signs of a brain injury. Typically, an arrhythmia of sleep and waking is observed. The child would not sleep at night and is sleepy at daytime.

Traumatic cerebraesthesia in children manifests itself by headaches, which appear suddenly or under certain conditions (at stuffy premises, because of running or some noise); dizziness and vestibular disorders are less frequent. The expression of asthenia proper may be very poor, while motor disinhibition, lability of emotions, excitability, autonomic vascular disturbances (intensified vasomotor reactions, a bright dermatographism, tachycardia, hyperhidrosis) prevail. The apathoadynamic syndrome in children is characterized by listlessness, apathy, sluggishness, a reduction of activity and striving for it, limited contacts with their associates owing to rapid exhaustion, and a lack of interest. Such children are not able to cope with their school syllabus, but they do not disturb their associates and do not rouse any censure from their teachers.

Children with the hyperdynamic syndrome have prevalence of motor disinhibition, fussiness, sometimes with high spirits and a tint of euphoria. Such children are excited, restless, they would run, make a noise, often jump up, grasp some things but there and then throw them. Their mood is characterized by instability and carelessness. Outwardly, the patients are good-natured, suggestible, sometimes foolish. A reduced criticism and difficult mastering of new knowledge are observed. It is not in rare cases that a further development of these disorders result in some more differentiated psychopathy-like behaviour. The children cannot get on with their classmates, do not master new knowledge, violate discipline, disturb their associates,

terrorize their teachers. Owing to the fact that such patients do not produce any complaints about their health, for a long period of time their inadequate behaviour is not regarded as morbid and only disciplinary demands are made to them.

Mental disorders after brain injuries in elderly people are usually accompanied by a loss of consciousness. The acute period is characterized by prevalence of autonomic and vascular disturbances, dizziness and fluctuations in blood pressure, while nausea and vomiting occur rather rarely. Owing to a defective vascular system, intracranial haemorrhages are often observed; they may develop some time later and manifest themselves by a clinical picture resembling that of a tumour, or epileptiform seizures. Stable asthenic disturbances, listlessness, adynamia and various psychopathological symptoms are more constant in the remote period.

*Pathogenesis of mental disorders in the brain injury.* Appearance of mental disorders within the acute period of the brain injury is caused by a mechanical damage and oedema of the cerebral tissue, development of haemodynamic disturbances and cerebral hypoxia. In this case, transmission of impulses in synapses is affected, and disturbances develop in the mediator metabolism and functions of the reticular formation of the brain stem and hypothalamus. Brain injuries of the mild degree are accompanied by an insignificant destruction of nerve cells with a subsequent restoration of their functions, while in severe injuries there is a death of neurons with development of gliotic cicatrices or cystic formations. A disturbance of synaptic relations between nerve cells, traumatic asynapsis, may be observed.

Pathogenesis of mental disorders in the remote period of the brain injury is various, the character and expressiveness of disturbances depend upon the severity of the injury, the patient's age and additional hazards. Very important are repeated injuries, addition of alcoholism and a pathological vascular process.

A favourable prognosis in brain injuries is observed in the following cases: an absolute attenuation of the main active traumatic process and its complications, and absence of general cerebral disorders; locality of the injury and a partial character of the mental defect (isolated phenomena of dysfunction, a single syndrome or feebly expressed mental changes); a comparative preservation of the intellect and social-occupational directions of the personality; a young age of the patient; absence of any severe concomitant nervous and somatic diseases and expressed signs of a psychopathy in the patient before the injury; an opportune enlistment to work in compliance with the patient's interests and his professional abilities.

At the same time, an unfavourable prognosis is observed in such cases as: a continuing reduction of the intellect with development of organic dementia in some patients; expressed, stable or increasing changes in the

personality by the organic type; protracted psychoses with hallucinatory-paranoid, hypochondriacal and depressive syndromes that develop for the first time many months and years after the injury; epileptiform manifestations which become more frequent or appear for the first time after several years; an increasing asthenization of the patient with a reduction in his capacity for work. The prognosis in consequences of the brain injury is worsened by presence of comorbid alcoholism.

*The treatment* of mental disorders in brain injuries depends upon the stage of the disease, its severity and expressiveness of clinical manifestations. All the persons who received even a slight injury of the head, must be hospitalized and follow bed regimen during 7-10 days, children and elderly people require a more prolonged stay at in-patient department. In case of the symptoms demonstrating an increased intracranial pressure, dehydration is recommended. Autonomic disturbances are controlled with tranquilizers, and oxybarotherapy is recommended for reducing cerebral hypoxia. Neuroleptics, large doses of Diazepam (up to 30 mg intramuscularly) and sodium oxyburate are administered for productive psychopathological symptoms and excitement. At the period of convalescence it is recommended to use general health improving therapy, nootropic drugs, vitamins; neuroleptics are used in case of excitement.

The remote period of the brain injury requires a complex of therapeutic and rehabilitative measures consisting of psychotherapy, an adequate job and social rehabilitation of the patient. Drug therapy is administered depending upon prevalence of some or other symptoms in the clinical picture. Thus, anticonvulsive therapy is recommended in treating epileptiform disorders, antidepressants for affective depressive disorders, etc.

Long therapy and an adequate job are particularly important in the progressive course of the traumatic disease, it contributing to stabilization of the pathological process and reverse development of some morbid symptoms. The prognosis of mental disorders significantly depends upon the fact how correctly the patient follows recommendations and regimen.

In slight concussions of the brain, the patients may be disabled up to 1 month, in moderate ones up to 2 months, and in severe ones for 4 months and longer. *An invalidity examination* must be carried on with regard of the part played by rehabilitative measures. The patient's job should correspond to his state and abilities. Job recommendations must take into consideration presence of inertia of nervous processes that results from the brain injury and remains for a long period of time. For such patients, any job requiring a rapid switching over from some activity to another is not recommended, large physical and mental loads are contraindicated. The most complete restoration of the capacity for work takes place in patients with the asthenic syndrome.

## **Mental disorders in burn disease**

A burn/scald is a damage of tissues resulting from a local thermal, electrical, chemical or radiation effect. Thermal burns and scalds, caused by the effect of a flame, radiant heat, incandescent metals and gases, combustible liquids, are the most frequent ones in clinical practice and constitute 2 % of all surgical diseases. According to the WHO's data, burns and scalds take the third place by their rate among other injuries, while in some countries they are even in the second place. Annually, dozens of thousands of people die from burns and scalds. The severity of the damage depends upon the height of the temperature, the duration of the effect, the area of the damage and the localization of the burn/scald. In cases of a long effect, thermal burns and scalds with a lower temperature pathogenically have the same result as a short-term effect of thermal agents with a high temperature. For instance, heating of the human body up to 42°C during 6 hours results in necrosis of the skin, what is possible when an unconscious patient is covered with hot-water bottles (heaters). The temperature of 45-50°C is considered to be a threshold one for the body. Most often, patients receive burns/scalds of their arms, legs and eyes.

A risk of development of mental disorders in the burn disease depends upon the depth and area of the damage. The burn disease, as a complex of clinical signs resulting from a thermal damage of the skin integuments and underlying tissues, develops with involvement of more than 15 % of the skin surface in superficial burns/scalds and over 10 % in deep ones, mental disorders occurring in 85-90 % of the patients. With an augmentation in the severity of the burn disease the number of patients having mental disorders rises, such cases being characterized by a more frequent observation of the psychotic symptoms. In the remote period, mental disorders are registered in every sixth casualty.

Disturbances in regulatory mechanisms and functions of life support, presence of blood and plasma loss, toxic effects of both the endogenous and exogenous character (immunological, infectious) play their part in the development of pathological changes in the burn disease. Neuromental disorders in the burn disease are polymorphous: they may be both transitory and long-term. It depends upon the localization, depth and area of the burn/scald, premorbid peculiarities of the casualty's personality, his attitude to the fact of being ill.

There are several periods (stages) of the burn disease: *shock*, *acute burn toxæmia*, *septicotoxæmia*, *convalescence* and *the stage of remote consequences*. Shock is a frequent manifestation of the burn disease; it develops after involvement of more than 30 % of the body surface in

burns/scalds of the 1<sup>st</sup> degree and over 10 % in those of the 2<sup>nd</sup>-4<sup>th</sup> degree. Most often, the signs of shock appear 1-2 hours after receiving a burn/scald. It is caused by neurovascular reflexes (pain, fear) with a release of catecholamines, formation of toxic substances, protein and water-electrolyte disturbances with resultant hypoxia, metabolic disturbances, intoxication and infection.

The effects of the burn/scald on the central nervous system are massive and polymorphous. An important part in the pathogenesis is played by overexcitement (afferent impulses) in the CNS, cerebral hypoxia connected with disturbances in circulation and water-salt exchange, as well as secondary hypoxia owing to a disrupted function of external respiration. Circulatory disturbances, at first, are characterized by a spasm of vessels with resultant primary ischaemia of the brain, while haemoconcentration and disturbances in water exchange lead to a brain oedema and secondary ischaemia of the brain.

The development of intoxication is caused by presence of protein breakdown products, which may be later accompanied by the secondary, infectious intoxication. The above disturbances are pathogenetic factors of the development of hypoxia, cerebral ischaemia and vascular impairments accompanied by formation of the asthenic syndrome, delirium and other mental disorders, and later result in irreversible mental disorders in the form of burn encephalopathy.

Peculiarities of neuromental disorders within the period of shock depend, first of all, on the expressiveness and the period of shock, rather than on the casualty's personality. Most severely shock develops in children, old and somatically weakened people.

*The initial period of shock (the erectile phase)* is characterized by appearance of obnubilation and psychomotor excitement, which may be accompanied by euphoria and multiple neurological symptoms in the form of paresis of convergence, mydriasis or miosis, nystagmus. At this phase of shock there is an augmentation of tendon reflexes and presence of slight meningeal symptoms, mostly white dermatographism and tachycardia. In aggravation of the physical state, the torpid phase of shock becomes more intensified. Inhibition and adynamia augment, obnubilations give place to torpor, and later sopor and coma; delirium and clonic convulsions may develop. Reduction of diuresis up to anuria and collapse are frequently observed. Vomiting and diarrhoea are regarded as unfavourable prognostic signs, more than 70 % of patients at this stage of shock die from acute cardiovascular insufficiency.

Shock phenomena are usually controlled by the 3<sup>rd</sup> day of the illness. Within the period of acute burn toxemia and septicotoxaemia, neurological disturbances manifest themselves by intensifying meningeal symptoms, headaches, dizziness, nausea and frequent vomiting. Multiple neurological

symptoms and muscular hypotonia, augmented tendon and peristaltic reflexes, their asymmetry are observed. Manifestations of convulsions, more frequently local and rarer generalized, are noticed.

Among psychopathological disturbances, the asthenic syndrome is early and the most persistent one; its severity depends upon the expressiveness of intoxication, particularly on such signs as hyperthermia, increased tachycardia, tachypnoea, fluctuations of blood pressure, more often towards lowering. It is possible to observe development of asthenic mental confusion, hypnagogic hallucinations, torpor, as well as appearance of states of cloudiness of consciousness with development of the delirious, oneiroid syndromes or amentia; the course of these syndromes may be obliterated and atypical.

Against a background of an improved somatic state and a decreased intoxication there is some reduction of psychopathological symptoms; the patient begins to adequately assess what has happened: the loss of his capacity for work, outward attractiveness, a possible ruin of plans for his life; it may give rise to psychogenic disorders. Within this period, the patients are characterized by prevalence of anxious-depressive disorders, the severity of the psychogenic disorders being reversibly dependent on the expressiveness of asthenia.

Later, a reverse development of general cerebral disorders (by the end of the second and the beginning of the third week) reveals domination of local symptoms of an involvement of the central and peripheral nervous systems: disturbances from the side of the cerebral motor nerves, anisoreflexia by hemitype, pathological reflexes, pareses and palsies, prevalence of the sympathetic or parasympathetic tone. The psychopathological picture is characterized by formation of the psychoorganic syndrome (burn encephalopathy) which includes intellectual-mnestic and affective disorders whose degree depends upon the individual peculiarities of the patient, the depth and area of his burns/scalds.

*The period of convalescence* is characterized by a total rejection of necrotic tissues, filling of defects with granulations, development of metabolic-trophic disturbances and a reduced responsiveness of the organism. Additionally, a psychogenic traumatization of the patient, caused by his realization of the reality of amputations, appearance defects and disfiguring scars, is possible.

Within this period, against a background of burn encephalopathy, there is development of asthenic-depressive disturbances, psychopathy-like manifestations by the excitement, inhibition and apathy type, sometimes overvalued ideas of reference which are inclined to generalization, but usually are unstable and pass to suspiciousness and mistrustfulness. Some cases reveal asthenic states with neurotic and neurosis-like symptoms, encephalopathic and

psychopathy-like disorders, signs of the psychoorganic syndrome, paroxysmal disturbances, organic dementia. Local neurological symptoms are usually preserved.

In some cases, the people who suffered from burns develop a morbid fear of fire with expressed autonomic reactions when it is necessary to make some actions connected with a fire. Such patients are characterized by a critical attitude, absence of the feeling of estrangement, lack of a ritual defence and generalization, and by a regressive course.

The asthenic (cerebrasthenic) disturbances developing against a background of a mild form of the burn disease are characterized by a regressive course. In the clinical picture, there is prevalence of fatiguability, reduced mental productivity, somatoautonomic manifestations in the form of headaches with various localization and intensity, dizziness, autonomic lability, with possible autonomic paroxysms and frequent hypersensitivity to weather changes. Such disorders are rather persistent, with frequent development of the secondary decompensation of the mental state. Disfiguring scars resulting from burns/scalds of the face and open areas of the body cause formation of overvalued ideas and depressive disturbances.

*The remote period of the burn disease* is characterized by development of burn encephalopathy, where the apathetic, explosive, inhibited and mixed variants are distinguished. Foci of paroxysmal activity, areas of desolation (mostly in the anterior parts of the brain), dilation of the cerebral ventricles and sulci serve as the pathomorphological ground for burn encephalopathy. Within this period, paroxysmal disorders appear: generalized seizures, autonomic paroxysms, absences, as well as changes of the personality by the epileptoid type.

*The prognosis* in the burn disease depends upon the area and depth of the skin involved. Approximately, the severity of a burn/scald may be prognosticated with help of the rule of “a hundred”: to sum the age and the total area of the burn/scald in per cent, where a favourable prognosis is shown by an index below 60, a relatively favourable one by 61-80, a doubtful one by 81-100, and an unfavourable one if the index exceeds 101. Frank’s index is a more precise method for prognosticating the severity of a burn/scald; it is calculated on the basis of taking into account the depth of a burn/scald, the severity of a deep burn/scald being about 3 times higher than of a superficial one. The prognosis is regarded as favourable, if Frank’s index does not exceed 30 units, doubtful with the index of 61-80, and unfavourable when it is over 90.

*The treatment* of mental disorders in the burn disease is carried on against a background of specific anti-burn therapy with consideration of the register of mental disorders and expressiveness of their clinical manifestations. Prior to transporting the patient to a medical institution, it is

indicated to inject analgetics, neuroleptics, antihistamine drugs; the transportation must not last more than 1 hour. If disturbances of consciousness in the form of delirium develop, it is necessary to administer large doses of tranquillizers parenterally (Diazepam with a daily dose of up to 30-40 mg). Delusions necessitate administration of neuroleptics, and depressions are treated with antidepressants. An important place in the complex of medical measures is taken by nootropic drugs and medicines which improve microcirculation in the brain (Trental, Cavinton, etc.), whose administration contributes to prevention of burn encephalopathy.

## ECOLOGICAL PSYCHIATRY. MENTAL DISORDERS IN FOOD, OCCUPATIONAL AND DOMESTIC POISONINGS

A large number of environmental factors are able to cause in exposed people various specific and nonspecific disorders. The study of these disturbances is in the junction of psychiatry with toxicology, pharmacology and other branches of medicine. Vices of the modern industrial production, appearance of agricultural products with nitrates and other “additives” unfavourable for the human being, the quality of food products and water, an uncontrolled taking of drug preparations (partially because of their wide advertising) contribute to a significant growth of poisonings accompanied by mental disorders. It caused appearance of a new trend in psychiatry, the so-called ecological psychiatry, in the last decade of the 20<sup>th</sup> century.

The mental disorders caused by acute and chronic intoxications are included in ICD-10 into F-0 and are essentially symptomatic.

The problem of acute poisonings became particularly urgent during last few years, when the number of the chemicals used in industry, agriculture, everyday life and medicine has sharply increased.

The most frequent in the clinical practice are poisonings with soporifics, tranquillizers, narcotics, ethyl and methyl alcohol, carbon monoxide, organophosphorous compounds, hydrocarbon, etc.

Acute and chronic poisonings with various toxic substances cause different mental disorders: nonpsychotic, psychotic and defect-organic.

The same toxic factor can cause different disorders depending upon the dosage, the rate of effect and individual peculiarities of the organism. Besides, there is no clear dependence of the clinical picture of psychopathological syndromes on the kind of poisoning, as the same syndrome may develop in poisonings with many substances. But some “preference” of the syndromes for certain kinds of intoxications can be observed. In some cases, intoxications are the factors provoking endogenous psychoses (schizophrenia, the manic-depressive psychosis).

*Classification of mental disorders caused by intoxication.* The intoxication-induced mental disorders are systematized by 2 principles: depending upon the toxic agent and depending upon the clinical picture. *Depending upon the toxic agent*, there are the following kinds of intoxications: a) *drug-induced* (poisoning with soporifics, sedatives, bromine, atropine, mepacrine hydrochloride, neuroleptics, tranquillizers, steroid hormones, reserpine); *food-induced* (poisoning with ergot, mushrooms, botulism); c) occupational and domestic (poisoning with mercury, lead, tetraethyl lead, carbon monoxide, organophosphorous compounds, petrol,

benzene, antifreeze, acetone, pesticides, aniline, hydrogen sulphide, carbon sulphide, illuminating gas, manganese, arsenic.

*By their course*, intoxication-induced mental disorders are subdivided into *acute* and *protracted*.

Mental syndromes in acute intoxications are as follows: 1) *asthenic* (*asthenoneurotic, asthenodepressive, asthenohypochondriacal*) – in all kinds of poisonings; 2) *disengagement of consciousness* (barbiturates, tranquillizers, carbon monoxide, antifreeze, pesticides); 3) *delirious* (melipramine, amitriptyline, bromine, hydrogen sulphide, carbon monoxide, atropine, illuminating gas, Leponex, diphenylhydramine hydrochloride, benzhexol hydrochloride, tetraethyl lead, aniline, petrol, mushrooms, botulism); 4) *oneiroid* (acetone, ether, steroid hormones); 5) *amentia* (organophosphorous compounds, ergot); 6) *maniac* (mepacrine hydrochloride, steroid hormones, carbon sulphide); 7) *paranoid* (psychostimulants); 8) *catatonic* (corticoids, ACTH).

The basic psychopathological syndromes in chronic intoxications occur during the following stages: *stage 1* – asthenic, neurosis-like; *stage 2* – psychoorganic, Korsakoff's, paroxysmal, dementia.

Against a background of asthenic and organic symptoms in chronic intoxications, some psychoses may develop: chronic paranoid (organophosphorous compounds, psychostimulants), protracted depressions (reserpine, aminazine).

*Acute intoxication-induced psychoses.* Mental disorders may appear at various terms from the moment of poisoning; it depends upon peculiarities of the toxic agent, its dose and ways of metabolism. The duration of such a psychosis is various as well owing to the presence of a poison in the organism and development of complications. First of all, consciousness is affected; mild cases reveal torpor, sleepiness; in the moderate degree of intoxications, torpor turns into somnolence or psychotic forms of a disturbance of consciousness. Severe intoxications are characterized by disengagement of consciousness (sopor, coma) and development of acute psychoses manifesting themselves by various psychopathological symptoms. The clinical picture of acute intoxication-induced psychoses, caused by various poisons, has a lot of similar features. The differences are mostly observed in somatic and neurological symptoms.

*The delirious syndrome* is the most common psychotic one in acute poisonings. In this state, the patients develop bright visual hallucinations, sometimes even auditory, olfactory and gustatory ones, connected with visual hallucinations by the same subject. The patients are disorientated in their surroundings, their behaviour depends upon the character of the hallucinations without any critical attitude to them. In the pre-delirious state, bright night dreams, visual hallucinations, some groundless fear and anxiety develop.

In *intoxication-induced oneiroid*, the patients are absolutely disengaged from the reality, absorbed in the contemplation of fantastic, often scene-like visual hallucinations whose contents may be guessed only by the patients' mimic, as they are impossible to contact with and, unlike in delirium, remain passive in movements. *Intoxication-induced amentia* is characterized by absolute disorientation, failure to recognize one's relatives, to understand what is going on, confusion, incoherent thinking.

*Intoxication-induced paranoids* develop delusions of persecution and poisoning, auditory hallucinations. Typical for *mania-like states* are euphoria and garrulity without any increased striving for activity.

*Mental disorders in chronic intoxications.* The first, *neurosis-like stage*, is characterized by asthenic, asthenohypochondriacal, asthenodepressive states, sometimes hysteroid and asthenobsessive ones. *The psychoorganic stage* either forms gradually against a background of neurosis-like disorders or its symptoms appear in the very beginning of intoxication. The patients' memory, particularly short-term one, is sharply disturbed, their ability to fixing reduces, the attention is diminished, the patients complain of difficulties in concentrating and switching their attention to other things, they become absent-minded. The quickness of wit becomes worse, the rate of orientation in events reduces. Some cases develop Korsakoff's syndrome and total dementia. Against a background of neurosis-like and psychoorganic manifestations, the paranoid and depressive syndromes may develop in some intoxications.

*Mental disorders in drug-induced intoxications.* Poisonings with drugs can result from an increased sensitivity to them, when even average therapeutic doses are taken. But most frequently such intoxications occur as a result of taking large doses, both in cases of suicidal attempts and overdosages caused by doctors' mistakes or self-treatment. The mental disorders are the most common after poisoning with psychoactive, narcotic and cholinolytic drug preparations, more seldom with hormones, sometimes with antibiotics.

*Soporifics.* The most severe disorders occur in poisoning with barbiturates, after a single taking of large doses with a resultant state which resembles inebriation, followed by torpor rapidly turning into sopor and coma. In some cases, epileptiform seizures are observed. Chronic intoxication with barbiturates gives rise to the development of psychopathy-like states with euphoria, disinhibition, memory disturbances, a significant reduction of criticism. Sometimes hallucinatory-paranoid and depressive-paranoid psychoses develop. An abrupt withdrawal of barbiturates is accompanied by epileptiform seizures or coma.

*Neuroleptics.* Poisoning with Leponex (clozapine) or tizercine (methotrimeprazine) may develop delirium, an overdose of aminazine (chlorpromazine) results in depression.

*Antidepressants.* Overdosages of melipramine and amitriptyline may cause delirious states. Taking of monoamine oxidase inhibitors sometimes gives rise to short-term psychotic states with excitement, euphoria, suspiciousness.

*Astmatol.* The beginning of intoxication is characterized by asthenia, sleepiness, impairment of vision. The symptoms are followed by delirium with visual hallucinations in the form of small animals, insects. Some cases have acute verbal hallucinosis followed by secondary paranoid delusions. As a rule, the patients are excited and make chaotic purposeless chorea-like movements. The face is hyperaemic, the pupils are dilated, the speech is inarticulate and incoherent.

*Atropine.* A few minutes after taking atropine, the pupils get sharply dilated, the pulse and respiration rates increase, accommodation is affected. Later, delirium develops with sharp motor excitement, various visual and tactile hallucinations, anxiety, fears, often aggressiveness accompanied by tremor, twitching of certain groups of muscles. Some patients develop torpor turning into sopor and coma.

*Benzhexol hydrochloride.* At first, a two- or threefold dose of the drug causes euphoria followed by narrowing of consciousness with a feeling of flight and development of bright coloured visual hallucinations resembling a cartoon.

*Mepacrine hydrochloride (atebrine).* This drug preparation is used in malaria treatment. Its overdose is accompanied by euphoria without any striving for activity and with asthenia. Deliria are comparatively rare.

*Caffeine.* An overdose causes higher motor activity, garrulity and general excitement, followed by listlessness, sleepiness, an unsteady gait. In some cases, delirium develops with abundant visual and auditory hallucinations and epileptiform excitement.

*Hormonal drugs.* An injection of thyroid hormones, corticosteroids and estrogens may develop delirium, hallucinatory-delirious syndromes, epileptiform seizures.

*Cortisone,* making a stimulatory effect on the CNS, causes euphoria, insomnia, motor excitement. Cortisone and ACTH may give rise to depressive, depressive-paranoid, hallucinatory-paranoid and catatony-like psychoses. In hormonal psychoses, children more frequently develop delirium with hallucinations in the form of small animals and insects, as well as a disorder in the body scheme.

## **Mental disorders in food poisonings**

*Poisoning with ergot and its preparations (ergotoxine, ergotamine)* manifests itself through torpor, bad mood, defective memory. In some cases, amentia develops.

*Botulism* may be accompanied by a delirious state with motor excitement.

*Mushroom poisoning* results in cloudiness of consciousness, development of dream-like delirium with fragmentary hallucinations and bad mood changing into sharp excitement.

## **Mental disorders in occupational and domestic poisonings**

*Petrol*. In acute intoxication, there is development of euphoria with asthenia and headache, nausea and vomiting, changing into delirium with hypnagogic hallucinations. Severe poisoning results in disengagement of consciousness (sopor, coma). The patients may suffer from cramps and paralyses, some cases have the lethal outcome.

*Acetone*. Acute intoxication develops asthenic states with dizziness, unsteady gait, nausea, vomiting. In some cases, protracted delirious states are observed with light periods at daytime and aggravation of the symptoms by the evening. Chronic poisoning causes organic changes in the personality.

*Aniline*. In mild cases, there is headache, nausea, vomiting, twitchings. Severe poisonings are characterized by disengagement of consciousness or development of delirium with sharp excitement, sometimes turning into muttering delirium (delirium munitans). The patients' appearance is peculiar: their skin and mucosae are gray or black-grayish.

*Poisoning with benzol and nitrobenzol* develops the state similar to aniline intoxication. The patients' leukocytosis increases, the expired air smells bitter almond.

*Poisoning with carbon monoxide (CO)* is one of the most severe, as it results in serious organic changes in the brain cortex. The acute period of intoxication is characterized by a rapid development of torpor changing into coma. It is possible to observe delirium with visual and olfactory hallucinations, a feeling of fear, a sharp motor excitement. Some patients reveal stupor which resembles catatonic one. A few days after poisoning, psychopathy-like manifestations, Korsakoff's syndrome, parkinsonism, aphasia and agnosia develop against a background of a satisfactory state. Restoration of memory is very slow. Many cases reveal irreversible psychoorganic symptoms. In chronic CO intoxication, there are asthenic, asthenodepressive and asthenohypochondriacal states against a background of psychoorganic disorders.

*Mercury poisoning.* In easier cases, there is shortness of temper, tearfulness, persistent insomnia with nightmares, listlessness, apathy, lack of spontaneousness. Chronic poisoning develops the psychoorganic syndrome with affective lability, faint-heartedness, sometimes with euphoria and reduced criticism. Typically, dysarthria, apathy and tremor are observed.

*Chronic manganese intoxication* causes long-term asthenic states, psychosensory disorders, depressions with suicidal thoughts, delusions of reference accompanied by symptoms of panic. Some cases develop the psychoorganic syndrome, phenomena of parkinsonism, psychopathy-like changes in the personality.

*Acute arsenic poisoning* is accompanied by disengagement of consciousness with preceding vomiting of blood, dyspeptic phenomena, enlargement of the liver and spleen. Chronic intoxication develops the psychoorganic syndrome.

The first symptoms of *lead intoxication* are as follows: headache, dizziness, irritable weakness. In severe poisoning, there is delirium and epileptiform excitement. Chronic intoxication is characterized by the psychoorganic syndrome with epileptiform seizures and severe mnestic disorders.

Typical for delirium in *tetraethyl lead (TEL) poisoning* are peculiar hallucinations: the patients feel some foreign bodies in their mouth (hairs, rags, twigs, etc.) and constantly try to get rid of them. At the same time, there is severe asthenization with bradycardia, hypotony, headaches, dizziness, nausea, hypersalivation, diarrhoea, sharp abdominal pains, hyperhidrosis. Typically, different hyperkineses occur: intentional tremor, choreiform movements, twitchings of certain groups of muscles accompanied by muscular weakness and apathy. Epileptiform seizures are possible.

*Chronic TEL poisoning* may give rise to both Korsakoff's syndrome and total dementia.

*Phosphorus and organophosphorous compounds (OPC)* often cause poisonings, as they may be components of pesticides widely used in agriculture. These substances can penetrate into the organism during respiration, with food, water and through the skin.

*Acute OPC poisonings* cause asthenia, emotional lability, hyperactivity, memory defects, disorientation, incoherent thinking, speech disturbances, ataxia, tremor, intensification of tendon reflexes. Later, the patients develop unmotivated fear, anxiety, hallucinations, sometimes the mood becomes depressive. The mental disorders are accompanied by photophobia, photopsiae, bradycardia, hyperhidrosis, nausea, dysarthria, nystagmus. Typically, there is uncontrollable vomiting; the vomits smell garlic and shine in dark. The patients may reveal disengagements of consciousness from torpor to coma, which change into prolonged sleep. Chronic poisoning develops

protracted symptomatic psychoses with hallucinatory-delirious or catatonic (stuporous) syndromes.

Oral taking of *an antifreeze* results in euphoria, fussiness, fear, motor excitement. These symptoms are followed by disorientation, torpor, sometimes coma, often with the lethal outcome. After the return from coma, the consciousness is not regained at once; the patients may develop amnesic symptoms, visual hallucinations. Then asthenia takes place.

*An acute carbon sulphide poisoning* gives rise to a mania-like state with impulsiveness, cramps, catatony-like symptoms. Chronic poisoning may manifest itself by schizophrenia-like states.

*Hydrogen sulphide poisoning* causes delirium with frightening hallucinations and sharp excitement.

*The course* of intoxication-induced psychoses is various. In some cases, there are acute types of the course with a favourable and unfavourable outcome. In other cases, there is a protracted form with a slow and flaccid development of symptoms; this form may be regressive and progressive. The outcome of intoxication-induced mental disorders depends upon the kind of treatment. When the period of the effect of a poison or its toxic consequences is over, acute intoxication-induced psychoses end with recovery after the period of asthenia. But if the poison caused severe irreversible changes in the brain, organic psychopathological syndromes develop. In severe poisonings which cause disengagement of consciousness or epileptic status (barbiturates, OPC, carbon monoxide, mushrooms, ergot, botulism, TEL), the lethal outcome is possible.

Acute intoxication-induced deliria and oneiroid state often end with complete recovery through the stage of asthenia. Severe forms of delirium (the muttering one) may end with the development of the psychoorganic or Korsakoff's syndrome, where improvement may occur some months and even years later. Neurosis-like disorders in chronic intoxications gradually smooth down (during several weeks or months) after discontinuation of the effect of the poison. In slight mnestic disturbances, treatment is followed by improvement. Organic dementia is irreversible. Intoxication-induced paranoids, depressions and maniac states usually disappear after discontinuation of intoxication.

*The clinical picture* of intoxication-induced psychoses may resemble endogenous psychoses or symptomatic ones having another etiology (alcoholic, infectious, somatogenic, endocrine). Intoxication-induced psychoses are diagnosed by the data of the anamnesis and analysis of the situation which caused their appearance, as well as by the general somatic autonomic picture of the poisoning. The toxic nature of disturbances of consciousness can be revealed on the basis of blood and urine tests and anamnestic data available. Protracted endoform syndromes should be

differentiated from schizophrenia and manic-depressive psychosis, but it may be difficult because intoxications can act as a provoking factor in the manifestation of endogenous psychoses. In such cases, correct diagnosis can be made only after long-term observation. Atypical evolution, appearance of asthenic, hypochondriacal phenomena, cenesthopathies, cerebrasthenic, encephalopathic or autonomic disturbances are evidence of the intoxication genesis of the psychosis.

Sometimes it is difficult to differentiate intoxication-induced psychoses from somatogenic, infectious ones, because their psychopathological picture is similar in many aspects. In such cases, the dependence of the toxic factor effect upon the appearance of the psychosis, as well as revealing of typical somatic signs of intoxication are the basic diagnostic criterion. Neurosis-like disorders in intoxications are not connected with psychic traumas and conflicts inside the personality. The intoxication nature of the psychoorganic syndrome can be found out by the data of examinations if they exclude other causes (brain injuries, infections, oedemata, vascular diseases of the brain).

The effect of a toxic substance in the organism depends upon its concentration in different organs and systems. The most vulnerable are 5 organs: brain, liver, kidneys, heart and lungs. The severity of poisoning depends upon the rates of arrival and discharge of the poison from the organism and its concentrations in the blood plasma. The pathogenesis of mental and neurological disorders in acute poisonings depends upon a direct toxic effect of the poison on different structures of the CNS and is aggravated by involvement of other organs and systems (hypoxia, acidosis, acute renal and hepatic insufficiency). Besides these pathogenetic mechanisms of intoxication-induced mental disorders, such factors as sex, age, type of higher nervous activity, habitus, state of the endocrine system and internal organs also play their part. Many things depend upon the functional state of the brain at the moment of intoxication. Formation of the clinical picture can be influenced by additional hazards (previous brain injuries, infections, psychic traumas, use of liquor). If a toxic agent produces its direct effect on the CNS, acute psychotic states develop. After its appearance, an acute intoxication-induced psychosis, in its turn, may cause various abnormalities in the organism. The largest part in the formation of neurosis- and psychopathy-like disorders is played by premorbid peculiarities of the personality, particularly in chronic intoxications with small doses.

The most significant pathogenetic mechanisms of nonspecific manifestations of the ecological pathology include systemic vasculitides, toxic encephalopathy, disturbances of immunogenesis. A steadily increasing content of harmful foreign substances (xenobiotics) in the food, water, air and soil is the basis of ecological pathology. At first, their accumulation in the organism and a harmful effect cause vasculitides with an asymptomatic

course. Neurosis-like manifestations are the earliest nonspecific indices of functional-vascular disturbances at this stage.

In cases of acute intoxication-induced psychoses, antidote therapy is given (if the poisonous substance is exactly known) together with massive disintoxication therapy: intravenous infusion (by drops) of disintoxicating and plasma-substituting fluids, glucose, isotonic solution of sodium chloride with vitamins, excessive drinking. To prevent brain oedema, dehydrating drugs are administered: Furosemid, Lasix, Manitol.

In order to control excitement, it is purposeful to use tranquillizers (Sibazone, Relanium, Seduxen), avoiding neuroleptics-sedatives (aminazine, tizercine, haloperidol); the latter drugs are strictly contraindicated in poisonings with CO and barbiturates.

The treatment of protracted intoxication-induced psychoses depends upon their psychopathological picture. In hallucinatory-delirious symptoms, it is recommended to use neuroleptics, such as Phrenolon, chlorprothixene, Melleril, Theralen. In anxious-depressive states, amitriptyline is administered; inhibited depression is treated by small doses of melipramine. General health improving therapy is administered for asthenia. In neurosis-like and psychoorganic disorders, it is recommended to combine tranquillizers, nootropic drugs and mild stimulants. If the mechanism of the effect of the poisoning substance is known, the drugs which correct disrupted functions of the organism are indicated. Thus, atropine is administered for OPC poisoning, sodium salts for poisoning with lithium salts, anticholinesterases for atropine poisoning. Disengagement of consciousness is treated with analeptics and bemegride, circulatory disturbances with cardiovascular drugs, and convulsive seizures with anticonvulsants.

*The prophylaxis* of occupational intoxications is the subject of occupational hygiene. Intoxications with domestic poisons should be prevented by strictly keeping the rules of their use and storage. Doctors should be careful in administering those drug preparations which may cause poisoning. Reserpine, dopegit, aminazine and haloperidol preparations should not be administered to emotionally labile patients who are predisposed to depressions. In the process of melipramine, tizercine, Azaleptin or Leponex therapy one should notice the appearance of delirium precursors in time.

### **Postradiation mental disorders**

The clinical picture of these mental disorders depends upon the form of radiation sickness: *acute or chronic*. Acute radiation sickness appears after a short-term effect of ionizing radiation on large parts of the body. Acute

radiation sickness can be caused by both accidents and a total irradiation of the body with a medical purpose. Chronic radiation sickness develops as a result of repeated irradiations of the body with low doses.

### **Classification of postradiation mental disorders**

- I. Mental disorders in acute radiation sickness.
  1. Erectile stage (“radiation intoxication”).
  2. Torpid (terminal) stage.
  3. Acute radiation psychosis (delirium, amentia).
- II. Mental disorders in chronic radiation sickness.
  1. Neurosis-like (neurasthenic, obsessive-phobic, hypochondriacal, depressive syndromes).
  2. Defect-organic (psychoorganic syndrome)
- III. Mental disorders in postradiation encephalopathy.
  1. Neurosis-like.
  2. Psychopathy-like.
  3. Defect-organic (psychoorganic syndrome, lacunar dementia).
- IV. Stress postradiation mental disorders.

The haemopoietic organs and nervous system have the highest sensitivity to ionizing radiation. Pathoanatomical examination of the brain cortex reveals microfocal cell defects and diffuse changes in cellular structures.

In the acute stage of the disease, there is development of brain oedema with haemorrhages to its substance, nodular hyperplasia of the glia, pericellular oedema around the pyramidal cortical cells, vacuolization and chromatosis of the nuclei.

Exposure to 8,000-10,000 rads results in the most acute radiation sickness, disturbance of consciousness (at first torpor, then sopor and coma). Death occurs within a few hours after the irradiation.

Exposure to 1,000-5,000 rads causes deep asthenia, weakness, indifference, loss of initiative. Some cases develop muttering delirium, when the patients are disorientated, unable to productively contact with, from their mumbling speech it is possible to guess that they feel visual hallucinations and fear. No sharp motor excitement is observed. Some patients develop amentia with absolute disorientation, insufficient contact, bewilderment affect, incoherent thinking and senseless excitement within the limits of a bed. Disturbance of consciousness after amentia often becomes deeper up to coma. In such cases, death occurs within 5-10 days after the irradiation.

Exposure to 100-1,000 rads does not cause lethal outcome.

In the initial period, the exposed people develop some psychomotor excitement, sometimes torpor and coma. Having regained their consciousness, the patients complain of sharp weakness, sleepiness, indifference. Against this background, affective disorders in the form of attacks of melancholic-malicious or joyful mood. Isolated hypnagogic hallucinations appear. In the remote period of acute radiation sickness the psychoorganic syndrome may form together with disturbances of memory, attention, quickness of wit accompanied by emotional lability.

The initial stage of chronic radiation sickness is characterized by primary development of various neurosis-like states against a background of undulant asthenia, whose intensification takes place with exposure to irradiation. The patients complain of sharp physical and mental exhaustion, a reduced capacity for work. Hyperaesthesiae to bright light, loud sounds and tactile stimuli appear. The sleep is sharply disturbed. The process of falling asleep becomes poignant, the sleep is superficial and anxious, it is not accompanied by the feeling of rest in the morning, but at daytime the patients are sleepy. They become emotionally vulnerable, touchy, labile. Often there are attacks of autonomic vascular disturbances. In the initial stage of chronic radiation sickness, neurasthenic, obsessive-phobic, hypochondriacal and depressive states develop against a background of asthenia.

In the neurasthenic syndrome, the patients become short-tempered and violent, they often demonstrate affective fits followed by a feeling of regret.

The obsessive-phobic syndrome is characterized by annoying thoughts and drives (obsessions), as well as annoying fears (phobiae); the patients have a critical attitude to them and try to get rid of them. The exhausting struggle with the above annoying things only increases the phenomena of asthenia.

The depressive syndrome is characterized by prevalence of melancholic mood with anxiety, a reduction of the interest in work and entertainment. The patients with the hypochondriacal syndrome attach much importance to various unpleasant sensations in their internal organs, concentrating their attention on what they feel and their health, often take medical advice with numerous complaints.

In the process of the illness the above disorders become more severe and defect-organic symptoms gradually augment. The patients' memory (especially the fixational one) decreases, they find it difficult to concentrate their attention, even to understand rather than only to remember new information, to solve untypical problems (in everyday and occupational life). Emotional-volitional properties change: some people become explosive, rude, brutal, others inadequately polite and careless, or indifferent. During the remote period of chronic radiation sickness, postradiation encephalopathies develop as a result of chronic insufficiency in cerebral circulation. Asthenia with organic signs and anxiety are the main basic abnormality in this period.

Against a background of asthenia, stable neurosis-like disorders (like the ones described above) are formed and result in mental dysadaptation. Asthenodepressive and asthenohypochondriacal states are the most common ones. Some patients develop sharpening of streaks in their character and formation of psychopathy-like syndromes, more frequently of the excitative, hysterical and psychasthenic types. It is not in rare cases that these characterological disturbances result in social dysadaptation. In various conflict situations these patients frequently use immature, primitive mechanisms of psychological defence, and it often results in various conflicts. Such conflicts often occur in experts' examination of the patients' state, when abundance of subjective complaints does not correspond to objective indices. Severe organic lesions form the asthenic variant of the psychoorganic syndrome, as well as lacunar dementia. In the latter case the patients preserve the ability to critically assess their intellectual defect. Besides, they do not lose their individual personality peculiarities.

A significant part in *the clinical picture* of postradiation mental disorders is taken by stress postradiation disorders. Acute psychogenic abnormalities seldom occur. Feelings of the people, who witnessed catastrophes accompanied by radioactive radiations but were not exposed to their effect, do not pass without leaving a trace. Sometimes, even a few years later, various borderline morbid states form and give rise to mental dysadaptation. These states are termed as posttraumatic stress disorders (PTSD). They usually develop in a large number of people after they experienced some situation which endangered their life and whose consequences remain psychogenic for a long period of time. This situation is typical for inhabitants of the territories "polluted" with radiation releases, where living for a long time is essentially a chronic psychic trauma. In such cases various neurasthenic, psychosomatic disorders and pathocharacterological development of the personality occur. The dynamics, compensation and decompensation of borderline mental disorders depend upon solution of the social problems in which the casualties find themselves. The patients complain of flows of recollections about situations from their life. They develop diffidence with a resultant striving for avoiding emotional loads. Initiative decreases, some people demonstrate episodes of antisocial behaviour.

*The treatment* of mental disorders caused by ionizing radiation must be combined. First of all, the patients should undergo general health improving therapy aimed at restoration of disrupted somatic functions. Administration of psychoactive drugs depends upon clinical peculiarities of the psychopathological syndrome.

## **MENTAL DISORDERS IN BRAIN TUMOURS**

Literature has various data about the rate of mental disorders in brain tumours. This rate is considered to depend upon the tumour location: 100 % in tumours of the corpus callosum, 79 % in lobar tumours, 52.1-66.6 % in hypophyseal tumours and those of the temporal, parietal and occipital lobes, 35.5 % in cerebellar tumours, and 25 % in brain stem tumours. These differences are caused both by peculiarities of the tumour process and thoroughness of the psychopathological, neurological and neuropsychological examination. On autopsies at mental hospitals, brain tumours are found in 3-4 % of cases, many of them being undiagnosed when the patients were alive.

The rate of mental disorders in brain tumours increases with age: if at the age under 20 mental disorders were observed un 45 %, above 60 they were in 88 % of the cases. In presenile people with brain tumours, acute (transitory and paroxysmal) psychotic states prevail.

The portion of patients with diagnosed brain tumours in the total number of examined people does not exceed 0.25 (about one third of cases with benign tumours), so after an opportune revealing and surgical intervention a favourable prognosis may be expected.

Mental disorders occur in all brain tumours, but rather often they are not assessed as manifestations of a tumour process quite clearly and in due time.

Mental disorders in brain tumours are caused by the brain-affecting tumour process itself. The following factors caused by the tumour itself play part in the formation of mental disorders: localization of the tumour, its histobiological nature, peculiarities in the rate of growth, oedema and swelling of the brain, disturbances in the dynamics of the blood and liquor, a higher intracranial pressure, the pressure and displacement of some regions of the brain, destruction of the cerebral tissue in the place of the tumour development, reactive oedema and swelling of the brain tissue. Each of the above factors can result in neurodynamic disturbances which are either diffuse and involve all complex brain mosaics or more distinct and form the direct substrate of the symptoms. Also important are other factors such as the state of the patient's organism, his age, previous injuries and infections, endocrine shifts, constitutional peculiarities of the personality, somatic diseases, etc.

By their localization, the tumours are divided into supratentorial (in the cerebral hemispheres) and subtentorial (in the posterior cranial fossa), as well as extracerebral and intracerebral; besides, intraventricular tumours are isolated.

Of cerebral hemisphere tumours, about 75 % are intracerebral and 25 % extracerebral (meningovascular).

Mental disorders in brain tumours belong to the group of exogenous-organic abnormalities. Headache is the earliest symptom; it may be caused by a higher intracranial pressure and be of a diffuse and bursting character. The

expressiveness of these disorders depends upon the tumour size and liquor dynamics disturbances. The headaches felt at night and in the morning are attributed to a venous congestion in the cranial cavity and a higher intracranial pressure. The latter causes vomiting and bradycardia which develop at night or early in the morning. The vomiting usually appears suddenly and is not connected with dyspeptic phenomena or food taking.

Disturbance of consciousness ranging from clouded mental states (obnubilations) to expressed torpor, sopor and coma is usually related to an increasing intracranial pressure, becomes clear after the latter reaches to a certain degree and is the most common mental disorder in tumours. Torpor is characterized by a reduction of the active attention with subsequent involvement of the passive one, the patient's attention is attracted only by loud stimuli. The patients are listless, apathetic and indifferent to what goes on. All the mental processes are impoverished, difficult and delayed. Against a background of torpor, other (delirious, twilight) states of disturbed consciousness and acute psychotic states of the exogenous type develop. In tumours, so-called specific states of consciousness, appearing paroxysmally with typical organic symptoms, may be observed: distorted spatial perceptions, metamorphopsiae, autometamorphopsiae (body scheme disorders), vestibular and depersonalization disturbances.

There is some relationship between psychotic states and localization of tumours. Thus, for instance, delirious and somnolent states are more common for tumours in the temporal lobe, and twilight states for brain stem tumours.

*Psychoorganic disorders* are revealed in various localization of tumours. The expressiveness of these abnormalities depends upon the tumour growth rate, duration of the illness and the patient's age. The clinical picture of a slowly developing and progressing Korsakoff's syndrome is observed in 25 % of the cases. Disturbances in the psychic activity manifest themselves by narrowing and impoverishment of associative processes, loss of clearness of notions and ideas, a lower level of judgements. The affective lability, present at the first stages of the tumour development, changes into emotional impoverishment. Some cases develop dementia with joyful excitement (moria).

Tumours may give rise to *fit-like hallucinatory disorders*: rudimentary hallucinations and hallucinoses, which are important for topical diagnosis of tumours. Unpleasant gustatory and olfactory (burning, rot, smoke, etc.) hallucinations and frightening visual ones, which develop independently or as an aura before a seizure, are indicative of temporal tumours.

*Epileptic disorders* (seizures, absences, twilight states of consciousness) belong to frequent symptoms of brain tumours. Limited (jacksonian) seizures are more common, if tumours are localized in the region of the central gyri.

Typical dysphoric states in tumours, a trend to ecstatic feelings, epileptoid changes in the personality, behaviour and thinking were described.

As torpor increases, the patient (left to his own resources) spends more time in semisomnolence and can be taken out from it only by persistent accosting, but after being left alone he subsides into semisomnolence again. Torpor increases and turns into sopor. Side by side with torpor increase, disturbances in memory and orientation develop. The patients do not or hardly remember what food they ate before, are unable to recollect recent events, the names of their relatives, some details, addresses, to tell the story of their illness. They poorly orientate themselves in place and time, would often assure that they have been hospitalized for 2-3 days, or that they are at home rather than at hospital, etc. The affective sphere is affected too: the patients become short-tempered, easily excited, light-headed, foolish or aggressive, but more commonly they are listless, apathetic, indifferent, gradually losing any interest to events and surroundings, they become indifferent to their affairs, home, family. Abilities for judgements, abstract and combined thinking are lost. The answers consist of one syllable, the judgements and acts become unmotivated.

The patients develop a trend to jests and absurd remarks which is not based on either their situation or surroundings. The patients' underestimation of the whole severity of their situation may be very expressed. Thus, one patient with a glioma in the frontotemporal region, a sharp reduction of vision, persistent vomiting, headaches and hemiparesis urgently demanded his discharge, assuring that he was absolutely healthy and able to work, though because of the hemiparesis and bad general state he lost an ability to independent walking. Illusions of senses are quite common and various, they are: visual, auditory and gustatory hallucinations and body scheme disorders (anosotopognosiae).

Hallucinations are observed in some 10-12 % of all the cases with tumour diseases of the brain. More often they are unpleasant: the patients would smell smoke, burning, drugs, corpses, etc., see animals (often fantastic and ready to attack them) or strange figures of people, hear dirges or sad melodies, a baby's whine, etc. The patients feel enlargement or diminution of the size of their body parts, a change in their position or shape, or their absolute separation from the body.

The hallucinations, particularly visual, and anosotopognosiae may become significantly expressed and give rise to bad feelings. Having seen a skeleton covered with a shroud and holding a scythe in his hands, one female patient with a glioma in her right temporal region felt blind fear. Another female patient with a tuberculoma in the parietal lobe felt some screw-like twisting of her extremities, so with an expression of horror on her face she entreated the surrounding people to keep her legs. The hallucinations may

appear both separately and in various combinations. The most complex hallucinations are observed in temporal lobe tumours. Such patients simultaneously develop olfactory, auditory and visual hallucinations.

In connection with the above mental disorders, there are also changes both in the patient's behaviour and his relationships with surrounding people. These initial disturbances sometimes resemble other mental diseases: Korsakoff's, pseudoparalytical syndromes, manic-depressive psychosis, etc. Patients with brain tumours more often die at mental hospitals than at other types of medical institutions.

Frontal lobe tumours develop the organic psychosyndrome with changes in the personality, drives, mood, as well as disturbed attention and capacity for critical self-estimation and logic conclusions.

If the tumour is localized in the frontotemporal region, the psychoorganic syndrome is a background for developing various kinds of cloudiness of consciousness and the paranoid syndrome.

A lesion in the basal portion of the frontal lobe manifests itself by disintegration of psychic activity, weak motives, speech disturbances, ataxia. Some patients demonstrate disinhibition. Occipital tumours are characterized by a distorted perception of one's own body (disorders in sensory synthesis and body scheme), when the patients complain that their arms or legs have become excessively large, the head enlarges, the neck twists.

Tumours in the central region early develop convulsive seizures, as well as agnostic, apraxic and aphasic disturbances. Rather often the clinical picture of temporal tumours first of all manifests itself by paroxysmal hallucinations (more commonly olfactory and gustatory), as well as visual and gustatory illusions, phenomena of depersonalization, distortions in the perception of time and body scheme.

In occipital tumours, a local cerebral syndrome is often disguised by crises of the intracranial pressure. The most typical symptoms are homonymous hemianopsiae: distortions of colour perception, elementary visual hallucinations, paroxysmal photopsiae. Patients with cerebellar tumours suffer from severe headaches in the frontal region and a feeling that their head bursts.

In slow growing brain stem haemangiomas, a slow increase in motives and affectivity, some disinhibition and restlessness develop. Disturbances of consciousness and mnemonic functions are the earliest symptoms.

In basal tumours of the mesodiencephalic region, Korsakoff's syndrome often develops. Focal symptoms in such patients are not accompanied by disturbance of consciousness. Typical in this case are long periods of lethargic sleep with emotional bluntness and difficulties in processes of thinking. The patients can be awaked, but they rapidly fall asleep again.

Patients with tumours in the Turkish saddle region are notable for absence of activity, indifference, poor motives, loss of appetite, weaker sexual drive. By mistake, these symptoms are sometimes interpreted as depressive.

In tumours of the third ventricle, liquor tracts get obstructed much earlier if compared with tumours of other localizations. It results in attacks of higher intracranial pressure, ventricular attacks. At the same time, the organic psychosyndrome develops with memory disturbance, and it rapidly turns into dementia.

Children with psychopathological manifestations of tumours demonstrate a combination of organic disorders, caused by the tumour process, with peculiarities typical for mental maturation stages. The symptoms of brain tumours in children are less expressed: along with vomiting in the morning, they often suffer from sudden headaches, convulsive seizures. Some children behave like adults, others demonstrate apathy with foolishness. With a slow augmentation of the disorders there are behavioural changes: shortness of temper, conflicts at school, school dysadaptation with a gradually increasing loss of interest in games, apathy and organic dementia.

Psychopathological symptoms may often be the first evidence of a brain tumour. For a long period of time they remain the only ones even during a few months up to the appearance of neurological symptoms. Most commonly, at first the feelings of fear, depression and low spirits develop, but often they are interpreted as a response to some overload or psychogenic effect. Later, cerebral functions are progressively disrupted.

*The prognosis* of the disease depends upon the histobiology of the tumour, the phase of clinical course by the moment of surgical intervention, localization of the tumour, peculiarities of the surgical intervention, the patient's age, state of his cardiovascular system and internal organs. The most favourable prognosis is in case of radical removal of the tumour and making an operation at the stage of subcompensation. Some patients after radical operations, even if they were accompanied by resection of some brain portion, completely restore all their psychic functions. Resection of the frontal lobes or one of the hemispheres may form the psychoorganic syndrome, even if it was absent before the operation, as well as changes in the personality.

*The diagnosis* of brain tumours can result from a complex psychopathological, neurological and general somatic examination. But during the patients' life, brain tumours are not always diagnosed, in 2/3 of cases they are not revealed. For many years such patients remain under the supervision of psychiatrists with the following diagnoses: vascular psychoses, senile dementia, alcoholic epilepsy, schizophrenia.

It is possible to differentiate brain tumours from other organic lesions of the brain by the analysis of the duration of the process, within which the defect developed, the rate of the mental disorder augmentation, presence of

episodes of disturbed consciousness and paroxysmal states, revealing of focal neurological symptoms, by the data of computed tomography and MRI. In some cases it is difficult to differentiate tumour-induced mental disorders from schizophrenia. But schizophrenia-like (hallucinatory-delirious, catatonic, hebephrenic) symptoms in tumours are not characterized by the integrity and dynamics, typical for schizophrenia, and usually develop against a background of disturbed consciousness. Besides, in brain tumours there are no disturbances in the association process and psychic automatisms typical for schizophrenia.

Surgical intervention aimed at removal of the tumour is *the basic method of treatment*. It may result in a total or partial removal of the tumour, decompression-type operation. The surgical treatment is usually accompanied by radiotherapy, hormonal and immunological therapy, chemotherapy, selective introduction of radioactive isotopes into the tumour. Depending upon the psychopathological symptoms, antidepressants and neuroleptics are administered. If there is the psychoorganic syndrome during the postoperative period, it is expedient to use nootropic drugs.

*Experts' examinations* depend upon the tumour localization and expressiveness of mental disorders.

## **MENTAL DISORDERS IN SOMATIC AND ENDOCRINE DISEASES**

Patients with various somatic diseases develop disturbances in their psychic activity, which often remain unnoticed.

The patient's mental state significantly influences an outcome of the disease, complicating and delaying the process of recovery from the somatic disease.

Mental disorders related to a somatic disease are widely spread. For instance, they are observed in 44 % of patients with postoperative complications. As checkups have shown, more than a quarter of patients of therapeutic departments of hospitals suffer from mental disorders, whose rate and character depend upon the patients' age and sex, and the type of the department.

The literature describes criteria for diagnosing somatically caused psychoses: a) presence of a somatic disease causing mental disorders; b) a temporary relation between the development of a basic disease and mental disorders; c) a reduction of a mental disorder with the recovery from a basic disease or with its significant alleviation; d) absence of any data about other causes of a mental disorder.

*The clinical picture* of somatogenic disorders depends upon the character of a basic disease, the degree of its severity, the stage of the course, the level of efficacy of therapeutic influences, as well as such individual peculiarities of the patient as heredity, constitution, premorbid composition of the personality, age, sometimes sex, responsiveness of the organism, presence of previous hazards. Thus, affective disorders are more frequent among younger women, while organic mental ones are particularly common among elderly people, and the problems related to alcoholism are undoubtedly typical for younger males.

*The clinical manifestations* may be expressed by various syndromes. At the same time there are some pathological states, particularly typical at present for somatogenic mental disorders. These are such disorders as: 1) asthenic; 2) neurosis-like; 3) affective; 4) psychopathy-like; 5) delusive states; 6) states of cloudiness of consciousness (delirium); 7) the psychoorganic syndrome, dementia.

In ICD-10, these states are classified in section F06 as “mental disorders caused by a somatic disease”.

### **Peculiarities of mental disorders in various somatic diseases**

*Coronary disease.* The risk factors of development of mental disorders in coronary disease are as follows: a chronic emotional disorder, social-economic difficulties, overstrain or other aggressors continuously acting for a long period of time; typically the patients have such personality streaks as hostility, an excessive striving for competition, ambition, a constant feeling of a lack of time and concentration on restrictions and prohibitions. While making the primary and secondary prevention, the main approach consists in elimination of such risk factors as smoking, malnutrition, use of alcoholic drinks, insufficient physical loading.

*Angina pectoris.* Attacks of angina are often provoked by such emotions as anxiety, anger and excitement. The feelings which the patient has during an attack may be extremely frightening, and often later the patient becomes superfluously careful despite all his doctors' positive statements and against their efforts to induce him to return to his usual active way of life. Angina pectoris may be accompanied by an atypical pain in the chest and dyspnoea caused by anxiety or hyperventilation. In many cases there is some lack of correspondence between the patient's real ability to bear physical loads, established with help of objective examinations, and his complaints about a chest pain and a limited activity. A good effect in overcoming these problems is usually achieved by conservative treatment in combination with regular physical exercises corresponding to the patient's state. In some cases,

behaviour therapy conducted in accordance with an individually devised programme helps the patients to find again self-reliance.

*Myocardial infarction.* As a severe somatic disease, myocardial infarction exerts an intensive psychotraumatizing, stressful effect first of all by its acuteness, suddenness, subjective severity, probable disability, uncertainty and a possible tragic outcome. Mental disorders in myocardial infarction are various and complex, they may develop acutely, subacutely or gradually. Within the acute period of myocardial infarction it is possible to observe appearance of states of a disturbed consciousness in the form of a variously expressed torpor, beginning with obnubilation and ending with sopor and coma. There may be delirious changes of the consciousness, as well as its twilight disturbances which are particularly typical for elderly people whose myocardial infarction has developed against a background of already existing hypertensive disease and cerebral atherosclerosis. Usually, mental disorders in myocardial infarction are short-term (a few minutes or hours, rarely 2-5 days).

The acute period of myocardial infarction may be followed by a stable insomnia, it being a background for a possible development of psychotic episodes with illusory-hallucinatory disturbances and motor uneasiness, with loss of a critical comprehension of the surroundings and assessment of one's own state as morbid. In the acute period of myocardial infarction there may be affective changes in the form of an expressed anxiety, depression, sometimes with motor excitement. The patient stricken with a foreboding of an impending misfortune, catastrophe would fret, he develops an unconscious fear of death. Sometimes high spirits and confidence in the absence of any somatic disease appear. In the acute period of myocardial infarction the patients complain that colours have faded, all phenomena of the reality have lost brightness and acquired some specific, mostly slow rhythm. The above symptoms are accompanied by those of general anaesthesia, exhausted attention, reduced motivation, passiveness. The infarction, whose course does not have any pain syndrome, is often characterized by the state of a sudden anxiety, melancholia, blues; it may resemble vital depression particularly typical for elderly people.

Within the subacute period of myocardial infarction, stable hypochondriacal disorders are most frequently observed: a previously active person restricts the sphere of his activities and interests, trying to avoid even necessary medical recommendations, remedial gymnastic exercises. A talk with such patients reveals their excessive concentration on the disease.

The anxious depression appearing during an attack of pain in myocardial infarction is dangerous because of possible suicidal actions. In case of an aggravation of the state the melancholic-anxious symptoms may

change into euphoria which is also dangerous owing to inadequate behaviour of the patient.

Very typical for myocardial infarction are various asthenic symptoms. Somatogenic asthenia prevails in the acute period. With time, the clinical picture is characterized by prevalence of the symptoms related to an effect of the psychogenic factor: the personality's response to such a severe psychotraumatizing situation, which endangers the life and well-being, as myocardial infarction. In this case neurotic psychogenic reactions get closely entangled with an effect of the somatogenic factor proper, therefore nonpsychotic syndromes are of a mixed character, sometimes approaching to purely neurotic ones, sometimes to neurosis-like ones with their polymorphism, instability and rudimentariness.

Sometimes myocardial infarction is followed by a hypochondriacal fixing, first of all on the heart activity, often with a phobic nuance: the patients are inclined to retake their pulse, for any insignificant reason they would take advice of a doctor or even people with a nonmedicinal speciality. Protracted neurotic reactions with tearfulness, an increased vulnerability, shortness of temper are possible. Neurotic reactions in myocardial infarction depend, to a large extent, upon premorbid peculiarities and are subdivided into cardiophobic, anxious-depressive, depressive-hypochondriacal and, rarer, hysterical and anosognosic.

The subsequent adaptation of the patient in the social and occupational aspects is mostly determined by the correct analysis, realization of the fact of his disease by the patient. Here there are no direct relationships between peculiarities of the personality and its subjectivity to the disease. Sometimes the personality with stable volitional qualities becomes unable to make an adequately stable and correct analysis of the changes which have taken place in the somatic sphere, physical well-being. In these cases asthenodepressive reactions turn out to be unstable and often inadequate to the severity on the whole. Such patients require constant psychotherapeutic talks.

*Hypertensive disease.* In the initial stage of the hypertensive disease most patients still adequately assess their state of health, apprehend their doctor's recommendations and administrations. Some patients with anxious-suspicious streaks perceive an increased blood pressure as a tragedy, catastrophe. The mood in such patients is low, their attention is fixed on feelings, the sphere of their interests becomes narrower and is limited by the illness. In another group of patients, the diagnosis of the hypertensive disease does not elicit any response, they ignore their disease and refuse any treatment. Such an attitude to the illness is observed mostly in people abusing alcoholic drinks. The patients who suffer from hypertension for a long period of time may get accustomed to it and do not pay attention to the severity of their disease and necessity of treatment.

While progressing, the disease may cause intensification of the clear asthenic syndrome, it anticipating organic changes in the psychic activity manifesting themselves by memory disturbances, mood fluctuations, faint-heartedness, fatiguability. The patients become easily vulnerable, with development of a hypochondriacal fixation of their attention on different feelings.

Complaints about headaches, dizziness and fatigue are typical for those hypertensive patients who know about their disease, but are much rarer made by those who suffer from the same illness but do not know about it. But awareness of the disease is by no means sure to result in such consequences. The patient with the hypertensive disease should be explained the cause of his state and informed that his nervous system disturbances are of a functional character, they are reversible and with the proper systematic treatment the disrupted function will be restored.

*Cardiophobia.* This is one of psychoautonomic syndromes. Discomfort and unpleasant sensations in the left half of the chest first appear in conditions of a psychotraumatizing situation or even if it is absent after a prolonged asthenization, they cause an increasing anxiety and watchfulness of the patients, their fixation on the heart activity, an increase of the confidence that they have a serious cardiac disease, and the fear of death. At first, some vague uneasiness, an increasing affective tension, anxiousness, suspiciousness, fears, constitutional as well as acquired peculiarities of the personality become a ground for developing an acute attack of cardiophobia. The intolerable vital fear felt by the patients owing to cardiovascular disturbances cannot be compared with usual human feelings and sensations by either their intensity or character. The feeling of immediate death becomes the only existing reality for the patient. And the evident fact that dozens of his previous similar heart attacks did not result in either infarction or heart failure is almost of no significance for him. Since it was known long ago that it is terrible not to die but to be dying, the fate of such patients who “survive multiple deaths” is really tragic. Feeling the fear for their heart even between the attacks, such patients constantly take the pulse, diligently analyse any changes in their heart activity. With egocentric pedantry, they give the life of their associates, rather than only all their own one, to the constant struggle for supporting their heart.

Particularly important here becomes the rational psychotherapy, making the patient change his mind. It is their correct use by doctors that in some cases the patient's life depend on.

*Cardiosurgery.* An operation on the coronary vessels in order to alleviate angina pectoris is one of the most common forms of heart surgery. It gives excellent results in treating angina pectoris, but after the operation almost every fourth patient informs about some persistent anxiety or depression, or restricted everyday activities. The outcome is the least

satisfactory in those patients who prior to the operation felt a strong emotional distress or responded to their disease with a manifestation of an excessive carefulness. The early stage is characterized by neuropsychiatric symptoms, but most of them rapidly pass away.

### **Mental disorders in diseases of respiratory organs**

A dyspnoea, caused by many respiratory and cardiac disturbances, may be aggravated under the effect of psychological factors. In some cases, the dyspnoea has a pure psychological origin: a hyperventilation related to an anxious disorder is a typical example.

*Asthma.* Such emotions as anger, fear and excitement may provoke and aggravate some attacks in patients with an established asthma. Chronic psychological and family problems were more common among the children who suffered from a severe asthma and died of this disease than in other children with a severe asthma. Mental morbidity among the children ill with asthma is a bit higher than among the children population on the whole. But if such children face psychological problems, their treatment, as a rule, is significantly complicated.

The individual and family psychotherapy may be useful for treating children ill with asthma.

*Chronic bronchitis.* This chronic disease, connected with an obstruction of the respiratory tract, significantly worsens the quality of life and is often accompanied by anxiety and depression. It also causes hypoxaemia which may result in a disturbance of cognitive processes. Sometimes the patients complain of dyspnoea incomparable with the degree of severity of the somatic disease; in such cases, psychological influence is often effective. In everyday clinical practice, respiratory and general health improving exercises combined with a social support contribute to an improvement of the patient's psychological state and a progress in the restoration of his capacity for work. At present, there is a still more extensive introduction of rehabilitation programmes for these patients envisaging physical training and application of methods of behaviour therapy.

*Cystic fibrosis.* In the past, the life prognosis with respect to cystic fibrosis was very unfavourable, therefore such a diagnosis inevitably produced a severe psychological effect on the sick child and his family. With modern methods of treatment, the prognosis has significantly improved, and today the rate of emotional disorders and behavioural problems in children ill with the above disease is not higher than in those who suffer from other chronic somatic diseases. Adult patients with cystic fibrosis have to psychologically adapt themselves to numerous restrictions (including chronic physical disability) caused by the disease, as well as to realization of the fact that any

child born by them may be affected by the same hereditary disease, its probability being 1:40.

### **Mental disorders in patients with a gastrointestinal pathology**

*Peptic ulcer.* The people who fall ill with a peptic ulcer of the stomach and duodenum are distinguished by certain streaks of the character. Among them there are often persons with wild emotional reactions, categorical judgements, straightforward assessment of acts made by their associates. Patients of another category are not inclined to any outward manifestation of their emotions. Sullen, dissatisfied with everything, distrustful persons are often observed. Strong affects, such prolonged negative emotions as constant fear, profound grief, a nasty fright in an overstrain and exhaustion of the cortical activity may result in a prolonged spasm of blood vessels of the stomach wall; a reduced resistibility of its mucous membrane to the digestive effect of the hyperacid stomach juice eventually results in the development of an ulcer. A further course of a peptic ulcer depends upon both a discontinuous effect of the above factors and appearance of pain impulses from interoceptors of the affected organ. All the patients suffering from a peptic ulcer of the stomach and duodenum are short-tempered and inclined to conflicts. Depressions with various degrees of expressiveness (from mild to apathetic), phobias and hysterical reactions are among their common mental disorders. Psychotherapy produces a profound effect on the course of the illness and efficacy of its treatment.

### **Mental disorders in renal diseases**

*Renal failure.* In the states of compensation and subcompensation of chronic renal failure, the most typical is the asthenic syndrome which is usually the earliest and most constant sign of the disease. Asthenia is most frequently distinguished by a combination of expressed hyperaesthesia and irritable weakness with stable sleep disturbances. It is also characterized by presence of a dysphoric shade of mood, as well as unexpressed autonomic disturbances. Periodically appearing disorders in the body scheme are also typical. These abnormalities, as well as appearance of twilight states of consciousness or clear attacks of dysphoria, already demonstrate an intensification of an organic mental syndrome (encephalopathy). An increase of intoxication is usually accompanied by typical sleep disturbances, with sleepiness at daytime and persistent insomnia at night, nightmarish dreams

often with the same plot followed by an addition of hypnagogic hallucinations. Acute psychoses in the form of atypical delirious, delirious-oneiroid, delirious-amentia states develop with a relatively weak decompensation. Torpor becomes almost constant in the late period of uraemia.

*Chronic renal insufficiency* results in the development of a diffuse encephalopathic process.

### **Mental disorders in hepatic diseases**

*Hepatic cirrhosis.* Sometimes the symptoms of asthenia may be the only first manifestations of the disease. It is characterized by sleep disturbances, with sleepiness at daytime and insomnia at night, where the attacks of sleepiness resemble those of narcolepsy and often are the first symptoms of the subsequently developing psychoorganic syndrome. The character of expressiveness of asthenic symptoms depends upon the stage and severity of the illness. With an aggravation of the general state, autonomic disturbances in the form of attacks of tachycardia, sweating, hyperaemia of skin integuments are also observed. The increasing phenomena of the psychoorganic syndrome are accompanied by shifts in the patients' character and periodical states of cloudiness of consciousness (by the type of so-called "peculiar states" or those resembling "ambulatory automatism"). An aggravation of the basic disease is distinguished by an intensification of torpor, sometimes up to coma. Psychopathy-like disorders are characterized by such manifestations as excessive touchiness, suspiciousness, querulousness, a demand of particular attention to the self, a disposition to conflicts, explosiveness. Mental disorders in patients with hepatic cirrhosis never achieve the psychotic level.

*Hepatolenticular degeneration (Wilson's disease)* initially manifests itself by an emotional-hyperaesthetic weakness with exhaustibility and a reduced sphere of interests, later accompanied by psychopathy-like symptoms with excitability, aggressiveness, disturbed drives in the tendency towards vagrancy and thieving. The patients develop falsity, sometimes foolishness, they may reveal expressed depressive states, with possible depressive-paranoid and hallucinatory-paranoid disorders, ideas of persecution prevail among delusive psychoses. The state is characterized by an intensification of dementia with still more expressed intellectual-mnemonic disturbances and reduced criticism, epileptiform seizures. In the terminal period, asthenia becomes even more expressed and often reaches to the stage of apathetic stupor, different variants of a cloudiness of consciousness develop. A so-

called quiet delirium and delirious-amentia state are typical. It is not in rare cases that the lethal outcome is preceded by muttering delirium, which turns into protracted coma. Expressed psychoses occur seldom; of them prevail depressive-paranoid states, sometimes resembling delusion of negation, paranoid syndromes usually are not vividly expressed and accompanied by an anxious excitement and rapid exhaustion, Korsakoff's syndrome may also occur.

## **Mental disorders in women with an obstetric-gynaecological pathology**

### **Mental disorders in women during pregnancy**

Usually within *the first few months* a pregnant woman feels uncertainty and remains ambivalent with respect to the forthcoming motherhood. In the majority of cases the reactive depressions which develop at the initial stage of pregnancy disappear by its 4th-5th month, even if the situation remains unsolved.

The second trimester is characterized by a relative quietness in the pregnant woman's state, because her associates treat her carefully, defending from various troubles and problems. The main feature of the third trimester consists in the "immersion into the baby". Fear of the coming childbirth and anxiety caused by an uncertainty in the normal development of the foetus may appear at this period. The baby becomes a focus of the future mother's thoughts, interests and activities.

Immediately *prior to the delivery* there is an increase of anxiety accompanied by the gravida's hyperactivity, as she wants to accelerate the events. In the 6<sup>th</sup>-8<sup>th</sup> months of pregnancy it is possible to observe decompensation of the psychopathic straits of character, which are most frequently caused by an inferiority of the endocrine-diencephalic systems.

Psychopathological symptoms in pregnancy develop most frequently in those women whose case histories already contain previous mental disorders, as well as if they have any serious health problems influencing the course of their pregnancy, for example in diabetes mellitus. Serious mental disorders in pregnant women occur rarer than in those ones of the same age who are not pregnant. Improvement of state in such women is observed a few months after the delivery. The nuclear form of psychopathy is an exclusion; here the decompensation which has come is of a biological character rather than of the situational-reactive one.

During the late terms of pregnancy, women develop introversion, passive dependence, depression, lack of confidence in their strength and fear of the future motherhood. The anxiety because of the forthcoming motherhood

is more common among older women. The rate of depressive phenomena with different degrees of severity ranges within 10-14 %, tending to aggravation with the course of pregnancy. The “syndrome of a rough treatment of the foetus”, typical for women with excitable forms of psychopathy, is one of the most known pathological behavioural phenomena.

### **Mental disorders owing to childbirth and lactation**

*Mental disorders in labour.* The act of delivery is a big trial of the woman’s mental and physical strength, making higher demands to her nervous, endocrine and vascular systems, and under some additional circumstances (especially in difficult childbirth) they may result in more or less expressed mental disorders, which are usually short-term.

The physical strain, mental excitement, asthenia, hypoglycaemia, fluctuations of the vascular tone and blood pressure, and, finally, long-standing recurrent pains sometimes cause a disturbance of the clear consciousness, irrational behaviour of the woman in childbirth. Extremely seldom, and mostly sometimes in emotionally unstable women and those with hysterical straits of character, intensive labour pains result in *faints*. Owing to severe pains, even a healthy and even-tempered woman becomes excited and restless in bed, loudly cries and may be aggressive. This state of *excessive affectedness* develops against a background of narrowed consciousness. It is worth noting that these bad feelings are easily forgotten with time and only in rare cases the fear of a repeated trial persists all the life. All the above abnormalities are on the neurotic level of mental disorders, short-term, controlled with discontinuation of the pains and do not leave any trace in the woman’s mind.

In prolonged labour, as a result of blood loss and asthenia, the woman may fall into *the state of prostration*, which outwardly manifests itself by absolute indifference to her surroundings. This state of profound apathy may be a precursor of a collapse or severe cloudiness of consciousness in the form of amentia. Labour psychoses proper occur extremely seldom, approximately once among 10,000 women in childbirth. In the majority of cases, emotional disorders and changes of consciousness are preceded by the woman’s anxiety, her fear of delivery manifested by excessive excitement. It may be owing to both indifference and nervousness of her associates, the staff of the delivery room in particular.

*Labour psychoses proper* are mental disorders caused by overexcitement; they may manifest themselves by short-term cloudiness of consciousness with a senseless motor excitement. In the process of a labour act this disorder develops, as a rule, suddenly. Then the woman’s face

becomes tense and vacant, the look meaningless, her pupils do not give any reaction. Sometimes there is development of “violence” in the form of some sharp meaningless chaotic motor excitement accompanied by the feeling of fear. Sometimes against a background of the excitement the women in labour develop a dreamy state of consciousness: an absolute disorientation of the patient, paleness of her skin integuments and particularly that of the face, dilated pupils, a “vacant” look, no response to her surroundings, the behaviour becomes inadequate. At the same time she “sees” her relatives near her, talks to them, and explains their silence by an interdiction to talk with her. Such a state is usually short-term, but if it develops within the prenatal period then it may be protracted. It is characterized by a subsequent amnesia for the labour period.

*The medicinal treatment* of labour psychoses proper is extremely restricted because of the pathogenetic effect of drug preparations on the foetus. Since labour pain is the main etiological factor of labour psychoses, it is recommended to administer women in labour analgesic and spasmolytic drugs. In some cases narcotic preparations, e.g. trimeperidine hydrochloride (Promedol), may be administered.

The correct psychoprophylaxis of labour pains relieves a tense expectation of the contractions and removes panic fear, thereby, in its turn, decreasing the overexcitement.

*Postnatal mental disorders.* The period of 1.5 months after the moment of delivery is termed as postnatal, the lactation period lasts from the age of 1.5 to 9 months. There are three groups of psychoses developing after the labour:

- 1) postnatal psychoses proper;
- 2) psychoses of the lactation period;
- 3) endogenous psychoses provoked by the labour.

*Postnatal psychoses proper* are disorders of the psychic activity appearing within the first 1-5 weeks after the childbirth, but more frequently by the end of the stay at the maternity home. The psychopathological symptoms are characterized by an acute onset, sometimes 2-3 days after the delivery, and manifests itself, as a rule, in the form of three syndromes: amentia, catatonic-oneiroid, and depressive-paranoid.

*Postnatal depression* is one of the most common variants of postnatal psychoses. It begins on the 10<sup>th</sup>-14<sup>th</sup> day after the labour. As early as the woman returns home, her distraction and increased sensitivity attract attention. She is not able to cope with her duties to nurse the infant. The first signs of the ideational and motor inhibition manifest themselves by expressed sluggishness and distraction. Somatic complaints are rare. Sometimes anxiety reaches to the extent of agitation, at whose height occur episodes of amentia and oneiroid. It is very difficult for women to adapt themselves to their new conditions of life. If during the pregnancy she was an object of heightened

attention, care and treatment, then after the childbirth she herself should nurse her baby and treat her husband. They frequently turn out to be helpless, begin doing many things, but do not complete what they have started. They constantly feel tiredness aggravated by insomnia. Often the insomnia appears as early as in the maternity home, but the parturient and her relatives' wish to discharge her home as soon as possible do not contribute to an adequate assessment of this symptom. At first, the women still try to nurse their infant, but later give up all the things they did and go to bed. An inability to perform the duties of the mother and wife causes ideas of self-condemnation. In some cases the depression is accompanied by phenomena of depersonalization and derealization.

*Amentia* develops on the 3<sup>rd</sup>-5<sup>th</sup> day after the childbirth: suddenly, when against a background of their higher body temperature women in labour become restless, their movements are jerky and sharp, the phrases consist of one syllable. On the first stages still there is some striving for single-mindedness, but relationships between separate elements are soon broken off, the patients' behaviour becomes improper and chaotic. For a short period of time, on the stage of extensive amentia, the single-mindedness is absolutely lost, the patients' movements become chaotic and begin to resemble hyperkineses. Any contact with the patients is absolutely lost. In severe cases, amentia turns into soporific state and later in coma with absolute immobility.

A return from amentia is critical, with phenomena of lacunar amnesia and disorientation in time. As a rule, amentia is not followed by any severe protracted asthenic states. The period of clouded consciousness in amentia is forgotten by the patients to a significant degree, they remember only separate episodes of their morbid feelings testifying to rough breaks in spatial-temporal relations. It should be noted that many women reveal lack of correspondence between the insignificance of local manifestations of endometritis and the fever response. Their temperature usually rises at the height of psychosis, but gynaecological complications are not found out at once. The last fact, sometimes, results in an inopportune administration of the therapy aimed to control the gynaecological pathology.

*The catatonic-oneiroid form* of the postnatal psychosis is significantly less common than amentia. In the postnatal catatonia, there is no regularity in the development of immobility typical for schizophrenia: appearance of heaviness, then rigidity in the muscles of the face, upper extremities, trunk, and significantly later in the lower extremities. There is no tendency to preserve the embryonal posture, negativism and incomplete mutism are absent. After weakening of catatonic manifestations the patients enter a speech contact and begin to eat.

*Depression in the postnatal period* significantly differs from the endogenous one: its structure contains such components as constant

fluctuations in the level of consciousness, a relation between the content of what is felt with real events, absence of a pathological circadian rhythm (an increase of depression during early morning hours typical for endogenous depression). Fluctuations of the mood in the postnatal psychosis are directly dependent on the general tone of the organism, and the ideas of self-condemnation result from asthenia and real unsoundness of the patient.

It is not in rare cases that the puerpera's depressive state remains unnoticed by both the staff of the maternity department and her relatives after her discharge home. At the same time there is a very high probability of suicide, including extensive one, when a young mother kills her baby ("so that it did not suffer from any torments without me") and then lays hands on herself.

Realization of her own helplessness, a constant feeling of exhaustion, tiredness and an inability to provide nursing of her baby give rise to ideas of self-condemnation. At first, the patients still try to do something, nurse the infant, but later give up all the things they did and go to bed. Almost all the patients point out that as early as at the maternity home they had insomnia, which was the initial period of the psychosis, rather than its cause. Listlessness and mood disturbances often appear as early as at the maternity home too. The depressive-paranoid form develops against a background of some mildly expressed torpor which is poorly observed during a routine talk with the patient.

*The treatment* of patients with postnatal psychoses is given taking into account the severity of their general state, the depth of a disturbance of their consciousness, the state of their cardiovascular system, respiration, excretory function of the kidneys. Particular attention should be paid to the state of the mammary glands (discontinuation of lactation). The state of the uterine function requires a thorough gynaecological control. In severe forms of amentia it is necessary to carry on measures directed at fighting intoxication and prevention of an oedema of the brain. The control of psychotic states is made depending upon peculiarities of the leading psychopathological syndrome. Commonly used are neuroleptic and thymoleptic drugs, in some cases their use caused by presence of some strong psychomotor excitement is a method of choice.

Postnatal depressions are not accompanied by any psychomotor inhibition, anxiety often prevails over melancholic-adyndamic mood, therefore it is indicated to administer antidepressants-sedatives (amitriptyline), while Melipramine, Tofranil and especially monoamine-oxidase inhibitors should be administered only in small doses and only in combination with neuroleptics.

In cases of *hallucinatory-paranoid symptoms*, along with neuroleptic drugs (trifluoperazine, haloperidol), a rather good effect is achieved by insulinotherapy which facilitates the normalization of progesterone content in

the organism. It is recommended to begin therapeutic measures with an intravenous infusion of a solution with vitamins and drug preparations sustaining vital activity: 5 % glucose solution (500.0 ml); 5 % vitamin B<sub>6</sub> (2.0 ml); bemegrade (20.0 ml); cordiamine (2.0 ml); 5 % ascorbic acid (3.0 ml); insulin (4 units). Simultaneously, there is administration of Lasix No. 3 by 20-40 mg IV every other day and ATP No. 15 by 2.0 ml IM. After elimination of life-endangering disturbances it is possible to administer psychoactive drugs adequate to the leading syndrome, taking into consideration the severity of the general state and under the control of blood pressure.

In *the depressive syndrome*, any untimely discharge of the female patient from the hospital is inadmissible, it is necessary to organize a strict supervision over her as there is a very high probability of committing suicide. Of psychoactive drugs, it is indicated to administer antidepressants, particularly amitriptyline from 25 to 75 mg/day. It should be pointed out that an especially favourable effect on postnatal psychoses is produced by discontinuation of lactation. Since Aminazine may intensify or even cause lactation, this drug may be administered only for a short period of time and in small doses.

### **Mental disorders in vascular diseases**

A high prevalence of cerebral vascular diseases, particularly increasing in people of a middle and old age, makes the study of the mental disorders, possible in this pathology, by general practitioners quite urgent.

Vascular diseases of the brain make up from 30 to 50 % of all cardiovascular diseases. Among all the cases of revealing a mental pathology in patients of general polyclinics, disturbances of a vascular genesis make 28.1 % after the age of 60 years and about 40 % after 74 years. Vascular dementia occurs in 4.5 % of people at the age of 65 years and older.

Among cerebral vascular diseases, manifesting themselves by various mental disorders, the most common ones are atherosclerosis, hypertensive disease and hypotensive disease.

*Atherosclerosis of the cerebral arteries* is a cerebral manifestation of generalized atherosclerosis; the latter is an independent disease with a chronic course more common in elderly people, though its onset may occur at a young age too. The prevalence of this disease is very high; on pathoanatomical study of people, who died at the age of 60 years and older, atherosclerosis is revealed in 90 % of men and 40 % of women. In the overwhelming majority of cases cerebral atherosclerosis is accompanied by a number of neuropsychic changes and its unfavourable course may result in expressed dementia and

even the lethal outcome. In people over 60 years of age, cerebral atherosclerosis is the main cause of mental disability.

*Hypertensive disease* is one of the most widespread diseases, with which doctors of many specialities come across; it belongs to the most urgent problems of modern medicine.

Chronic or transitory *hypotonic states* practically always lead to changes in the general state, but relatively seldom become an object of the doctor's attention. Hypotonic states are very common; it is practically impossible to reveal their real rate owing to rare cases when patients take medical advice with such a disorder.

In ICD-10, mental disorders in vascular diseases of the brain belong to section F00-F09 as "Organic, including symptomatic, mental disorders". The leading syndrome is encoded with a corresponding third sign. All the diseases, accompanied by changes in the cerebral vessels, may cause similar psychopathological manifestations. The clinical manifestations of mental disorders in vascular diseases of the brain have a number of peculiarities owing to the complex character of their pathogenesis. These diseases are characterized by all the features of somatogenic mental disorders, as well as the peculiarities caused by disturbances in the blood supply of the brain proper.

### **Classification of mental disorders in cerebral vascular diseases**

1. Neurosis-like syndromes
2. Psychopathy-like syndromes
3. Defect-organic states:
  - 3.1. Psychoorganic syndrome
  - 3.2. Dementia
  - 3.3. Korsakoff's syndrome
4. Psychoses:
  - 4.1. Acute vascular psychoses
  - 4.2. Endophorm vascular psychoses

*Neurosis-like syndromes.* The clinical picture of initial manifestations in cerebral atherosclerosis is characterized by slowly intensifying neurosis-like symptoms in the form of short temper, reduced concentration of attention, increased fatiguability, a decrease in the capacity for work. These phenomena are accompanied by other signs of initial manifestations of a chronic circulatory insufficiency of the brain: headaches, dizziness, tinnitus. Typical sleep disturbances manifest themselves by difficult falling asleep, frequent cases of waking up at night, absence of the feeling of rest after sleep and often

sleepiness at daytime. Many patients reveal expressed sensitivity to weather changes.

The first manifestations of mental disorders in the hypertensive disease are revealed within the terms of asthenic, neurasthenic disturbances. The development of chronic tiredness, asthenization in hypertonics make it possible to say about an increase in the “physiological value of work”, which demonstrates mobilization of all the systems in the organism in order to maintain the homeostasis under the conditions of a strain. The best capacity for work and mental state in the hypertensive patients with a sympathetic hypertone are noticed at the height of their sympathetic activation, but in a short period of time a high physiological price of these states leads to a more expressed and prolonged asthenization and other mental changes and disorders.

The clinical manifestations in hypotonia are limited by neurosis-like symptoms mostly of the asthenic character. The patients complain of headaches, dizziness usually appearing after a sharp transfer from a horizontal position to a vertical one, tinnitus, listlessness, increased fatiguability. The patients feel worse in the morning, but even during the daytime they may develop hypotonic crises accompanied by dizziness, sharp weakness, vasomotor disturbances, sometimes faints.

Neurosis-like symptoms in patients with disturbances of the cerebral circulation manifest themselves by complaints about short temper, headaches, bad sleep, increased fatiguability and listlessness, a reduced capacity for work, they become absent-minded, mistrustful, faint-hearted, whining and very touchy. The asthenic syndrome prevails in some of these people, while short temper and a hot temper in others. Often different annoying states develop: arithmomania, annoying recollections and doubts, as well as annoying fears particularly poignant for the patients. They suffer from cardiophobia, annoying fears of death, height, traffic, large crowds, etc.

Patients with atherosclerosis develop a lack of restraint of emotions in the form of faint-heartedness (excessive tearfulness). Short temper is often accompanied by affects of anger changing into the feeling of repentance. These patients easily develop various negative emotions (dissatisfaction, short temper) which are overcome with a great difficulty.

*Psychopathy-like syndromes.* A further progress of the morbid process results in a “caricatured” increase of premorbid streaks of the personality, figuratively termed as a “caricatured distortion of the personality”. For instance, restless people become expressively anxious, mistrustful ones suspicious, hot-tempered ones still more unrestrained, economical ones very misery.

The following variants of the psychopathy-like development of the personality are distinguished:

1) “pure” asthenic: asthenic reactions of the initial period of the illness are fixed and become the basis for forming new streaks of the character (timidity, touchiness, shyness, passiveness);

2) asthenoobsessive: with time, the asthenic syndromes give place to obsessive ones; with development of the psychoorganic syndrome the phobias become monotonous, and the foreground is occupied by anxiousness and over-anxiousness about one’s health;

3) asthenohypochondriacal: with the patients’ fixation on unpleasant sensations and formation of the hypochondriacal syndrome, in whose genesis psychogenic moments, autonomic hyperreactivity and diencephalic paroxysms play their part;

4) explosive: the leading place in the clinical picture is taken by explosiveness, short temper and groundless fluctuations in the mood.

*Defect-organic disorders.* In the process of progressing of organic disturbances in the brain the patients develop the psychoorganic syndrome manifested by the loss of ability for fine differentiation in thinking, a gradual decrease in the capacity for work, a reduced criticism, disturbances of attention and memory.

Most frequently such patients complain of memory disturbances, which at first are limited by hypomnesia: it is difficult for the patients to memorize new information, current events, names and dates. Later a gradual loss of deeper and deeper layers of information (by Ribot’s law) is observed. Typically, the patients have a critical attitude to their state and feel depression because of realization of their insolvency, make attempts to use detailed notes for compensation of their memory disturbances. Korsakoff’s syndrome may develop at later stages. As the disease progresses, the patients’ thinking changes: an excessive detailing, concentration on minor things appear, the patients find it difficult to isolate the main idea, they switch over from one subject to another. Then stiffness of thinking develops. A significant expressiveness of disturbances in the thinking and memory, an emotional lability and lack of restraint at the later stages of the illness result in behavioural disorders. The above state may remain stable for a long period of time and give place to dementia not in all the patients. Cerebral atherosclerosis is typically characterized by lacunar dementia, when individual peculiarities of the personality are preserved and the patients critically assess their intellectual defect. In the hypertensive disease, acute disturbances of the cerebral circulation may be followed by the amnesic type of dementia in the form of Korsakoff’s syndrome, while some cases develop total dementia. The defect-organic stage of the vascular process may be characterized by epileptic seizures. The patients’ appearance is very typical: they look older of their age, the thick subcutaneous vessels (especially on the temples) are clearly shown, the hair grow grey, the skin becomes flaccid and wrinkled.

In hypotonia, the psychoorganic syndrome and dementia do not develop.

*Acute vascular psychoses.* These may develop in the form of delirium, amentia, more seldom the oneiroid syndrome and a twilight state of consciousness in case of an acute decompensation of the cerebral circulation caused by various unfavourable factors (an impaired activity of the cardiovascular system, an exacerbation of some chronic or appearance of an acute somatic disease, intoxication, psychic traumas). In delirium, visual hallucinations are less bright than in delirium tremens. A sharp increase in blood pressure after a period of anxiety may give rise to amentia.

Sometimes the patients, who had brain injuries in the past, develop twilight states of consciousness. In some cases prior to a disturbance of the consciousness or after a recovery from it there are acute delirious psychoses with fear, anxiety, fragmentary delusions of persecution and rare hallucinations. The state of a disturbance of the consciousness is controlled during several hours, while acute delirious psychoses persist from a few weeks to 1-2 months. In an acute decompensation of the cerebral circulation, subarachnoid haemorrhages, ischaemic haemorrhagic insults, the most common are different various of disengagement of the consciousness: torpor, sopor, coma.

Torpor, often serving as a background for other psychopathological syndromes, is the most frequent kind of disengagement of the consciousness in a vascular pathology. A slight degree of torpor, obnubilation, may be revealed only in case of a careful and prolonged observation of the patient.

*Endoform psychoses.* Patients with the hypertensive disease and atherosclerosis may develop protracted psychotic states in the form of the depressive, paranoid syndromes and that of hallucinosis. The clinical picture of protracted vascular psychoses is characterized by a variety of symptoms: the asthenic background, signs of an intellectual-mnemonic decrease. The depressive syndrome develops in about 50 % of cases, most frequently after psychic traumas or a change of the life stereotype. At first, the patients reveal intensification of their asthenic and neurotic symptoms, later there is a gradual worsening of the mood, with appearance of anxiety, fear, restlessness. Sometimes the patients express delusions of self-condemnation and self-humiliation, or those of persecution and hypochondriacal ones, the latter being based on unpleasant sensations in the internal organs. As a rule, the patients with depression of the vascular genesis do not avoid their associates and express sympathy to other patients.

Approximately every fourth patient with vascular psychoses reveals the paranoid syndrome. At first, they develop suspiciousness, anxiety, fear, later delusions of persecution, reference, jealousy, poisoning, hypochondriacal ones. The delusions have many subjects, they are not systematized, do not

tend to expansion, and often are accompanied by auditory and visual hallucinations. The patients' behaviour is more often passive-defensive, aggressive actions are rare. The syndromes of hallucinosis (verbal, more seldom tactile and visual) in vascular psychoses are rare. In hypotonia, no psychoses are observed.

Endoform vascular psychoses have to be often differentiated from schizophrenia and affective psychoses in clinical practice. The vascular genesis is supported by the above peculiarities of the depressive and paranoid syndromes, as well as by such signs as asthenia, torpor, typical disturbances of emotions, memory, also a peculiar development of the psychopathological picture with a "twinkling" in the expressiveness of the psychopathological symptoms.

The type of their course, the character and expressiveness of mental disorders are connected with the nosology, stage and severity of manifestations of the basic vascular disease, but in some cases this direct dependence is not observed. For instance, a long-term vascular disease may not be accompanied by clear mental disorders or manifest itself by insignificant neurosis-like or psychopathy-like symptoms. A peculiar type of their dynamics in the form of twinkling pathological symptoms against a background of a tendency towards the progressing of the disease is a peculiar feature of cerebral vascular diseases.

Mental disorders in cerebral atherosclerosis develop gradually, particularly in the first years of the illness. The course is often of a wave-like character with a tendency towards the progressing of the disorders. The severity of the prognosis depends upon the degree of involvement of vessels, a prevalent localization of the pathological process, presence of accompanying diseases. In the most severe cases, dementia may develop, and the lethal outcome is possible owing to an insult or development of rough disturbances in protein metabolism with cachexia.

Psychopathological phenomena resulting from the hypertensive disease may occur in any forms and stages of the illness. But traditionally the psychiatric literature relates clinical manifestations of mental changes to stages of the hypertensive disease. For instance, neurosis-like symptoms are more typical for the 1<sup>st</sup> (initial) stage of the illness, while the development of dementia is observed mostly in the 3<sup>rd</sup> stage.

Hypotonic states are more common in adolescents and young people. By the middle and old age, a transfer to hypertension is possible.

Mental disorders in cerebral diseases of the brain result from a disturbance in the cerebral circulation. But the causal relationships between cerebral vascular diseases and the mental disorders which develop during such diseases are complex, and often there is no direct dependence of the character and expressiveness of mental disorders upon the degree of the brain lesion. A

significant part is also played by the patient's premorbid constitutional and personality peculiarities and concomitant diseases.

Hypoxia of the brain, destruction and necrosis of the nervous tissue areas owing to ischaemia or intracerebral haemorrhage are undoubtedly important for developing mental disorders. But many clinicians notice absence of any direct parallelism between the expressiveness of mental abnormalities and depth of mental disorders. Appearance of mental disorders in atherosclerosis is contributed to by intoxications, infections, somatic diseases, disturbances in the diet and way of life; very important are constitutional-genetic factors.

The capacity for work of patients with mental disorders resulting from vascular diseases of the brain depends upon their expressiveness and peculiarities in the professional status.

In the initial stages of vascular diseases the patients with nonpsychotic neurosis-like disorders, as well as those who suffered from acute transitory psychoses, may go on working, though with a reduced productivity in the work owing to an increased fatiguability.

*The treatment* of cerebral atherosclerosis is more effective at early stages of the disease, it must be complex and prolonged. The therapy is aimed at normalization of lipid metabolism and cerebral haemodynamics, activation of nerve cell metabolism, control of psychopathological disorders.

Drug preparations facilitating normalization of fat metabolism (linetol, arachiden, clofibrate (miscleron), Polysporin, methionine), vitamin therapy and iodine preparations are indicated. A diet and foodstuffs, which contain iodine, are recommended. Cerebral circulation is improved by cinnarizine (stugeron), cavinton (vinpocetine), pentoxifylline (trental). Nerve cell metabolism is improved by nootropic drugs: aminalon (gammalon), pyracetam (nootropil), pyriditol (encephabol). Nootropic drugs are administered with caution owing to a possible increase of anxiety and insomnia.

Atherosclerotic psychoses are controlled with help of neuroleptics: tizercine (methotrimeprazine), Clopixol (zuclopentixol), Truxal (chlorprothixene). The use of neuroleptics should begin with small doses, preferably small doses of more potent drug preparations before large doses of less potent ones. The depressive syndrome requires administration of antidepressants; preferable are drugs from the group of selective inhibitors of serotonin uptake due to their larger safety and tolerance: cypramile (cytalopram), Zoloft (sertraline), fluoxetine, Fevarin, Paxil. In anxious disorders, tranquillizers (gidazepam, phenazepam) by short courses and serotonergic antidepressants are indicated. The treatment in case of atherosclerotic dementia is of low effect, in order to slow down the progress of the disease cerebrolysine, lipocerebrin and nootropic drugs are recommended.

For *the prevention* of atherosclerosis, it is recommended to restrict a diet rich in cholesterol, exclude intoxications (alcoholism, smoking), prevent mental and physical overstrain, ensure a correct organization of labour and rest.

*The treatment* of hypertensive disease must be complex, constant and strictly individual. Drug hypotensive therapy must be combined by indications with psychopharmacotherapy and psychotherapy. When administering hypotensive drugs, one should not strive for a sharp reduction of blood pressure, as it may result in acute psychoses. Neurosis-like and psychopathy-like symptoms are treated with various sedatives (preparations of valerian, motherwort, bromine), and tranquillizers such as chlordiazepoxide (Helenium, Librium), Diazepam (Seduxen, Sibazon), oxazepam (tazepam), mezapam (rudotel), mebicar, hydazepam, Atarax (hydroxyzine), phenazepam. In order to treat hypertensive psychoses in cases of a acute excitement and an expressed affective tension, tizercine (methotrimeprazine) and Clopixol (zuclopentixol) are used. When administering these drugs one should remember about a possible very rapid hypotensive effect up to orthostatic collapse, therefore they should be administered with high caution, under the control of blood pressure. Trifluoperazine is used in cases of persistent delusions. The depressive syndrome requires administration of antidepressants with the sedative or stimulatory action and taking into account the character of the affect; less dangerous serotonergic drugs are preferable: Cipramil (citalopram), Zoloft (sertraline), Fluoxetine, Fevarin, Paxil. In the depressive-delirious psychoses, rispolept and fluanaxol are prescribed. The use of nootropic drug preparations after appearance of symptoms of the organic psychosyndrome is similar to the one recommended for cerebral atherosclerosis.

The psychotherapy is directed at formation of a rational attitude to the disease, training in the skills of relaxation and expression of emotions. When administering drug preparations it is necessary to employ mediated psychotherapy which forms confidence in the efficacy of the treatment. Rational, hypnosuggestive and narcopsychotherapy are used.

In the initial stages of the disease, acupuncture and electrosleep are employed. Drug therapy should be always combined with dietotherapy, a correctly organized regimen of labour and rest, remedial gymnastics.

In order to prevent the hypertensive disease, it is very important to remove all the factors causing the state of affective tension. Normalized family relations, a correct organization of labour and rest, physical exercises, a diet regimen, exclusion of intoxications – all these factors contribute to prevention of the hypertensive disease, also producing a good therapeutic effect in its initial stages.

In hypotonia, adaptogenics and stimulants are administered: ginseng, Schizandra chinensis, tinctures of echinopanax, aralia (mountain angelica), eleutherococcus, pantocrine, caffeine, polyvitamins. A good effect is produced by remedial gymnastics, physiotherapy (rubdown, transition douche, carbon dioxide baths). A correct organization of labour and rest is of great importance.

## MENTAL DISORDERS OF PRESENILE AND SENILE AGE

A high prevalence of mental disorders in population bulks of older age groups, their etiopathogenetic and clinical originality, peculiarities in the therapy of mental disorders at the presenile and senile periods make it urgent for practical doctors to know about mental disorders of the presenile age.

Within the recent decades, an absolute number of mental patients of the presenile age and their proportion in the total number of mental patients of all age groups have increased; it is mostly owing to a rise in an average life-span, an increase of the share of old and senile people in the total population. Indices of mental disorder rate in old age bulks of the population are high. According to Ukrainian and foreign authors, from 10 to 25 % of all the people older 60-65 suffer from mental disorders with various severity.

*Etiology and pathogenesis.* Etiopathogenetically, the mental disorders revealed in presenile people are divided into two groups.

1) Mental disorders which mostly or always develop in the presenile age and are directly or indirectly connected with aging: functional mental disorders of the presenile age, senile and presenile dementiae and mental disturbances caused by a cerebrovascular pathology (cerebral atherosclerosis and hypertensive disease). In these disorders, a complex of factors related to aging plays a leading part in their etiology and pathogenesis.

2) Mental disorders which are not specific for the presenile age and may develop at different periods of life. This group includes most nosological forms of a mental pathology: schizophrenia, manic-depressive psychosis, epilepsy, psychopathies, oligophreniae, psychogenic diseases, mental disorders caused by somatic diseases, infections, brain injuries, alcoholism, toxicomaniae and narcomaniae. An old age of the patient in these cases leaves its imprint on the clinical manifestations and course of the disease.

Among the age-specific factors, the most significant are the following ones:

1. neuroendocrine shifts caused by climacteric;
2. various functional and structural changes in all the systems and organs caused by aging;
3. accumulation of somatic diseases and age-specific ailments;
4. a peculiar social-psychological situation in which an aging person finds himself (discontinuation of his occupational activity, narrowing of social relations, isolation because of death of his relatives, impossibility to satisfy most of his interests and requirements, difficulties in self-service);
5. psychological aging, changes in the character occurring in the process of involution (a decrease of the emotional background,

scantier interests and their shift to the sphere of material welfare and physical well-being, anxious over-anxiousness about one's health, conservatism, suspiciousness, inertia of mental processes).

The above peculiarities in mental disorders of the presenile and senile age contributed to isolation of a specific branch of psychiatry, gerontological psychiatry, as well as to organization of specialized psychiatric aid to old patients: gerontological departments, hospices in mental hospitals, boarding-houses for old people suffering from mental disorders.

### **Classification of clinical manifestations**

In psychiatry, the age of 45-60 years is regarded as presenile, and after 60 senile. Mental disorders of the old age are classified in the following way:

- 1) nonpsychotic mental disorders of involutinal genesis
- 2) functional psychoses of the old age:
  - a) involutinal depression (melancholia)
  - b) involutinal paranoid
- 3) atrophic (degenerative) cerebral diseases:
  - a) Alzheimer's disease
  - b) Pick's atrophy
  - c) senile dementia

#### **Nonpsychotic mental disorders of involutinal genesis**

*Climacteric* may be considered, at the same time, both as a physiological, normal state and as a morbid one. *The physiological character* of climacteric is determined by its regularity, while morbidity by persistent abnormalities in the systems which control vital activity with a resultant reduction in the adaptive abilities of the organism. In the physiological climacteric, a reconstruction of the organism caused by discontinuation of the hormonal function of the gonads takes place gradually and is accompanied by adaptation of the soma and mind to new life conditions. In *the pathological climacteric*, neuroendocrine shifts are rougher, the activity of diencephalic formations is affected and accompanied by a hyperfunction of the thyroid gland. The rate and expressiveness of climacteric symptoms depend upon biological, cultural and socioeconomic factors, such as significance of menses for some ethnic groups, a social position of the female, an attitude to her as a sex partner, a degree of a change in the role of the female in the climacteric period and her ability to perform new functions in the family and society. *The dysharmonious climacteric* most frequently manifests itself by psychopathological, autonomic and endocrine syndromes.

The climacteric period in the woman's life may be compared with extreme conditions, where the response to them, to a significant degree, depends upon the structure of the personality and the stereotype of reactions to psychic traumas which has been formed during her life. *The climacteric syndrome* develops in 20-30 % of women. Isolation and divorce are its risk factors. At the same time, a careful husband, a good family, responsive children and grandchildren help the woman to survive the climacteric period without any significant disturbances in her mind. The climacteric syndrome most frequently manifests itself by neurosis-like disturbances. The literature distinguishes 4 most often variants of neurosis-like syndromes: asthenoautonomic, cenesthopathic-hypochondriacal, anxious-depressive, hysteroform.

*The asthenoautonomic syndrome.* Asthenic complaints are some of the main manifestations of the climacteric syndrome, and they develop almost in every patient to a various degree. The patients complain of psychic and physical weakness, that they feel it more difficult to cope with their routine and usual duties. This is a so-called hyposthenic type of asthenia, when the capacity for work and activity reduce, there is development of hypersensitivity to various stimuli, indecision, loss of initiative, insomnia. The women prefer to rest more frequently and avoid personal contacts. In the hypersthenic type of asthenia, along with fatiguability, a reduced capacity for work, the patients develop anxiety, short temper, lack of restraint, inability to wait and suffer. Usually the hypersthenic signs appear in the form of isolated impregnations in the clinical picture of hyposthenic asthenia. The patients themselves and their relatives attribute the development of weakness to overstrain, and sometimes simply to laziness, for which these women often condemn themselves, but they do not understand the real cause of this state. The rest, which usually helps in asthenia of overstrain, does not bring about the expected result. Also, the patients do not feel any improvement in the cases when they are admitted to hospital, in the process of examination and when they are not administered any drug therapy yet, though within this period they lose any necessity to perform any official or domestic duties and can give themselves up to rest.

Along with the above asthenic symptoms, *the asthenoautonomic syndrome* is accompanied by various autonomic disturbances. Such autonomovascular paroxysms as hot flushes, skin hyperaemia, sensations of fever or chill, palpitation, dizziness, fluctuations of blood pressure and pulse recur often during a day and are very unpleasant for the patients. In some cases, there are faints and sleep disturbances: the period of falling asleep becomes prolonged and poignant, the sleep is superficial, with frequent episodes of waking up and unpleasant dreams. There are libido changes (it increases or oftener decreases) and a loss of appetite, sometimes a liking for a certain kind of food develops.

*The cenesthopathic-hypochondriacal syndrome.* Rather typical for the climacteric syndrome are various unpleasant sensations in the form of paresthesiae, and often cenesthopathies. The patients have fit-like sensations of burning, hot flushes, creeping all over, stitching, numbness, cold, more frequently in their arms or legs. Cenesthopathies are characterized by unpleasant and unusual feelings in the body: the brain grows soft, the muscles come off the bones, vesicles in the lungs burst, etc. Particularly unpleasant are various painful feelings in the region of external sex organs. Cenesthopathies, which often change their localization, result in the appearance of overvalued hypochondriacal ideas with increased apprehension for one's own health. Such women would often visit polyclinics, take medical advice of different doctors and sometimes cannot believe that these hardly tolerable feelings are caused by climacteric.

*The anxious-depressive syndrome.* The climacteric syndrome is accompanied by various emotional disorders. The patients complain of a hot and short temper, a lack of restraint, an unstable mood. As a rule, the general background of the mood is decreased. The patients assess the present and future as joyless and hopeless, their recollections of the past are also dark-coloured. It is not in rare cases that they remember and actualize various troubles and offences. Particularly painful are recollections of psychic traumas of the personal and intimate character. The women would often talk about their past youth, wasting away, and oncoming old age. These feelings are most crucial and painful for those women whose life rating is connected with their outward attractiveness. The climacteric period is more difficult survived by the women who work in the sphere of service, secretaries, actresses. On the contrary, those women whose professional rating increases with age (e.g., doctors, teachers) live the period of wasting away quieter. The woman's mood within their climacteric is very changeable: from anxiety, melancholia, short temper to unmotivated joviality.

Climacteric intensifies various personality peculiarities of the women which they managed to skillfully conceal in their young years and which were known only to their relatives. Unpleasant psychological conflicts cause an increase of the libido observed in some women; this is another additional factor producing an unfavourable effect on their mood.

The climacteric syndrome is accompanied by an understated self-estimation of one's own capacities and abilities, but often it does not correspond to their objective status. The character develops streaks of rigidity, an ability to stick to insignificant troubles, not to overcome offences for long periods of time.

*The hysteriform syndrome.* Women with the hysteriform syndrome have an augmentation of their emotional sensitivity and lability. Extremely typical are complaints about the feeling of "a lump in the throat", reduced skin

sensitivity of the “stocking”, “sock”, “waistcoat” type, they “lose the use” of their legs. In the state of nervousness it is difficult for them to speak, they develop stammering which is uncommon for them. Usually, in the presence of some “onlookers”, these phenomena intensify, the patients try to exaggerate the severity of their feelings in a talk with a physician. Often these disturbances are joined by autonomic disturbances, asthenocenesothopathic signs. Some women have already had hysteroid streaks in their character before, they are: an aspiration for being in the centre of attention, egocentrism, increased autosuggestion, ostentatiousness, theatricality of their behaviour. In this case it is possible to say about some decompensation of hysteroid psychopathy caused by climacteric. In the end of this description of clinical manifestations of neurosis-like disorders caused by climacteric, it should be noticed that they are characterized by polymorphism and changeability, and often even the same woman develops the signs of 2 or even 3 syndromes.

In the majority of cases, the climacteric syndrome develops at the age of 41-50 years and lasts from several months to 10 years. The appearance of neurosis-like disorders does not always coincide in time with a disturbance in the menstrual cycle, and often precedes the menopause. This fact should be considered by physicians when diagnosing and administering medical recommendations for such patients. It should be also remembered that more than a half of women suffering from neurotic disorders within the limits of the climacteric syndrome take medical advice and get under medical observation 5 and more years after the onset of their disease.

*The prognosis* of climacteric neurosis-like disorders is favourable. The majority of patients make a full recovery without any signs of disorders of their psychic activity. In some women, protracted neurosis-like disorders lead to a pathological development of the personality.

*The treatment* of climacteric neurosis-like disorders is usually outpatient. General health improving vitamin therapy is administered. Sedatives and light stimulating phytodrugs are recommended. As for pharmacological agents, the patients receive small doses of tranquillizers (Valium, phenozeepam, tazepam, nozepam, rudotel, trioxazin). Depressive states are controlled by small doses of antidepressants with a sedative or balanced action (amitriptyline, pyrazidole, azaphen). Hormonal drugs should be administered with great caution and only if recommended by an endocrinologist.

*Psychotherapy* should take an important place in the treatment of such patients. It should be remembered that women with the climacteric syndrome are more susceptible, mistrustful and disposed to anxiety. They respond very painfully to insufficient attention to them from the side of their relatives, friends, colleagues, doctors. Sometimes they easily develop negative emotional feelings on such an occasion which their associates regard as the

one that is not worth of any attention. But these unpleasant feelings are overcome very long and with difficulty. The above peculiarities in emotional reactions should be taken into account, the patients require patience and care, creation of a favourable psychological climate in the family and on the job. Psychotherapeutic talks should be calming, encouraging, explanatory. Some patients are indicated autosuggestion, or suggestive psychotherapy in the hysteroform syndrome. Women over 40 years of age should gradually reconstruct their way of life, exclude overstrains, have good rest and nourishment. Gynaecological and other somatic diseases should be prevented and treated in time.

### **Functional psychoses of presenile age**

Climacteric is a frequent cause of *aggravation of a various mental pathology*, and in a number of cases it provokes *appearance of endogenous psychoses* (schizophrenia, manic-depressive psychosis), decompensation of psychopathy. Besides, the climacteric period is characterized by development of such mental states which are defined as *presenile psychoses* and whose nosological independence is not recognized by some specialists. But the majority of Ukrainian psychiatrists isolate these states as separate diseases and term them as climacteric, involutinal, presenile psychoses. *Functional psychoses of the presenile age* are psychotic states which develop for the first time at the presenile or old age, are supposedly caused by a complex of factors (pathological climacteric, the extreme type of the higher nervous activity, a psychic trauma), directly or indirectly related to aging, and do not result in an expressed organic decrease in the level of the personality or dementia.

*The clinical picture of presenile psychoses.* Usually presenile psychoses develop slowly, little by little, rarer subacutely. Sometimes acute psychotraumatizing or somatogenic factors are followed by an acute onset of the disease.

The initial period of presenile psychoses is characterized by neurotic symptoms or aggravation of the personality peculiarities. In some patients, the onset of psychosis is preceded by insignificant feelings, which may be regarded as conventionally pathogenic. These may be the events which for the majority of people seem to be positive (removal to a new flat, their son's marriage), but change the patients' usual life stereotype. The onset of a disease lasts from a few weeks to several months.

Gradually there is development of psychotic symptoms, the depressive and delirious forms being the most typical for presenile psychoses. There is a certain relationship between premorbid peculiarities of the personality and

clinical manifestations of presenile psychoses. Depressive states develop more frequently in those people who before were flabby, diffident, tearful, shy, unable to stand up for themselves. Patients with presenile delirious psychosis are characterized by an increased sociability, persistence, rejection of any compromises, rigidity, stubbornness.

*Presenile depression* usually develops slowly. The above neurosis-like disorders are joined by exaggerated apprehension for one's own health, the health of her children, husband, material welfare of the family. There is a gradual increase of anxiety, accompanied by asthenia in some patients, hypochondriacal symptoms in others, or developing into the state of agitation. Owing to polymorphism in clinical manifestations of presenile depression, 3 main syndromes typical for this form of presenile psychosis are distinguished: the asthenodepressive and asthenohypochondriacal syndromes and agitated depression.

In the asthenodepressive syndrome, the patients complain of weakness, helplessness, inability to perform their home and job duties, care for their children, husband. The patients feel that they are a burden for the family and make the life of their children more complicated. There is a gradual development of delusions of self-condemnation and self-humiliation. The patients would remember various unpleasant episodes from their life, troubles which happened with their relatives and believe that they are to blame for these things. Staying in hospital, such patients do not want to lie on bed, they settle to sleep on a bare floor, "punish" themselves with the most slovenly work (cleaning of lavatories, nursing of untidy patients). They refuse meals as they are "unworthy" of eating, they ask doctors not to spend their time for them, not to administer drugs, and sometimes ask to give them a poison. Going out to see their relatives, they ask to forgive them, refuse manifestations of care. At their department, they are usually listless, not mobile, seldom communicate with their associates.

The syndrome of agitated depression is the most typical one for involuntional depression and more frequently develops after psychic traumas or with an underlying exacerbation of some somatic disease. In feelings of these patients, the foreground is occupied by anxiety, which is usually pointless. In their consciousness, some pictures of impending misfortunes and troubles for themselves and their relatives are drawn. Later the anxiety is joined by fear. The patients' apprehensions are extremely hyperbolized. Sometimes, expectations of a catastrophe reach to such a size that the patients talk about death of many people, destruction of whole cities and even countries. In case of an insignificant change in usual conditions, the anxiety intensifies. The patients are fussy, they would wander at the department, enter the staff's rooms and wards. In some cases the anxiety and depression acquire some particular expressiveness, the patients would dash around the department,

moan, wring their hands, tear their hair and clothes on themselves, pinch or scratch themselves, and sometimes inflict more severe injuries on themselves. The anxiety, fear and prolonged motor excitement are accompanied by delusions of self-condemnation, reference, condemnation by the associates. The patients' speech consists of a senseless list of words or scraps of phrases, which are close in accord and express anxiety. The height of the anxiety sometimes develops auditory or haptic hallucinations in the form of a sensation of some current flow in the region of the genitals and other parts of the body.

In the depressive-hypochondriacal syndrome, against a background of anxious-melancholic mood there is development of hypochondriacal ideas; at first they are in the form of overvalued ideas caused by a disturbance of self-feeling and unpleasant paresthesiae: dumbness, sensations of heat, cold, creeping all over. Many patients develop haptic hallucinations and cenesthopathies. Hypochondriacal delusions often take the shape of Cotard's syndrome: the patients state that their internal organs have rotten, the stomach has got many holes, the liver is decaying. Such symptoms demonstrate a specific severity of presenile depression. Presenile depression psychosis lasts several months (from 3 to 6). The recovery is gradual, morbid feelings slowly pass away and smooth down. No dementia in presenile depression develops. A defect after the psychotic state manifests itself by rigidity, a melancholic shade of mood, nervousness caused by insignificant things.

*Presenile paranoid* begins slowly, gradually with neurosis-like symptoms, passing to the subpsychotic and psychotic level. Sometimes their relatives do not notice an inadequacy in the patients' behaviour for years and attribute some singularities to age-specific changes, unsociability, over-anxiousness about one's health. In the process of the development of the disease the patients begin to bear grudges against their neighbours or relatives because of a loss of their belongings and foodstuffs. The suspiciousness and mistrustfulness increase. Words and actions are regarded as ill-disposed and even hostile. There is a gradual formation of interpretative delusions, most frequently within the terms of the paranoid syndrome. The patients' delusions are commonplace, on everyday subjects and concern only a relatively small circle of real people from their close acquaintance. At first the patients' complaints are not absurd and cause patience of their neighbours and friends. The law and order bodies, where the patients apply to, investigate their claims and try to help them, to protect against oppressions. But the patients' suspiciousness takes such a form that the people from their acquaintance begin to realize its morbid character. The patients interpret the facial expression, smiles and gestures of their "persecutors" as suspicious and demonstrating their ill-disposed intentions.

The most typical ones are delusions of persecution and damage. The patients state that when they are absent their neighbours would enter their flats, damage their things, steal food, scratch the walls, tear their linen and do it in such a way that it is hardly seen.

Some patients have unpleasant feelings in the body and explain them as resulting from a poison stealthily put to their food by their persecutors. Other hypochondriacal delusions are also stated; rather common are delusions of jealousy when the patients believe that their spouses are unfaithful to them with younger people or do it with persons holding some "high" post.

Delusions in presenile delirious psychosis are on everyday subjects, they are so-called "kitchen", systematized and are not accompanied by any disturbances of perception. As a rule, the patients are sthenic, active in a struggle with their "persecutors". They would apply to different organizations: administrative bodies, police, court. They would call to the public for help and, as their statements seem true, various public organizations often stand up for them. Sometimes, if not supported and understood by their acquaintance, the patients try to deal with their offenders themselves, thereby seriously endangering them.

*Etiology and pathogenesis.* Presenile psychoses result from an interaction of biological, individual-psychological and social-psychological age-specific factors. Seventy-five per cent of the cases reveal heredity. Usually presenile psychoses develop at the age of 45-55 years, some time after the beginning of climacteric, in the majority of patients after the beginning of menopause, in people with the extreme type of higher nervous activity and often following psychic traumas.

*Course and prognosis.* Functional psychoses of the presenile age do not result in dementia, but their prognosis, as a rule, is unfavourable. The clinical recovery is observed extremely seldom. Presenile delirious psychosis is characterized by a chronic course. Usually there is no complete recovery with criticism, but eventually in some cases their delirious feelings lose actualization and their previous emotional shade, become less intensive and produce less effect on the patients' behaviour. A critical attitude to delusions does not appear. With years, the patients develop asthenia, psychic weakness, inertness of mental processes.

*The treatment of presenile psychoses* must be complex. It is necessary both to administer the patients some antipsychotic therapy and treat somatic diseases which often accompany the process of aging (hypertensive disease, atherosclerosis, disturbances in cardiac activity and gastrointestinal tract). As clinical observations show, an improvement of the general state is accompanied by an improved mental state of patients with presenile psychoses. These patients are indicated general health improving therapy, a complex of vitamins, and drugs for improving their cerebral circulation. In

cases of sleep disturbances, it is recommended to prescribe vegetable sedatives (valerian, tinctures of peony, motherwort, etc.), bromine preparations, as well as tranquillizers (tazepam, radedorm, reladorm).

In order to eliminate anxiety and mental stress in patients with presenile depression it is recommended to administer them drugs with a tranquillizing effect. The choice of a drug and its dose depend upon the degree of expressiveness of the anxiety. It should be remembered that the doses of psychoactive preparations administered to these patients should not exceed 1/2- 2/3 of the doses recommended for young patients. In treating presenile depression, preference among antidepressants is given to amitriptyline whose effect is both antidepressant and sedative. The states of agitation are controlled by a combination of amitriptyline with tizercine. In case of anxious-paranoid symptoms, haloperidol and perphenazine are administered. If the anxiety is not acutely expressed, chloracizine preparation is recommended. In depressions with inhibition, a good effect is observed after administration of melipramine, an antidepressant with a psychostimulating effect.

For the delirious form of presenile psychosis, neuroleptics with mainly antipsychotic action and low sedative activity are indicated: trifluoperazine, perphenazine, azaleptin. The literature has reports about a good effect of electroconvulsive therapy. Our clinical experience makes it possible to recommend insulin therapy for patients with both forms of presenile psychosis.

### **Senile and presenile dementiae**

The urgency of their study by general practitioners is caused by the fact that despite their relatively low rates these diseases are of a large social importance: for many years the patients need care and demand cure in connection with their intercurrent diseases.

The states of progressive dementia, developing at the presenile age and caused by an atrophic process, are termed as senile and presenile dementiae. This group of diseases includes senile dementia and presenile ones: Alzheimer's and Pick's atrophies. Other diseases, belonging to presenile dementiae (hereditary chorea, Parkinson's disease), are seldom diagnosed.

The data about prevalence of different types of dementiae in various regions significantly differ because of divergences in diagnostic standards. The rate of dementiae of Alzheimer's type (with a more diffuse character of the atrophic process) for the Moscow population was 4.4 % (4.7 % for women and 2.1 % for men).

Senile dementia involves 5-10 % of all people older 65. With an increase of age in the presenile age groups the risk of development of senile dementia rises. Among the patients with senile dementia there are twice more females than males.

The epidemiology of presenile dementiae has been insufficiently studied. There are some data that the risk of developing presenile dementiae is 0.1 %. Of all the people admitted to mental hospitals, the patients with Alzheimer's disease number 0.3-0.5 %. Pick's atrophy occurs less frequently than Alzheimer's one by the factor of 2-4. These diseases are diagnosed significantly less often than senile dementia. Among people with Alzheimer's and Pick's atrophies the number of women is significantly larger than that of men.

*Clinical manifestations of senile dementia.* Senile dementia usually develops at the age of 65-85 years, though its onset may be both earlier and later. The onset is almost always slow, insidious, with characterological changes. The latter resemble personality shifts which are typical for the natural aging but differ from them with expressiveness, exaggeration, a more rapid progressing. At the initial stage, individual psychological peculiarities become sharper, and later smooth down. They are followed by pathological personality changes typical just for senile dementia (senile psychopathization of the personality). The patients become resembling one another in the characterological aspect.

Grotesque egocentrism, hard-heartedness, miserliness, collecting of old unnecessary things are peculiar to such patients. They lose former interests and passions, with a simultaneous disinhibition of elementary biological needs. Their appetite becomes voracious. A peculiar hypersexuality develops in the form of an increased interest to young people of the opposite sex, a disposition to talks on erotic subjects, and sometimes attempts of lewd acts with juveniles. Some sullen-irritable mood prevails. On the whole, the emotional life becomes still more and more primitive, monotonous. Even the initial stage of the illness develops signs of mnestic-intellectual deficiency, which is steadily increasing, comes to the foreground and with time reaches to the level of a severe mental deficiency, disintegration of the whole psychic activity. First of all, mechanical memory is involved. It is followed by fixation amnesia, first leading to disorientation in time, and then in the surroundings. Significantly later comes disorientation in one's own personality, sometimes reaching to such a level that the patients do not recognize their own reflection in a mirror. Subsequent memory disturbances develop according to regularities of progressive amnesia. The stock of memory is being lost in the direction from recently acquired, less sound knowledge and skills to older and automatized ones. With time, the memory is devastated to such an extent that the patients do not know where they live, how many children they have got,

do not remember their names, are not able to say how old they are and what their occupation is. Spotty memory defects are often filled with false recollections (pseudoreminiscences), and later with substituting confabulations.

Disturbances of thinking, which begin with difficulties in abstracting, generalizing and revealing casual relations, increase and reach to the lack of understanding the simplest questions, an inability to comprehend the surrounding situation. For a comparatively long period of time the speech remains regular, but with time it is roughly impaired too, turning into a meaningless garrulity. The perception gradually becomes still more defective, diffuse. Some patients develop a “displacement of the situation towards the past”. They completely lose any memory about last years, decades, and later the greater part of their life. At the same time, their recollections about the remote past revive. The patients get absorbed in recollections about their juvenile and young life, and from these aspects they perceive and assess everything that takes place around them. They would state that they are 20, but not 80, that they have recently got married and now have got little children. They would take the furniture of their ward as that of the flat where they lived some time before. Among their associates, they would recognize their relatives and friends, who died long ago.

Typically, the sleep formula is distorted: continuous daytime sleep is combined with night insomnia accompanied by fussiness, aimless walking. At night, there are frequent episodes of confused consciousness with a false orientation, preparations for starting up one’s journey, attempts of leaving. The mood at earlier stages is characterized by sullenness, constant dissatisfaction and querulousness which later give place to dull carelessness and euphoria. The patients’ behaviour in the beginning of the development of the cerebral-atrophic process of mental deficiency is relatively organized. Gradually they become more and more fussy, confused, helpless in their everyday life, slovenly and unable for self-service. It is not in rare cases that such patients suddenly leave their house and are not able to find a way back, fill their rooms with gas, flood them, commit arsons.

*The course* of senile dementia progresses continuously or like waves. Often there is some gap between a profound destruction of psychic activity and a relative physical preservation. Some patients live till the stage of marasmus. At this stage they are almost motionless, indifferent, lie in the embryonal posture, practically unable to communicate and make oral contacts with. Only some vital biological needs are preserved. They die more often owing to intercurrent diseases. The period from the appearance of initial signs of senile dementia to the lethal outcome lasts 2-10 years.

In the majority of patients with senile dementia no psychotic disorders are observed (the simple form of senile dementia). Some 10 % of the patients

develop psychoses (the psychotic form of senile dementia), usually at relatively early stages of the illness. More common are small-scaled delusions of damage, persecution, robbery, poisoning. In rarer cases, there are hallucinations, hallucinatory-delirious states, paraphrenic states with delusions and confabulations having some fantastic content. With progressing of the dementia, the productive psychotic symptoms become scantier, fragmentary and finally disappear.

The diagnosis of senile dementia is based on the impoverishment of the whole psychic activity, which appears in the old age, steadily increases, during several years results in total dementia and later in marasmus. The signs of a diffuse atrophy of the brain cortex and internal hydrocephaly in the form of some dilation of the cerebral ventricles, revealed by pneumoencephalography and computed tomography, are of certain diagnostic value.

*Etiology and pathogenesis.* Senile dementia is related to endogenous-organic mental diseases and regarded as an expression of pathological aging. It is believed that some part in the development of senile dementia is played by hereditary factors. It has been proved that the risk of appearance of senile dementia in the relatives of patients with this disease is significantly higher than in other people. Some part in the development of senile dementia is considered to be played by severe somatic diseases. It is supposed that the appearance of senile dementia is facilitated by age-specific insufficiency of immune systems and by autoimmune processes with resultant destructive changes in the central nervous system. Anatomically, senile dementia is based on a diffuse atrophy of the brain cortex and a number of morphological changes accompanying it. A pathoanatomical examination reveals some loss of the brain weight, thinning of the gyri and dilation of the sulci, and dilation of the cerebral ventricles caused by internal hydrocephaly.

Microscopically, there is wrinkling or swelling of cells of the brain parenchyma, dystrophic and necrotic changes in them. The brain of senile dementia patients is particularly characterized by multiple senile plaques which are areas of the nervous tissue affected by amyloidosis. Moreover, there are peculiar changes of neurofibrillae in neurons of the cerebral cortex (Alzheimer's neurofibrillae).

Similar morphological shifts are also often observed in a macro- and microscopic examination of the brain of many people who died at an old age and did not suffer from senile dementia. But the above changes in such cases are less profoundly expressed.

*Course and prognosis.* The prognosis of senile dementiae is extremely unfavourable owing to an inevitable appearance of profound dementia, marasmus and death of the patients within 8-10 years after appearance of the first clinical signs of dementia. The prognosis is slightly better in a later onset

of senile dementia (after 80-85 years). In these cases the rate of an increasing mental deficiency is slower.

*Presenile dementiae. Alzheimer's disease.* This disease was described by A. Alzheimer in 1906. It develops at the age of 45-65 years, more commonly at 55-60. The onset is slow, the course is progressive. The process of mental deficiency begins with mnestic disturbances in the form of hypomnesia of current events, it gradually turning into fixation amnesia and later in progressive one. A profound amnestic disorientation appears. Within a few years, the stocks of knowledge and skills become almost absolutely devastated. Unlike senile dementia, Alzheimer's disease is not characterized by any confabulations and a shift of the situation towards the past. Disturbances of thinking increase in parallel with memory ones. They begin with difficulties in a more complex analytic-synthetic activity and end with an absolute mental helplessness. It results in the revealing of profound dementia. The early stages of the illness are often characterized by productive psychotic disorders in the form of small-scaled delusions of damage, poisoning and jealousy, more seldom in the form of hallucinosis. Many patients have epileptiform seizures.

One of the peculiarities of Alzheimer's disease, if compared with senile dementia, consists in the fact that its initial stage is characterized by preservation of realization of one's own insolvency, morbid changes accompanied by anxiety and confusion, later giving place to apathy and absolute indifference. The most significant clinical peculiarity of Alzheimer's disease consists in a combination of increasing intellectual-mnestic deficiency with aggravating disruptions of higher cortical functions: speech, reading, writing, counting, gnosis and praxis.

The first signs of neurological disturbances in cortical functions can be revealed as early as in the beginning of the disease. They manifest themselves by difficult understanding of somebody's speech, indistinct pronunciation, difficulties and mistakes in writing, reading, counting, forgetting names of some objects. The above disturbances intensively progress and change into sensory, amnestic and agnostic aphasia. The speech becomes still more dysarthric, still more place in it is occupied by stereotypical phrases, interjections, parenthetic words. There are delays in pronouncing initial sounds and syllables, they are repeated many times (logoclonic stammering). Later, the active speech is limited to a senseless repetition of fragments of words or separate sounds. The abilities to read, write and count are almost absolutely lost.

The initial awkwardness of movements with time turns into a loss of capacity for the most automated vital actions. As if the patients forgot how to stand up, sit down, walk. They would silently lie, almost without any changes in their posture.

The disease lasts from 1-2 to 8-10 years. The death more commonly occurs in the course of an accompanying respiratory infection.

*Pick's atrophy* was described by A. Pick in the end of the 19<sup>th</sup> century. Usually, it begins gradually at the age of 40-65 years. Particularly often its first manifestations appear at 55-60. The initial stage of Pick's atrophy, unlike Alzheimer's disease, is characterized by prevalence of emotional-volitional disturbances, rather than those of the intellectual-mnemonic sphere. Particularly typical is lack of spontaneity: indifference, passiveness, absence of any inner drives for activity with preservation of a capacity for actions under the influence of external stimuli. Rarer is a syndrome clinically resembling the picture of progressive paralysis in the form of a reduced moral-ethic level of the personality, carelessness, euphoria, disinhibited drives, uncritical attitude to one's own behaviour (the pseudoparalytic syndrome).

One of the differences of Pick's atrophy from Alzheimer's disease lies in the prevalence of an increasing intellectual insufficiency (weakening of abilities to generalize and abstract, form adequate judgements and conclusions, reveal causal relationships) over memory disturbances. Expressed abnormalities of the memory appear late, amnesic disorientation is absent. Hallucinatory-delirious symptoms and epileptiform seizures develop significantly more seldom than in case of Alzheimer's disease. In Pick's atrophy, the leading place among manifestations of the total mental deficiency is taken by speech disturbances, while disturbances of gnosis and praxis characteristic of Alzheimer's disease are expressed significantly rarer. Speech disturbances, beginning from difficult understanding of somebody's speech, a semantic and grammatical simplification, impoverishment of one's own speech, with time turn into speech helplessness. The speech becomes saturated with perseverations and echolaliae, it gradually loses its phrase character, comes to a meaningless repetition of the same word combinations and words (a "stagnant" symptom typical just for Pick's atrophy). Later, mutism comes. Some cases develop marasmus. The patients die from secondary infections 5-6 years after the onset of the cerebral-atrophic process of mental deficiency.

Diagnosing of presenile dementia is based on the appearance of a progressing total dementia in the presenile age. An earlier revealing of intellectual-mnemonic disorders and disturbances of the higher cortical activity typical for these diseases is facilitated by use of experimental-psychological methods. Diagnostically significant are pneumoencephalography and computed tomography which find out cerebral atrophy, internal hydrocephaly and dilation of cerebral ventricles. Differentiation of Alzheimer's disease and Pick's atrophy takes into consideration their above clinical peculiarities and differences in the localization of the cerebral atrophic process revealed with help of pneumoencephalography and computed tomography (atrophy of

mostly parietal and temporal areas in Alzheimer's disease and frontotemporal ones in Pick's atrophy).

*Etiology and pathogenesis.* Some part in the etiology of Alzheimer's disease and Pick's atrophy is played by genetic factors. In the majority of patients with presenile dementiae, their heredity is not psychopathologically aggravated. At the same time, there are family cases of Alzheimer's disease and Pick's atrophy. For parents, brothers and sisters of such patients the risk of developing presenile dementia is higher than for the population at large. These forms of mental pathology reveal various deviations in the synthesis of proteins and their functions at the cellular level, demonstrate disruptions in interactions of the neurotransmitter systems, a reduced concentration of acetylcholine and catecholamines, as well as a higher content of some microelements in the cerebral tissues. These biochemical shifts are hypothetically connected with an atrophy of the brain which is an anatomical basis for Alzheimer's disease and Pick's atrophy.

Cerebral pathomorphological changes in Alzheimer's disease are similar to those of senile dementia. Their most significant peculiarity consists in a selective rather than diffuse character of the cerebral-atrophic process which in case of Alzheimer's disease is localized mostly in the temporal and parietal lobes. Selectivity of the cerebral atrophy is accompanied by its higher expressiveness. Like in senile dementia, a microscopic examination reveals a large number of senile plaques. It is this disease that is particularly characterized by peculiar pathologic changes in neurofibrillae (Alzheimer's degeneration of neurofibrillae). In Pick's atrophy, like in Alzheimer's disease, the atrophy of the brain is selective, but has another localization. Along with temporal lobes, the process of atrophy preferably involves frontal lobes rather than parietal ones. Microscopic changes in the brain significantly differ from the microscopic picture of Alzheimer's disease. As a rule, senile plaques and Alzheimer's neurofibrillae are not found out. An atrophy and destruction of some cortical neurons and swelling of nerve cells owing to particular intracellular formations (Pick's bodies), as well as accumulation of lipoids in the cells of cerebral parenchyma and gliocytes are revealed.

*Course and prognosis.* The prognosis of presenile dementiae is unfavourable due to a rapid disruption of psychic activity and death within the first few years after the onset of the disease.

*Treatment and prophylaxis.* The principles of treating senile dementia, Alzheimer's disease and Pick's atrophy practically do not differ. No methods of treatment capable of arresting the process of mental deficiency have been found yet. At earlier stages of the senile-atrophic process, nootropic drugs (pyracetam, aminalon) are sometimes administered. But usually no significant compensation for an intellectual-mnemonic deficiency comes. Small doses of

psychoactive drugs are administered in the development of psychosis, behaviour and sleep disorders.

In cases of the appearance of psychoses, neuroleptics which do not cause severe side effects (sonapax, chlorprothixene, perphenazine) and mild antidepressants (pyrazidol, azaphen) are used. The doses of psychoactive drugs should not exceed 1/3-1/2 of average doses used for patients at a mature age. For a more expressed senile psychopathization and senile fussiness, small doses of sonapax, chlorprothixene and Neuleptil are used. Transquillizers are rarely administered owing to their unsatisfactory tolerance by people at a senile age. Sleep disorders are corrected with phenazepam and chlorprothixene.

Concomitant somatic diseases are treated, thereby postponing the lethal outcome. Mostly, symptomatic treatment directed at maintenance of the activity of the cardiovascular system and other vital somatic functions is given.

The patients require supervision and care. It is necessary to provide them with a diet, control regularity of their physiological discharges and cleanliness of the skin, press for a feasible motor activity and, if possible, to involve them in the simplest forms of activity. Constant control over the patients' behaviour must be exercised because they may commit dangerous acts.

Patients with senile dementia require hospitalization only if they develop some psychosis or severe disturbances in their behaviour. It should be taken into consideration that any change in the usual tenor of life, including hospitalization, may contribute to aggravation of the mental and physical state of patients with senile dementia and approach the lethal outcome.

Real measures for preventing senile dementiae are not known. Opportune effective therapy of a somatic pathology in people of the presenile age may be of some prophylactic value.

## EPILEPSY

Epilepsy is a chronic endogenous-organic disease of the brain characterized by partial and generalized spasmodic seizures, typical changes in the character and thinking which achieve the degree of dementia, as well as by a possible development of acute and chronic psychoses at some stages of the disease. According to the WHO's data, 40 million people in the world are ill with epilepsy; the morbidity with this disease, according to different data, is from 6 to 12 cases per 1,000 people. The illness may begin at any age, but most frequently before 20 or after 65 years. A spasmodic seizure is a manifestative sign of the disease.

*The classification* by the etiological sign distinguishes 3 types of epilepsy: *idiopathic (genuine)*, whose main cause lies in heredity; *symptomatic* – a heterogenous disease with an established pathology (a disease of the brain), and *cryptogenic*, where there is no genetic factor and any disease of the brain is not found.

*The clinical manifestations* of epilepsy are represented by paroxysmal and nonparoxysmal signs of the disease. Epileptic paroxysms are subdivided into generalized and partial seizures, as well as various psychic equivalents. The clinical characteristics of an epileptic seizure are as follows: a) a sudden appearance (at any time of day or night, suddenly, irrespective of the situation); b) a short term (as a rule, a paroxysm lasts from a few seconds to several minutes); c) self-withdrawal (the seizure ceases spontaneously); d) recurrence with a tendency towards occurring more frequently; e) a “photographic” similarity of the seizures (clinical manifestations of each subsequent paroxysm almost absolutely coincide with previous seizures).

The most typical generalized epileptic seizures are a major spasmodic seizure, a minor seizure (absence), an epileptic status. A generalized tonic-clonic seizure (grand mal) may be preceded by such precursors as a change in the mood, a headache, a worsened general state developing some hours before the seizure. Just before the seizure some patients feel an aura in the form of stereotyped short-term (during a few seconds) autonomic, vestibular, sensory, motor, visceral or mental disorders. The seizure itself begins with a sudden fall and consists of two phases: *tonic and clonic*. In *the tonic phase* of the seizure, which lasts 20-30 seconds, convulsions involve all the skeletal muscles. Usually they prevail in the extensors. As a result of contraction of the muscles of the chest and abdomen, the air passes through a narrowed glottis, which may cause vocalization (an epileptic cry) lasting a few seconds, the eyes are usually wide open, the mouth is half-open. The convulsions begin from the muscles of the trunk, whereupon they pass to the extremities. Usually, the shoulder girdle is slightly raised and inwardly displaced. The

arms are abducted and outwardly rotated, the forearms are half-bent. The muscles of the legs are not involved so intensively, usually there is a tendency towards bending and parting the legs with their outward turning.

*The clonic phase* consists of short-term flexion contractions of the muscles of the trunk and extremities with their rapid relaxation. The duration of the clonic phase is 2-3 minutes. Gradually, sharp contractions of the muscles become rarer, gaps of a reduced muscle tone longer, and the spasmodic contractions end. During both phases of the spasmodic seizure, some biting of the tongue and lips may be observed.

A generalized tonic-clonic seizure has such a characteristic component as mydriasis with areflexia of the pupils to the light, as well as hypersalivation which in combination with the tongue bite in the clonic phase of the seizure results in a discharge of some blood-stained foamy contents from the mouth. During a seizure, hypersecretion appears in the salivary and other glands: sudoriferous and tracheobronchial.

Within 10-15 minutes immediately after the seizure, the comatose period comes; it is characterized by muscular atony with resultant involuntary urination because of relaxation of the sphincters. The pupillary and corneal reflexes are absent, while deep ones may be activated. The patients are absolutely unconscious (coma). Later, the mydriasis disappears, superficial reflexes are restored, deep ones are decreased and often accompanied by Babinski's sign. This period usually lasts 5-15 minutes. After recovery of their consciousness the patients usually complain of a headache, pains in muscles, a bad general state; there is an absolute amnesia for the period of the seizure. The comatose state may also change into postictal (post-seizure) sleep.

*Minor seizures* (petit mal), absences are characterized by a sudden and short-term (2-30 seconds) disengagement of the consciousness, usually without the patient's falling down; they are accompanied by the patient's blank look, an interruption of his current activity, moderately expressed autonomic symptoms (some flushing or paleness of the face, a moderate mydriasis), though in short-term absences any clinical manifestations of the seizure often remain unnoticed. The seizure ends as suddenly as it began. Realization of the seizure is usually absent, an absolute amnesia develops, but in very short-term absences (2-3 seconds) there is not enough time for an absolute disengagement of the consciousness to develop.

*The epileptic status (status epilepticus)* is a severe complication of epilepsy: this is characterized by recurrent epileptic seizures and between them the patient's consciousness is not regained. The epileptic status requires urgent medical aid, as it gravely endangers the patient's health and life.

The causes of the epileptic status may be as follows: inadequate treatment, a sharp reduction of dosages or discontinued taking of antiepileptic drug preparations, resistance to them, as well as addition of other hazards

(acute infections, intoxications, particularly taking of alcoholic drinks, a brain injury, somatic diseases).

The epileptic status is characterized by disturbance of the respiration, cardiovascular activity, haemocirculation, cerebral metabolism, acid-alkali and water-electrolyte balances.

In addition to the described above, there may be *generalized tonic seizures*, typical for children, and *generalized clonic seizures*, more common in infants, as well as myoclonic seizures characterized by bilateral synchronous manifestations, which are most vividly expressed in the shoulder girdle and arms. With lightning speed, the arms would bend and the fingers part. If the seizure involves the legs, usually they bend too, and the patient would fall down to his knees or even on the ground.

Symptoms of *partial seizures* depend upon the localization of the focus. There are motor, sensory, autonomic-visceral seizures and those with disruptions of psychic functions. The most typical partial motor seizure is jacksonian one in the form of a local jerk or tonic tension in the muscles of the arm or leg, more frequently in its distal parts; the convulsions may spread along the whole extremity with involvement of the muscles of the trunk, face, the other extremity, often resulting in a secondary-generalized spasmodic seizure with loss of consciousness.

*Versive seizures* usually appear as a result of epileptic discharges in the premotor areas of the frontal cortex or subcortical ones, closely connected with this region. The seizures may be developed by a turn of the head and eyes, as well as the trunk and extremities, in the direction opposite to the affected hemisphere. Such seizures are very frequently accompanied by secondary generalization.

*Sensory seizures* are observed if epileptic discharges are localized in the projection areas of classical afferent systems. Somatosensory seizures may happen and be in the form of paresthesia, visual, auditory, olfactory and gustatory seizures, as well as fits of dizziness.

*Seizures with autonomic-visceral manifestations* are observed among partial seizures most frequently. In the majority of cases they are seizures in the form of gastrointestinal manifestations: an unpleasant, sometimes indefinite sensation in the epigastric region, ascending to the throat, often accompanied by the feeling of nausea and vomiting. Children may feel some pain in the abdomen. Cardiovascular and respiratory disturbances may be observed.

*Seizures with disruption of psychic functions* may have the following manifestations: an absolute or partial paroxysmal motor or sensory aphasia; difficulties in articulation of words and use of speech with preservation of the movements of the muscles necessary for speaking; short-term complex illusions when there is a violation in the assessment of the degree of novelty

of the real life situation; an absolute amnesia within a certain, sometimes rather prolonged (a few hours) period of time within which the consciousness was clear and the behaviour absolutely adequate; disturbances of thinking when the patients notice that their “thoughts are running or scattering with an unbelievable speed”, “they are difficult to follow” or, on the contrary, “the thoughts stick”, the thinking becomes retarded, “stiff”; short-term paroxysmal emotional disorders in the form of unpleasant emotional feelings, or sharply expressed fears, anxiety, visual, auditory, olfactory and gustatory illusions; visual hallucinations, usually coloured, represented by motionless pictures or scenes with a decelerated or accelerated action; auditory hallucinations (significantly more seldom).

*Contraction-free paroxysms* are short-term mental disorders developing as a seizure equivalent. The following kinds of contraction-free paroxysms are distinguished:

- *twilight disturbance of consciousness*, accompanied by anxiety, terror, excitement, aggressiveness with a subsequent amnesia; here the patients may have visual, olfactory or auditory hallucinations, delusions of persecution, universal death, grandeur, reforming;
- *delirious state* with vivid visual hallucinations and tense affect;
- *oneiroid state* with a fantastic content of the feelings;
- *ambulatory automatism* in the form of short-term automated actions with an absolute estrangement from the surroundings, a disturbance of consciousness and a subsequent amnesia;
- *fugue* – a state of cloudiness of consciousness when the patients, estranged from their surroundings, would strive for running somewhere;
- *trance* – a prolonged disturbance of consciousness when the patients would move automatically, make unmotivated journeys or trips, sometimes at long distances;
- *dysphoria*, manifested by depression, melancholia, anxiety, maliciousness, tension, aggressive behaviour;
- *specific states*, in the form of depersonalization and derealization with phenomena of metamorphopsiae accompanied by fear, melancholia, anxiety, hallucinations.

*Personality changes in patients with epilepsy.* The course of epilepsy is accompanied by formation of peculiar changes (of the epileptic character) in the personality of the patients, manifesting themselves by egocentrism, a combination of obsequiousness and sugariness with maliciousness, cruelty, vindictiveness, rancour, a so-called polarity of the character. The patients’ sphere of interests gets narrowed, they become pedantic, fault-finding, with a tendency towards sudden dysphoric reactions. These patients are characterized by affective torpidity, i.e. sticking to negative emotions, offences,

maliciousness which they accumulate in their consciousness; later there is an affective discharge in the form of a sudden aggression with unharnessed energy. In this state the patients are dangerous for their associates. A combination of affective torpidity, explosiveness and polarity of affects in epileptics gives rise to prolonged vindictive tendencies, which persist for years and often end with aggression.

A protracted course of the illness develops epileptic dementia characterized by a change in the thinking, a tendency towards detailing and torpidity, the patients are not able to separate the main things from minor ones. The thinking becomes concrete, there are disturbances of memory and a decreased stock of words. Diminutive and hypocoristic suffixes appear in the patient's speech.

*Epileptic psychoses.* In epilepsy, acute and protracted psychoses may develop; they are observed in about 40 % of epileptics. The course of acute psychoses may include cloudiness of consciousness (twilight, oneiroid, delirium, amentia) or be without it (acute affective and hallucinatory-paranoid states).

The most common form of acute psychoses with cloudiness of consciousness is a twilight state, which develops after a series of spasmodic seizures and is accompanied by excitement with an mental stress and aggression. Epileptic oneiroid is characterized by vivid fantastic hallucinations accompanied by various emotional feelings: fear, horror, delight.

The most common transitory psychoses without any cloudiness of consciousness are depressive-dysphoric states with a melancholic-malicious mood, delusions of reference, persecution, an increased aggressiveness and excitability. Rarer are depressive states with inhibition, as well as irate and merry maniae. Acute hallucinatory-paranoid psychoses develop vivid imagery delusions, as well as verbal and visual hallucinations. Acute epileptic psychoses are transitory, their onset is acute, the recovery is critical, and they last from a few hours to 1-2 weeks.

Protracted epileptic psychoses originate at remote stages of the disease, 12-14 years after its manifestation. Their duration is from several months to a year or even more. The development of protracted psychoses is accompanied by a decrease in the rate of seizures or their discontinuation, as well as by normalization of EEG. The recovery from this psychotic state is lytic, with possible recurrences of the psychotic symptoms. Paranoid psychoses develop interpretative delusions with an ordinary content whose plot is connected with actions of concrete people and certain psychotraumatizing situations. More common, if compared with others, are ideas of reference, persecution, poisoning, jealousy, the patients being rather frank when they inform about their delirious feelings. In hallucinatory-paranoid psychoses, delusions are

formed on the basis of verbal hallucinosis. In some cases, the structure of the main syndrome includes psychic automatisms, mentism. Sometimes in epilepsy there is formation of paraphrenic psychosis with megalomaniac delusions having a fantastic content, and with some peculiar interspersing of real events accompanied by enthusiasm. Much less common are catatonia-like states in the form of substupor, mutism, impulsive behaviour.

The diagnosis of epilepsy is made on the basis of the following signs: recurrent seizures, changes in the personality, a tendency towards progradency. Very important signs of the illness are changes on EEG: 1) spikes (peaks); 2) sharp waves; 3) a sharp and a slow wave; 4) a spike and a wave with a frequency of 3 seconds, they are characteristic of typical absences (petit mal); 5) multiple spikes followed by a group of slow waves; 6) slow high-amplitude complexes: a sharp wave and a slow wave (characteristic of atypical absences).

*Peculiarities of epilepsy in childhood.* In children, the diagnosis and differential diagnosis of epilepsy may be somewhat difficult, as children easily develop spasmodic states owing to various causes (a helminthic invasion, an elevation of the body temperature, diseases of the gastrointestinal tract and pulmonary system, etc.).

This state is determined as an epileptic response: a nonspecific response of the brain in the form of convulsions due to an increased spasmodic readiness of the brain in children. On the other hand, the disease often begins with nonspasmodic paroxysms (absences). It is necessary to pay attention to cases of somnambulism, sudden fears, disturbances in the mood and behaviour, attacks of pain in various organs. The course of epilepsy in childhood is more malignant than in adults, often it rapidly gives rise to the formation of developmental defects, a decrease of intellect, changes in the personality. The most frequent syndromes, typical for childhood, are West's and Lennox-Gastaut ones.

*West's syndrome* (infantile spasms, propulsive fits, nodding spasms) usually consists of a triad: children's spasms in the form of "nods", "pecks", "salaam convulsions", a disturbance of the psychomotor development and typical changes on EEG. The fits manifest themselves by rapid bending and extending movements of the trunk or in the form of nods of the head, most frequently they are mixed. The illness develops at the age of up to one year, more commonly in boys. On the whole, the prognosis is unfavourable. West's syndrome occurs in two variants: a symptomatic one in an organic lesion of the brain accompanied by a retardation in the psychomotor development, neurological symptoms and other kinds of fits, and an idiopathic one in genuine epilepsy.

*Lennox-Gastaut syndrome* manifests itself in children at the age from 1 to 8 years, but most frequently at the preschool age. The illness develops both

against a background of encephalopathy and in the primary form. The most common are tonic, atonic fits and absences, though other types are also possible: myoclonic, generalized tonicoclonic, partial. The rate of the fits is high, often the epileptic status develops. EEG reveals characteristic changes. The children's mental development is delayed. The fits resist treatment, the course of the disease is often unfavourable.

*Etiology and pathogenesis of epilepsy.* Epilepsy is a disease with a multiple etiology and based on a change in the neuron activity, which becomes abnormal, periodic and increased with a resultant appearance of sudden high-amplitude outbreaks in a single group of neurons. This group of neurons forms an epileptic focus which generates a hypersynchronous discharge. The character of the subsequent spread of excitement along the neurons determines the kind of fits; thus, if the discharge is spread along both hemispheres then a generalized fit is produced, but if the excitement remains within the limits of the primary focus then a local (focal, partial) fit develops.

The disease strikes mostly children and juveniles. Its etiological factors include hereditary predisposition, as well as an effect of unfavourable environmental factors causing an impairment of the brain, particularly in the pre- and postnatal period. Depending upon its etiology, the primary (idiopathic, genuine) and secondary (symptomatic) types of epilepsy are distinguished. Symptomatic epilepsy may be caused by cerebrovascular disturbances, neural infections, brain injuries, an oedema of the brain, intoxications, degenerative diseases (Alzheimer's disease), endocrine disorders.

In epilepsy, there are disturbances of different kinds of metabolism (of proteins, carbohydrates, fats, water-electrolytes); recently, particular attention is paid to studying disturbances in the metabolism of GABA, whose decrease in the brain develops convulsions.

*The treatment of epilepsy* must be complex, regular and prolonged. The multimodality treatment should include anticonvulsant dehydration, resolving and general health improving therapy. Prior to the beginning of the treatment it is necessary to specify the etiology of epilepsy and the type of seizures. If possible, the treatment should be provided with one optimally chosen drug preparation, whose dose would be gradually increased up to the absolute discontinuation of the seizures or to the appearance of any side effect of the drug. Two or more drugs are administered only in case of an insufficient efficacy of the monotherapy owing to an improper choice of drugs, their extremely low doses or an irregular taking.

When treating epilepsy, it is important to reveal the factors contributing to the appearance of seizures, to timely make necessary corrections in the course of the treatment, for instance if any concomitant diseases develop. It is necessary to regulate the way of life, establish a regular regimen of sleep and

wakening, avoid any psychoemotional overstrains, limit the patients' watching TV programmes and working in front of a computer monitor. It is important to exercise self-control over taking antiepileptic drugs. Epileptics should follow a milk-vegetable diet, restrict the intake of liquids, salty and spicy foods, meat; the use of strong tea and coffee should be reduced and alcoholic drinks absolutely excluded. In order to treat mental disorders in epilepsy, neuroleptics, tranquillizers and antidepressants are administered.

*Characteristics of antiepileptic drug preparations. Phenobarbital (luminal)* is the main (basic) one in treating epilepsy. The drug increases inhibition of GABA-ergic receptors. Phenobarbital is effective for focal, generalized tonicoclonic and myoclonic seizures. It is administered by 0.1-0.2 g/day as a single or 2 divided doses. For children, the dose of the drug is 4-5 mg/kg. The drug is contraindicated if there is an increased sensitivity to it.

*Primidone (Hexamidine, Prilepsine, Misodine)*. Its main metabolite is phenobarbital. Primidone is indicated for focal, generalized tonicoclonic and myoclonic seizures. The therapeutic dose is 0.75-1 g/day by 2-3 divided doses. The daily dose for children is 10-30 mg/kg.

*Benzodiazepines (Diazepam, Valium, Clonazepam, Midazolam, Lorazepam)*. The mechanism of their action is based on the ability to increase inhibition of GABA-ergic synapses. These drug preparations are indicated for focal seizures, absences, atonic, generalized tonicoclonic seizures in cases of therapeutic resistance to other drugs. The injection and rectal forms of the drugs are used for controlling the epileptic status. The daily dose of Diazepam is 10-20 mg IV or 20-40 mg rectally, Clonazepam – 0.2 mg/kg, Lorazepam – 4-8 mg, Midazolam – 0.15 mg/kg IM. Benzodiazepines are contraindicated if there is any addiction to them.

*Ethosuxemide (Suxilep, Ronton, Pycnolepsin)*. The drug blocks recurrent discharges of neuron membranes. It is indicated for absences. The drug is administered by a daily dose of 15-20 mg/kg as 2-3 divided doses.

**Benzonal** is a prodrug of Phenobarbital, it increases inhibition of GABA-ergic receptors. It is administered in major, myoclonic-impulsive, psychic, simple partial seizures. The doses are as follows: children at the age of 3-6 years – 0.1-0.15 mg/kg/day; 7-10 years – 0.3-0.5 mg/kg/day; 11-14 years – 0.3-0.4 mg/kg/day; adults – 0.3-0.8 mg/kg/day; the drug may be taken by 2-3 divided doses.

*Valproate (Convulex, Orfiril)*. The effect of Valproate is based on its ability to increase inhibition of GABA-ergic receptors, thereby decreasing recurrent discharges of neuron membranes. The drug is indicated for generalized epileptic seizures (absences, tonic-clonic seizures), as well as focal ones. The drug is used with a dose of 1.2-1.8 g/day as a single dose or 2-3 divided ones. For children, the dose is 20-30 mg/kg. The drug is contraindicated in cases of hepatic diseases and a hypersensitivity to it.

*Carbamazepine* (*Sirtal*, *Tegretol*, *Finlepsin*, *Thymonil*, *Stazepine*). The effect of the drug is based on its influence on Na channels with a resultant decrease in the number of recurrent discharges of neuron membranes. Carbamazepine is mostly indicated for focal epileptic seizures. It is administered with a dose of 0.8-1.2 g/day. For children, the dose is 10 mg/kg; if necessary, it may be enlarged up to 20-40 mg/kg. Carbamazepine is contraindicated in cases of a hypersensitivity to it and bradycardia.

*Vigabatrin* (*Sabril*). The mechanism of its effect is connected with an increased inhibition of GABA-ergic synapses by blocking GABA transaminase. The drug is indicated for therapeutically resistant epileptic seizures, particularly simple and complex focal paroxysms, including secondarily generalized ones, as well as *West's* and Lennox-Gastaut syndromes. Vigabatrin is administered at a dose of 1-3 g/day as a single dose or 2 divided ones.

*Phenytoin* (*diphenylhydantoin sodium*, *Alepsine*, *Phengidan*). The effect of the drug is connected with its influence on Na channels and a resultant decrease in the number of recurrent discharges. Phenytoin is indicated for focal and unclassified generalized tonicoclonic epileptic seizures. The dose of the drug is 0.3 g/day as a single dose or 2 divided ones; for children it is 5-8 mg/kg. Phenytoin is contraindicated in cases of a hypersensitivity to it and progressing myoclonus epilepsies.

*Lamotrigine* (*Lamictal*). The effect of the drug is based on its ability to decrease recurrent discharges of neuron membranes. This is a drug of choice in cases of therapeutically resistant focal seizures, including secondarily generalized ones; it can be effective in absences and Lennox-Gastaut syndrome. The therapeutic dose is 0.1-0.4 g/day as a single dose or 2-3 divided ones. For children, the dose is 5-10 mg/kg. The drug is contraindicated in case of a hypersensitivity to it.

*Gabapentin* is a structural analogue of GABA. It increases GABA synthesis, produces an inhibitory interaction with places of stimulating synapses on the membrane. This is a drug of choice in cases of partial and secondarily generalized seizures, which resist other drug preparations, and Lennox-Gastaut syndrome. Often the therapeutic dose is 10-30 mg/day as a single dose or 2-3 divided ones.

*Tiagabine* blocks GABA formation by neuronal cells and glia, thereby increasing GABA-ergic inhibition. It is administered for simple partial, complex, secondarily generalized and psychomotor seizures. The therapeutic dose is 0.5-1.0 mg/kg/day as a single dose or 2-3 divided ones.

*Topiramate* (*Topamax*) blocks strain-dependent sodium channels, potentiates GABA activity in benzodiazepine-free places of GABA receptors, blocks certain types of glutamate receptors of the postsynaptic membrane. It is administered for simple and complex partial seizures with and without

generalization, major tonicoclonic seizures, astatic falls in Lennox-Gastaut syndrome; often as an additional drug preparation in cases of resistance to other drugs. The therapeutic dose for patients over 12 years of age is 200-400 mg/day by 2 divided doses.

*Acetazolamide* is administered at a dose of 10-15 mg/kg/day. The mechanism of its effect is as follows: inhibition of carboanhydrase in glia and myelin with accumulation of CO<sub>2</sub> in the brain, thereby elevating the threshold of spasmodic readiness. It is effective as a drug of the second choice in major, minor and partial complex seizures. It has the following side effects: allergy, hyperpnoea after high doses, a disturbance of consciousness, a higher risk of formation of thrombi, dyspepsia, depression.

*Clobazam* binds subunits of the GABA-receptor complex potentiating inhibitory effects on the postsynaptic membrane. It is effective as an additional drug preparation for therapy in generalized epilepsy, myoclonic astatic seizures, acute and complex partial seizures. Its side effects are as follows: sleepiness, lack of coordination, muscular hypotonia, as well as salivary and bronchial hypersecretion in little children. Children and old people develop negative psychoactive effects. The dose is 0.3 mg/kg/day for children and 0.3-2.0 mg/kg/day for adults.

*Lamictal (Lamotrigine)* inhibits strain-dependent sodium channels of the presynaptic membrane and a strain-related discharge of stimulating neurotransmitters of aspartate and glutamate into the synaptic cleft. This drug is effective in forms of seizures which are resistant to other drug preparations, first of all partial, secondarily generalized, as well as primarily generalized, atonic ones, Lennox-Gastaut syndrome. It is commonly used in combined therapy if drugs of the first choice turned out to be ineffective. The dose for children is 2-10 mg/kg/day; if combined with other drugs it is 1-5 mg/kg/day. The dose for adults is 100-200 mg/day.

*Midazolam* binds subunits of the GABA-receptor complex potentiating inhibitory effects on the postsynaptic membrane. It is effective for all forms of the epileptic status. It is used as an additional drug preparation in all kinds of seizures, particularly myoclonic ones. The side effects are as follows: dose-dependent sleepiness, lack of coordination, muscular hypotonia, skin eruptions; children and old people develop negative psychoactive effects. The dose is 7-15 mg/kg/day for children and 15-45 mg/kg/day for adults.

*Sulthiame* inhibits carboanhydrase in glia and myelin with accumulation of CO<sub>2</sub> in the brain, thereby elevating the threshold of spasmodic readiness. It is effective as a drug of the second choice in epilepsy with continuous spike/wave complexes during a slow-wave sleep, as well as in benign psychomotor epilepsy. It has the following side effects: allergy, hyperpnoea, tachypnoea (particularly in children), a loss of appetite and body weight, and possible paresthesiae. The dose is 5-15 mg/kg/day.

The epileptic status should be controlled, if possible, under in-patient conditions. At first, Diazepam (**Sibazon**, Lorazepam) is administered IV slowly by 10-20 mg of 0.5 % solution in 20 ml of 40 % glucose. If there is no effect, the administration of Diazepam is repeated 1.5-2 hours later. If the status is not controlled, a slow IV infusion of 40 ml of 2.5 % solution hexenal or sodium thiopental is made (1 g is diluted in 40 ml of NaCl isotonic solution) at a rate of 1 ml per 10 kg of the patient's body weight. Simultaneously, 5 ml of 10 % solution of sodium thiopental or hexenal are injected IM.

Simultaneously with antispasmodic drugs, a lytic mixture is administered: 2 % trimeperidine hydrochloride – 1 ml, 25 % analginum – 2 ml, 1 % diphenylhydramine hydrochloride – 2 ml, 0.5 % novocaine – 2 ml IM.

With the purpose of dehydration, the following drug preparations are administered: 2 % furosemid (Lasix) – 2 ml IM; mannitol with urea by 0.5 g/kg of the patient's body weight in 140 ml of 10 % glucose IV by drops at a rate of 40 drops per minute; ethacrynic acid (**Uregit**) – 50 mg IV; prednisolone – 1-2 ml IM; **Contrical** or Trasylol by 10,000-30,000 units in 500 ml of NaCl isotonic solution IV by drops during 4 hours.

With therapeutic and diagnostic purposes, a spinal puncture is made. In order to improve the cardiac activity, 1 ml of 0.06 % corglycon or 0.5-1.0 ml of 0.025 % digoxin IV are slowly administered.

If blood pressure increases, papaverine by 1-2 mg/kg of the body weight, 25 % magnesium sulphate by 10 mg IV + 5 ml of **dibazole** IV, 5 % pentamine (0.5-1.0 mg) in 20 ml of 40 % glucose IV are slowly administered.

## **MENTAL DISORDERS IN ABUSE OF PSYCHOACTIVE SUBSTANCES**

Every year there is an increase in the number of patients with dependence on psychoactive substances accompanied by mental and somatoneurological disorders with resultant significant socioeconomic and mental losses. The number of consumers of liquor, narcotics and psychoactive substances among juveniles and even children rises.

*Psychoactive substances* are such substances whose single taking causes various subjectively pleasant mental states: euphoria, an increased activity, a subjective feeling of comfort, calm. An abuse of psychoactive substances results in dependence (mental, and often also physical). A prolonged taking of these substances leads to a degradation of the personality, a decrease of cognitive abilities with a resultant affection of social adaptation. Three groups of psychoactive substances are distinguished: *alcoholic drinks, narcotics, toxic substances*; therefore their misuse with dependence is respectively termed as alcoholism, narcomania and toxicomania.

In the International Classification of Diseases of the 10th review (ICD-10) mental and behavioural disorders caused by abuse of psychoactive substances are included in section F1.

### **Alcoholic mental disorders**

Alcohol is the most common psychoactive substance. *Alcoholism* is a chronic mental disease caused by abuse of alcoholic drinks; it is characterized by a pathological drive for alcoholic drinks, as well as by development of physical and mental disorders and dependence.

According to the WHO's data, there are 120 million patients with alcoholic dependence in the world, and alcoholism prevalence is 2 %. In recent years, there is a distinct tendency towards an increase of hard drinking and alcoholism in many industrially developed countries, where the number of alcoholics is 7-10 % of the population. The problem of alcoholism remains one of the main ones all over the world.

Producing a bipolar effect, alcoholic drinks cause euphoria and relieve mental stress. Repeated intakes of spirits create and fix a conditional reflex to relieve mental stress by liquor, and the intake of alcoholic drinks turns into a habit. It is also contributed to by the fact that the acuity of the conflict which caused the tension is relieved both for the period of the effect of liquor and for some time after it. Moreover, unfortunately, spirits are a "social catalyst" which facilitates interpersonal contacts, and the degree of alcoholization of the society depends upon economic and social relations in it. The

sociopsychological function of liquor comes to an illusory improvement in satisfying personal requirements. The highest peak of using alcoholic drinks is at the age of 20-40 years.

### **Classification of alcoholic mental disorders**

- I. Acute alcoholic intoxication
  - 1. Simple alcoholic intoxication
  - 2. Pathologic intoxication
- II. Habitual alcoholism
- III. Chronic alcoholism
- IV. Metalcoholic psychoses

*Acute alcoholic intoxication* is a symptom complex of mental, autonomic and neurological disorders caused by the effect of liquor. The latter easily passes through biological membranes mixing with water and easily dissolving in fatty solutions. Its absorption into the blood begins as early as in the oral cavity, it is even more rapid in the stomach and intestines; with the blood, liquor spreads all over the organism.

*Simple alcoholic intoxication* is the most common kind of acute alcoholic intoxication. Here the degree of expressiveness and the forms of mental, neurological and autonomic disorders depend upon the amount of spirits taken, sex, age, somatic state, mental peculiarities of the personality, its emotional state, the strength of the drink and the form of its taking. There are three degrees of severity of alcoholic intoxication: mild, moderate and severe.

*The mild degree* of simple alcoholic intoxication develops if the alcohol concentration in the blood is within 20-100 mM/l (20-100 mg of alcohol per 100 ml of blood) and is characterized by a reduced active inhibition. Feelings of mental and physical comfort appear. The mood rises, people develop a desire to talk much, they feel cheerfulness and a surge of energy, their social contacts become easier. In this state, shy and unsociable persons would easier start conversations with strangers, joke, laugh. Troubles are endured easier and calmer. Subjectively a person in the state of mild intoxication feels some rise in his capacity for work, but this feeling is delusive, as the attention is not concentrated, it is easily distracted, the rate of thinking accelerates, but the associations are superficial. The scope and quality of the work done decrease, the number of mistakes increases, the critical assessment of one's own state being significantly reduced.

*The moderate degree* of simple alcoholic intoxication develops if the alcohol concentration in the blood is within 100-250 mM/l and is characterized by a reduction in the process of excitement. The mood changes: the person develops excessive touchiness, short temper, dissatisfaction with what is taking place, all these things determining the drunkard's statements

and acts. His ability to correctly assess what is taking place decreases, and it often results in improper, sometimes illegal actions. The process of thinking becomes slower, the statements are trivial, the speech is slurred with perseverations, the drunkard feels it difficult to choose words and develops dysarthria. The threshold of acoustic perception elevates, therefore the speech becomes loud. It is difficult to switch attention to other things, the handwriting is roughly affected, ataxy develops, the movements become uncoordinated, the sensitivity to pain and temperature weakens. Hyperemia of the face gives place to cyanosis and paleness. Some people develop nausea and vomiting.

The moderate degree ends with profound sleep followed by asthenia.

*The severe degree* of simple alcoholic intoxication develops if the alcohol concentration in the blood is within 250-400 mM/l. It manifests itself by disturbance of consciousness from torpor, somnolence to coma. Expressed neurological disturbances, ataxia, muscular atony, dysarthria and amimia are present. Vestibular disturbances (nausea, vomiting, dizziness, a feeling of tinnitus) develop. The acuity of vision decreases, the orientation in the place is affected. Patients suffer from psychosensory disorders and illusions. The cardiac activity becomes weaker, the blood pressure and body temperature fall. Any interest to one's associates is lost. The intoxicated person looks sleepy and soon falls asleep with narcotic sleep, sometimes in awkward positions and improper places. If the blood concentration of alcohol approaches 700 mM/l such people may die because of respiratory paralysis.

Pathologic intoxication is an acute psychotic state which develops after taking various doses of alcohol (from 300-500 ml to 50-150 ml if evaluated in 40° drinks), and is a peculiar idiosyncrasy to alcohol. In American literature, this state is termed alcoholic idiosyncratic intoxication.

Pathologic intoxication develops suddenly. The intoxicated person unexpectedly becomes anxious, confused, estranged from the world around; his movements are accurate and quick, the statements are of a threatening character. The patient's feelings manifest themselves by scanty remarks and a tense manner of behaviour with a defensive direction.

There is a sudden development of a twilight state qualitatively different from torpor in simple intoxication. The perception of the environment changes and acquires a threatening character with resultant confusion, anxiety, fear, horror. The patients preserve the capacity to perform rather complex purposeful actions, but such persons are disoriented and act alone. Their speech production is scanty and reflects subjects of morbid feelings; more commonly they are fragmentary, absurd, unstable.

The socially dangerous actions performed in the state of pathologic intoxication are not a response to some real causes and circumstances. They are based on morbid impulses, motives, notions. As a rule, the actions are of a

defensive character for the patient and are directed at elimination of an alleged danger.

In pathologic intoxication, no mechanisms controlling complex automated actions, equilibrium and other motor processes are affected, thereby contributing to making complex and rapid movements with a subsequent complete or partial amnesia. The leading thing in the clinical picture of pathologic intoxication is a distorted perception of the reality plus filling of the consciousness with morbid delirious feelings accompanied by strain, fear, anxiety.

*Detection of simple alcoholic intoxication.* The state of intoxication is diagnosed by psychiatrists and neurologists, and in case of their absence – doctors of other specialities.

The clinical state and data of laboratory examinations are to be taken into account. The diagnostic practice widely uses qualitative tests for alcohol content in the expired air.

There are a number of methods for revealing alcohol content in the blood, the method of gas-fluid chromatography being the most precise of them.

*The treatment* of acute alcoholic intoxication consists of the following components: gastric lavage, a subcutaneous administration of 0.25-0.5 ml of apomorphine hydrochloride to cause vomiting, catheterization of the bladder in case of retention of urine. In the state of coma: injection of cardiac drug preparations, IV by 100 mg of pyridoxine (vitamin B<sub>6</sub>), up to 1,000 ml of a physiological solution with 40 % glucose. For a strong motor excitement, vitamin B<sub>12</sub> by 50-100 mg is recommended, barbiturates are contraindicated. In cases of severe coma: venipuncture with removal of up to 200 ml of blood, **infusion of** 800-1,000 ml of a physiological solution **by drops**. In asphyxia: inspiration of oxygen, artificial respiration, **cytinone** (1 ml of 0.15 % solution IV), lobelin (1 ml of 1 % solution subcutaneously), inspiration of a mixture of 90 % of oxygen and 10 % of carbon dioxide. General and local warming is recommended. In mild and moderate degrees of intoxication, 10-15 drops of ammonia spirit per 100 ml of water are taken orally.

*Habitual alcoholism* is a bad habit which may turn into disease – alcoholism. The main indices of habitual alcoholism are the rate and amount of liquor taken as a means of solving psychological, social and biological problems. This form of alcohol abuse is regarded by some authors as a prenosological stage of alcoholism, but it is known that the number of drunkards is several times higher than the incidence rate of alcoholism, it showing absence of fatality in the course of the disease, but the abuse of strong drinks increases the risk of alcoholism development.

## **Chronic alcoholism**

*Chronic alcoholism* develops in different people with a various rate; it depends upon peculiarities of the personality, its moral-ethic directions, customs of the microsocial environment, preference of this way of relaxation to others. Progressing of the basic features characterizing habitual alcoholism results in chronic one. In such patients, signs of the narcomanic syndrome are formed, common for all forms of the illness are the following ones: a pathologic craving for alcoholic drinks, the alcohol abstinence syndrome and the alcoholic degradation of the personality.

A pathologic craving for alcoholic drinks forces out other interests and motives, it cannot be suppressed by the patient himself and alcoholic intoxication becomes the end in itself, any quantitative and qualitative control over the intake of liquor being lost. The patients would take alcoholic drinks irrespective of the circumstances (their time of work, a possibility of sanctions, an improper place, etc.) and usually in the doses which cause intoxication, as they do not develop the feeling of saturation with spirits. The alcohol abstinence syndrome is a complex of autonomic, somatoneurological and mental disorders developing in alcoholics in case of abstinence from liquor after a prolonged and intensive intoxication. The clinical picture of the alcohol abstinence syndrome consists of post-intoxication symptoms and those typical for alcoholism.

Among post-intoxication disorders, the most common are the following ones: headache, dizziness, general malaise, jadedness, polydipsia, dryness in the mouth, anorexia, liquid stools, higher blood pressure, unpleasant sensations in the area of the heart and abdomen, a bad mood, a reduced capacity for work. These disorders develop both in alcoholics and any people who abuse alcoholic drinks within the post-intoxication period. In alcoholics, the above signs are usually accompanied by motor restlessness, dysphoria, short temper, a strong wish to take a drink next morning. The state of abstinence from spirits may be also characterized by signs of chronic intoxication of the CNS: restless sleep with vivid unpleasant dreams, hyperacousia, hypnagogic and sometimes certain true auditory hallucinations, delusions of reference, culpability, self-humiliation, a large swinging tremor of the hands, tongue, whole body, sweating, tachycardia, nystagmus; some patients have spasmodic seizures. The abstinence syndrome in alcoholism develops 6-48 hours after the last intake of alcoholic drinks and lasts from 2-3 days to 2-3 weeks. The above changes result in disturbances in the vital organs and systems, and it may cause the lethal outcome.

Personality changes in alcoholism depend upon the stage of the disease. Early stages are usually characterized by intensification of premorbid streaks of the personality.

The structure of the personality degradation in alcoholism is characterized by an early appearance of a moral-ethic decrease, which aggravates with progression of the disease. In a circle of their boon companions, alcoholics are gay, careless, boastful, without any shyness they would tell about intimate sides of their life and the life of their relatives, laugh at diseases and failures of members of their family. They are lying, cynical, disposed to stupid similar jokes. At home, alcoholics display their particular rudeness and violence, they are aggressive towards their parents, wives and children, sometimes subjecting them to highly sensitive tortures. Alcoholics would perform their job duties superficially, try to avoid them but nevertheless receive material rewards. They lose any interest to creative work, their self-respect decreases. Many of them lose their job, family, flat, means for existence, but lay the blame on other people or an unfavourable coincidence of circumstances instead of blaming themselves. At remote stages of the disease it is possible to notice features of some intellectual-mnemonic decrease, but not all the cases end with expressed dementia.

When diagnosing chronic alcoholism, the clinical practice distinguishes 3 stages: *initial (I), middle (II) and final (III)*.

*The first (initial) stage of alcoholism* is characterized by a pathologic drive for alcoholic drinks, a decrease of the quantitative control, an increase of tolerance, alcoholic amnesiae. In half of the cases, manifestations of the 1<sup>st</sup> stage of alcoholism form in people before 25 years of age, in others at 25-35 years, and extremely seldom in older people. It lasts from 1 to 6 years. A pathologic drive for alcoholic drinks at this stage manifests itself in its mildest form usually in situations when drinking-bouts traditionally occur. Tolerance for spirits at this stage increases 2-3 times, the vomiting reflex after overdoses disappears, and there is a transition from weaker to stronger drinks. Phenomena of abstinence at this stage are absent. Negative social consequences are more commonly restricted by family quarrels and a delay in career advancement.

*The second stage of alcoholism.* The alcohol abstinence syndrome is its main diagnostic sign. Besides, all the symptoms of the illness typical for the 1<sup>st</sup> stage aggravate. The 2<sup>nd</sup> stage of alcoholism forms by the age of 25-35 years, in 2/3 of the patients it lasts less than 10 years, in 1/3 – 10-15 years. It is not in rare cases that the primary pathologic drive for alcoholic drinks at this stage appears spontaneously. The quantitative control is lost, taking of the usual individual dose leads to an irresistible drive to continue the drinking-bout. Tolerance for spirits achieves its maximum and during several years remains constant, exceeding the initial one 5-6 times. High doses are taken either at once or by divided portions during a day. The syndrome of abstinence (described above) is the main sign of the 2<sup>nd</sup> stage of alcoholism: at

first, elementary autonomic disturbances develop, later they are accompanied by severe somatic and psychopathological manifestations.

Premorbid streaks of the character become more acute. Signs of alcoholic degradation (rougher emotions, excitability, an insufficiently critical attitude to oneself) appear. The social consequences of alcoholization are various, from slight to profound ones, characterized by expressed dysadaptation. In half of the patients, their marriages break up, they often lose their previous qualification.

*The third stage of alcoholism.* A pathologic drive for alcoholic drinks at this stage becomes irresistible, develops spontaneously and requires taking liquor in large quantities. Such a drive resembles hunger or thirst. The loss of the quantitative control is accompanied by a loss of the situational one. Any, even the smallest dose of spirits causes an irresistible drive for alcoholic drinks with a desire to get it by any cost, even illegally. The patients would take liquor alone or in a company of strangers, often in improper places. Tolerance for spirits decreases. At the 3<sup>rd</sup> stage of alcoholism there is formation of rough, often irreversible pathological changes in the whole organism.

Somatic and neurological disturbances in alcoholism are always available. Thus, epidemiological researches have shown that diseases of the internal organs occur in every fourth alcoholic and that the total morbidity among people abusing alcoholic drinks is twice higher than in those who drink seldom and little. Chronic alcoholism is most typically characterized by fatty degeneration of the liver and polyneuropathy. But there is not a single system of the organism, not a single organ which would not be affected under the influence of alcohol. Somatic and neurological symptoms of alcoholism develop at different stages of the illness.

Disturbances in the gastrointestinal tract are caused by a toxic effect of alcohol on hepatic cells, a disturbance of lipid metabolism, deficit of proteins and vitamins of B group with resultant development of fatty degeneration, hepatitis and cirrhosis of the liver. With aggravation of the clinical picture of alcoholism these 3 forms of affection of the liver turn from one to another. Alcoholics often develop alcoholic gastritis, anorexia, nausea, belching, an unpleasant taste in the mouth, tenderness in the epigastrium. Typical for chronic alcoholism is chronic pancreatitis growing acute after severe alcoholic excesses. In exacerbation of the process, there are girdle pains, multiple vomiting, subfebrile body temperature, constipation.

Cardiovascular diseases result from a direct toxic effect of alcohol on the myocardium; it gives rise to myocardial dystrophy with development of heart failure and disruption of the contractile function of the myocardium; atherosclerosis of the coronary vessels is often revealed.

Diseases of the respiratory organs develop as a result of the fact that alcohol partially in an unchanged form is breathed out through the lungs, bronchi and trachea thereby causing catarrhs of the upper respiratory tract, atelectasis, bronchiectases. Owing to a sharp fall in the immune properties of the organism, alcoholics often die from croupous pneumonia.

Alcoholic polyneuropathies develop in 20-30 % of the cases because of destructive changes in the peripheral nervous fibres. The patients feel unpleasant sensations of “dumbness”, “creeping all over”, stabbing pains, weakness in their lower extremities. Deep sensitivity is affected, Achilles reflexes (sometimes knee ones) disappear. Tonic convulsions in the arms and legs develop, the gait becomes ataxic.

Many cases of alcoholism are characterized by sexual disturbances, whose expressiveness depends upon the stage of the illness; to some or another degree there are always phenomena of impotence.

### **Alcoholic psychoses**

*Alcoholic psychoses* are acute, protracted and chronic disorders of the psychic activity which, according to the WHO's data, develop in 10 % of alcoholics mostly in the 2<sup>nd</sup> and 3<sup>rd</sup> stages of the disease.

**In ICD-10, alcoholic psychoses are classified in the following way:**

- F10.4: the state of withdrawal with delirium resulting from use of liquor

- F10.5: psychotic disorders resulting from use of liquor (hallucinosi, alcoholic delusion of jealousy)

- F10.6: alcoholic amnesic syndrome (Wernicke's syndrome, Korsakoff's syndrome).

In our narcology, alcoholic psychoses are classified by their syndromic signs and course:

#### **I. Acute alcoholic psychoses**

1. alcoholic delirium
2. acute hallucinosis
3. acute paranoid

#### **II. Protracted alcoholic psychoses**

1. hallucinosis
2. paranoid
3. delusion of jealousy
4. depression

#### **III. Alcoholic encephalopathies**

1. Wernicke's syndrome
2. Korsakoff's syndrome
3. dementia

#### 4. epilepsy

### **Delirium tremens**

This is the most common alcoholic psychosis (up to 75 % of all cases of psychoses), always as a severe manifestation of the withdrawal syndrome. Delirium tremens usually develops 3-7 days after discontinuation in taking spirits or a sharp reduction in the dose of patients abusing for 5-15 years at the age of 30-40 years. At the prodromal stage, which may last from a few days to several months, there are sleep disturbances with frequent awakenings, nightmares, fears, palpitation, sweating. At daytime, the patients usually have asthenia with anxiety and nervousness. The classical variant of delirium tremens is characterized by a number of consecutive stages.

*In the first stage*, by the evening and especially by the night, the patients' general nervousness increases, they become watchful, restless, garrulous, their speech being insufficiently coherent. Various imagery recollections and representations appear. The patients develop hyperaesthesia, more often tactile one, when they start from a slight touch. The mood is changeable: mostly from fear, anxiety to euphoria. In some cases, there are verbal hallucinations. Later, visual hallucinations appear, from a few to pareidoliae, sometimes the patients see "motion pictures on a wall". Closing of the eyes may cause hypnagogic hallucinations accompanied by fear.

*The extended stage* of the delirium develops absolute insomnia, disorientation in time, surrounding people, but orientation in the own personality is preserved. True hallucinations appear in the form of numerous active insects, small animals, snakes, significantly more seldom large fantastic animals or anthropoid creatures; sometimes the patients see some wire, cobweb, rope. The visual hallucinations change their size, at one moment they would approach, at another one move away. An aggravation in the disturbance of consciousness gives rise to auditory, olfactory and tactile hallucinations. Rather often the body scheme is affected, its position in the space changes. The patients often express fragmentary delusions of persecution and jealousy characterized by concreteness and lack of systematization. The subjects of delusions as well as emotions correspond to the content of the hallucinations. Usually, the emotional state is changeable: from fear, bewilderment to gaiety. As a rule, the delirium is accompanied by motor excitement with some fussy business-like efficiency, running, a striving for concealing oneself. The patients are extremely distractible, their speech consists of fragmentary short phrases or separate words. Morbid symptoms become intensified usually by the night. Delirium tremens is accompanied by neurological and somatic symptoms: ataxia, tremor of the hands and head, hyperreflexia, muscular

hypotonia, hyperhidrosis, hyperaemia of skin integuments, tachycardia, blood pressure fluctuations, subfebrile temperature, dyspnoea, yellowness of the sclerae, leukocytosis in the blood, higher ESR. Delirium tremens lasts from 3 days to a week. The recovery usually occurs critically after long profound sleep. The patients preserve recollections of their morbid feelings, but their own behaviour and what happened to them are usually forgotten. An acute period is followed by several days of the asthenic state.

### **Alcoholic hallucinoses**

By rate, this is the second group of alcoholic psychoses developing at the age of 40-43 years during the 10<sup>th</sup>-11<sup>th</sup> year of the alcoholic disease. According to their course, hallucinoses are subdivided into acute, prolonged (protracted) and chronic. The acute alcoholic hallucinosis most frequently appears against a background of abstinence. At first, against a background of insomnia or interrupted sleep, the patients develop acoasm, phonemes (some whistle, noise, whisper, separate words or short phrases). After them come verbal hallucinations; at first they are of a neutral character, and later the patient hears a lot of “voices” which threaten, comment or condemn his behaviour. The content of the “voices”, as a rule, reflects real events in the patient’s life. The “voices” would talk among themselves, mentioning the patient in the third person or addressing him directly. Discussion of hard drinking is the constant subject of the talks. The “voices” would make fun of the patient, tease him, often they are imperative; it is not in rare cases that condemning and threatening voices are joined by those which approve of and defend the patient; some arguments may break out between the voices. The hallucinations are accompanied by anxiety, fear, despair, in the beginning of the psychosis by bewilderment; the patients make attempts of self-defence: from seeking police help, running to suicidal or socially dangerous actions. Psychotic symptoms usually reduce critically after profound sleep. The duration of the psychoses is from several days to a month.

*Subacute (protracted, prolonged) alcoholic hallucinoses* usually last from one to six months, more commonly 2-3 months. The initial stage of the psychosis is characterized by prevalence of disturbances typical for the classical variant. Differences develop later and are expressed by the fact that the hallucinosis is joined by delusions or depression. If the psychosis lasts more than 6 months, the diagnosis of chronic alcoholic hallucinosis is made.

*Alcoholic delusional psychoses*, by their rate, make the third form of alcoholic psychoses developing mostly in the 12<sup>th</sup>-13<sup>th</sup> year of alcoholism mainly in males. According to the content of delusions, these psychoses are subdivided into alcoholic paranoid and delusion of jealousy.

*Acute alcoholic paranoid* usually appears, like other acute psychoses, in the state of abstinence. In some cases the psychosis is preceded by a short period (a few hours, days) of precursors: unmotivated fear, anxiety, suspiciousness, insomnia. Later, acute confidence comes that some deadly danger threatens the patient, he develops delusion of physical destruction (he will be killed, slaughtered, shot, thrown out of a moving carriage, etc.). Every person nearby is a gangster watching the patient. Visual and verbal illusions appear; the patients would see a knife glittering in hands of one of their persecutors, a gun muzzle leaning out of a pocket in another person; at the same time, the patients would hear remarks at their address in talks of the surrounding people. This state is accompanied by expressed fear and anxiety, often the patients try to hide themselves, run away and it is not in rare cases that they do it in peril of their life: they would jump out a moving train, conceal themselves half-dressed in uninhabited places in cold weather. They would run to a police station looking there for defence, and sometimes try to commit suicide in order to die an easier death. In some cases, saving themselves, the patients would attack the people near them.

In *protracted alcoholic paranoid*, the onset of the illness resembles acute paranoid. Then the fear gives place to anxious-depressive mood, the illusions disappear, the delusions become systematized. The patient begins to understand that he is persecuted only by some persons with whom he had conflicts before, rather than by all the people around him. Outwardly, the behaviour produces an impression of normal one, but the patients remain distrustful, suspicious; they try to change their habitual routes, ask relatives to accompany them both to their job and back, limit their sphere of personal contacts. Taking of alcoholic drinks would intensify the fear and anxiety, change the behaviour. The duration of protracted paranoid is several months.

*Alcoholic delusion of jealousy* develops exclusively in males at the age of about 50 years and is characterized by the primary paranoid delusion; the rate of this psychosis is about 3 % in the group of all alcoholic psychoses. Alcoholic delusion of jealousy develops in those patients whose premorbid state was characterized by egocentrism, sthenism, unreasonable pretensions, a stagnation affect, a tendency towards formation of overvalued ideas. Single-subject delusions develop slowly and gradually. Alcoholic degradation creates real conditions for estrangement of the spouses in the sphere of their intimate relations, it being a precondition for development of overvalued ideas of jealousy. The patients would torture their wives with questions about adultery, their children, demand confession promising to forgive them. It is followed by development of a stable delusion of jealousy: the patients are unshakably convinced of their wives' adultery, would spy on them, find their lovers among people who are much younger than they are, thoroughly check their wives' underwear, beds therewith finding confirmation to their thoughts. The

patients' behaviour endangers their wives, as even after being admitted to mental hospitals such people skillfully dissimulate the delusion, they are kind with their wives, ask to forgive them. Sometimes their wives themselves demand their discharge from the hospital as they believe that their husbands have recovered. But it is not in rare cases that despite the outwardly right behaviour the patients kill their wives. Alcoholic delusion of jealousy would last for years, but in case of absolute abstinence from taking alcoholic drinks in some patients this delusion may reduce.

### **Alcoholic encephalopathies**

*Alcoholic encephalopathies* are a group of abnormalities which develop in alcoholics and are characterized by a combination of mental disorders with expressed somatic and neurological disturbances prevailing in the clinical picture. Alcoholic encephalopathies develop against a background of alcoholism during 5-7 to 20 years and longer, in the 3<sup>rd</sup> stage of the disease with the drinking-bout form of abuse and often even when substitutes are used rather than pure alcoholic drinks. In women, such encephalopathies develop 1-3-4 years after the beginning of everyday hard drinking. The prodromal period lasts from a few weeks to a year or even longer. The patients develop adynamic asthenia, dyspepsia, anorexia, nausea and vomiting in the morning, aversion to fatty and protein food; their sleep becomes superficial with frequent awakenings and nightmares. The patients feel paraesthesiae, dumbness, coldness and convulsions in their extremities, the gait and ability to perform accurate actions (particularly with small objects) are affected. Ataxia, dizziness and tremor appear, the vision is impaired. *Acute and chronic forms of encephalopathies* are distinguished.

*Wernicke's syndrome* is the commonest form of acute encephalopathy and it mostly affects males at the age of 30-50 years. In the onset of the psychosis, there are signs of a severe course of delirium (occupational or muttering). The patients have fragmentary visual and static hallucinations, they are accompanied by anxiety, motor excitement within the limits of a bed; the speech is incoherent. Some days later, a disturbance of consciousness aggravates up to torpor, somnolence, sopor and (in severe cases) coma. Rough disorders develop in the neurological and somatic spheres: oculomotor disturbances, reflexes of oral automatism, hyperkineses, an affection of muscle tone, autonomic disturbances, signs of the pyramid insufficiency, trophic lesions. The patients are sharply cachectic, dehydrated, look older of their age, their body temperature is 37-38°C, they suffer from tachycardia, arrhythmia, tachypnoea, blood leukocytosis, their blood pressure is somewhat higher in the beginning and then sharply falls. The lethal outcome occurs in

the middle or by the end of the second week. The psychosis, which does not lead to death, lasts 3-6 weeks. Normalization of sleep is an early sign of the recovery. *Wernicke's syndrome* results in the psychoorganic syndrome; males suffer from pseudoparalysis and females from Korsakoff's syndrome.

Among chronic alcoholic encephalopathies, *Korsakoff's psychosis* is distinguished; it develops at the age of 40-50 years and later, usually following severe deliria or Wernicke's syndrome. Leading in the clinical picture is Korsakoff's amnesic syndrome: amnesia (fixation and retrograde), pseudoreminiscences, confabulations, amnesic disorientation. Old patients are usually adynamic, flaccid, hypobulic, while younger ones are more cheerful and lively, they try to indulge in something. The criticism of their memory defect is preserved and the patients try to conceal it in various ways. Along with mental disorders, neurological ones also develop in the form of neuritides in the regions of extremities accompanied by atrophy of muscles. The course of the illness is usually regressive.

*Alcoholic pseudoparalysis*. This is a rare disease of old and senile males. It develops after acute alcoholic encephalopathies and severe deliria. Its mental and neurological manifestations resemble progressive paralysis in the form of dementia or expansion. Typically, phenomena of total dementia with a rough impairment of criticism are observed.

Besides the above alcoholic psychoses, there are psychopathological states which appear in alcoholism and alcoholic psychoses (alcoholic depression and epilepsy) or are accompanied by alcoholic excesses (dipsomania).

*Alcoholic depression* develops in alcoholism, as well as acute and prolonged alcoholic psychoses. The depression appears either within the period of abstinence or after delirium or hallucinosis. The blues are accompanied by dysphoria, tearfulness or anxiety, hypochondria. The depression lasts from 1-2 weeks to 1 month. Alcoholic depression is more common for women, it often causes suicide. As a rule, the patients themselves do not take medical advice complaining of their bad mood, their associates regard the depression as a mental reaction to their illness, therefore this state is often diagnosed in a retrospective way.

*Alcoholic epilepsy* is a form of symptomatic epilepsy developing in alcoholism and its complications. The seizures occur either after prolonged hard drinking or within the first days of abstinence, they may also take place in the beginning of delirium or Wernicke's syndrome. They are either generalized convulsive or abortive seizures. In case of abstinence from liquor, the seizures usually disappear.

*Dipsomania (true drinking-bout)* is a periodic (in the form of a drinking-bout) abuse of alcoholic drinks by people who do not suffer from alcoholism. The drinking-bout is preceded by anxious-depressive mood, sleep

disturbance, anorexia, headache. The drinking-bout lasts from a few days to a week. It ends suddenly, when the need of alcohol disappears and even some aversion to it is formed.

*Pathogenesis of alcoholic psychoses.* Appearance of alcoholic deliria is caused by disturbances in the diencephalic region with a resultant affection of compensatory mechanisms in alcoholism. An involvement of the liver, a disruption of its detoxicating function cause a disturbance in alcohol oxidation and accumulation of toxic underoxidized products in the blood. Hypovitaminosis develops, particularly deficiency of vitamins of B group; in acute alcoholic psychoses particularly expressed is deficiency of vitamin B<sub>6</sub>, in encephalopathies that of B<sub>1</sub>. Deficiency of vitamin B<sub>1</sub> sharply affects metabolism of carbohydrates in the brain. Several factors play their part in the pathogenesis of alcoholic delusion of jealousy: toxicosis with a resultant organic decrease of the personality, the patients' age, their premorbid peculiarities and psychogenic moments related to the abuse of alcoholic drinks.

Efficacy of the therapy of alcoholic psychoses depends upon its complex character, an individual approach with regard of the patient's state (both mental and somatic). Acute alcoholic psychoses must be treated under in-patient conditions. Taking into consideration pathogenetic grounds of acute psychoses, it is necessary to carry out the following measures: 1) disintoxication; 2) elimination of metabolic disturbances (hypoxia, acidosis, hypo- and avitaminosis) and correction of the water-electrolyte, acid-base state; 3) elimination of haemodynamic, cardiovascular disturbances; 4) prevention or elimination of pulmonary oedema, if the latter develops; 5) prevention and elimination of hypoxia and oedema of the brain; 6) normalization of the respiration; 7) elimination of hyperthermia; 8) prevention and elimination of dysfunctions of the liver and kidneys; 9) treatment of a concomitant somatic pathology.

Therapy of other forms of alcoholic psychoses and encephalopathies should be complex too and include disintoxication (medicamental and drugless), vitamins, neuroleptics, tranquillizers, nootropic drugs, nonspecific stimulation in case of a protracted course. The main place in the therapy of hallucinoses and delirious alcoholic psychoses is taken by psychoactive drugs: chlorpromazine hydrochloride, Stelazine, haloperidol, methotrimeprazine. If the patients develop symptoms of depression, antidepressants are administered.

### **Peculiarities of alcoholism in women**

In recent years, a tendency towards a higher rate of abuse of alcoholic drinks among women has been outlined. The most significant factor

determining alcoholization of women is hereditary aggravation with alcoholism and other mental diseases. These indices are much higher than in the group of male alcoholics. From the very beginning, women try to conceal their hard drinking, they prefer to drink either in a narrow circle or alone, without attracting any attention to themselves. They develop alcoholic dependence noticeably more rapid than men; the period from the beginning of abuse to appearance of abstinence is 3-5 years, any qualitative control is rapidly lost. Daily doses are from 350-500 ml of vodka or 500-700 ml of wine to 1-1.5 and even 2 litres of vodka. In women, the stages of alcoholism are shorter, while mental and physical disorders are more significant and come more rapidly than in men; they do not reveal clearly outlined phases of the disease and one phase turns into another. Women earlier form the hangover syndrome, and mental disorders in it are more expressed than autonomic ones.

Earlier than males, females develop signs of degradation of the personality: higher moral and aesthetic emotions disappear, these women give up their job, leave their family, do not take care of their children and aged parents, lead an amoral way of life, they are not fastidious in striking up acquaintances and having sexual relations. Extremely seldom they agree to be treated for alcoholism and, as a rule, do not settle to absolutely give up using alcoholic drinks. Somatic disturbances in female alcoholics are more common than in males, twice more frequently they suffer from hepatic cirrhoses, hepatitides, neuritides, alcoholic pellagra. Very often they reveal infertility, mortinatality, delivery of infants with physical defects.

Alcoholic psychoses develop mostly in women with aggravated heredity as for alcoholism or mental diseases. They seldom have alcoholic delirium; alcoholic delusion of jealousy, as a rule, does not occur; epileptiform syndromes are rare, but Korsakoff's syndrome develops oftener than in men.

### **Peculiarities of alcoholism at juvenile and young age**

Alcoholism may form at the juvenile (14-18 years) or young (18-20 years) age. Many researchers believe that the clinical manifestations, course and outcomes of early alcoholism differ by malignancy. Juveniles and youths have a higher sensitivity to liquor, they get intoxicated after smaller doses than adults, their euphoria is more expressed and accompanied by purposeless hyperactivity, there is a rapid decrease in their control over the dose of spirits and in the social control, they would mostly use fortified wines. In juveniles, dependence upon liquor forms during 2-4 years. A pathologic drive for alcoholic drinks appears within 1-1.5 years after the beginning of abuse. The earlier alcoholic drinks are taken, the more rapid is formation of a drive for

them, juveniles often being unaware of the origination of this drive. The unconscious character of the drive manifests itself by the patients' animation when drinks are mentioned, they would willingly inform about various details of their drinking-bouts, demonstrate high activity in striving for getting liquor. The younger the patient is, the earlier this drive becomes irresistible, the period of episodic drinking is short-term and rapidly becomes regular. According to some researchers, the stage of habitual alcoholism in such people is practically absent.

Formation of the individual mental dependence is the basic sign of *the first stage of alcoholism*. Drinks become the main thing in the juvenile's life, other interests are lost. Juveniles would give up studying, they are not ashamed of being drunk in public, may get spirits illegally. They begin drinking several times a week, irrespective of the fact if they have any boon companions or not. Liquor becomes a means necessary for maintaining optimum feelings. Tolerance for alcoholic drinks rapidly increases, a protective vomiting reflex to overdose disappears, weaker drinks are replaced by stronger ones. Juveniles in the 1st stage of alcoholism often reveal signs which are usually typical for the 2nd stage in adult patients: palimpsests, a change in the picture of intoxication, expressed somatic disorders.

Formation of the physical dependence upon alcohol is a sign of *the second stage of juvenile alcoholism*. The abstinence syndrome manifests itself by autonomic symptoms with asthenia, headache, dyspeptic phenomena, anorexia, insomnia, the patients feel jaded. Mental signs of abstinence are weaker expressed. Subdepressive states are the most common. Neurological signs, tremor in particular, are absent. The phenomena of abstinence persist from several hours to 3-5 days, but later up to 2 months there is a strong pathologic drive for alcoholic drinks which overrides the patients' behaviour. Rather rapidly, degradation of the personality and rough social dysadaptation are formed in them. Juveniles usually give up their studies, spend time in asocial companies, it is very easy to engage them in various criminal acts, many people commit suicides. In alcoholization of juveniles and youths, affection of the emotional-volitional sphere prevails.

Alcoholic psychoses in juvenile alcoholism are rare and notable for rudimentariness. Death rate of alcoholism in youth is higher than in other age groups. Among causes of death, suicides are in the first place, and various diseases in the second one. An accelerated development of the illness, insufficient expressiveness of its symptoms, a difficulty in delimiting its stages, a rapid development of degradation of the personality with a resultant social dysadaptation of the patients are the main peculiarities of alcoholism in juveniles and youths.

## **Etiology and pathogenesis of alcoholism**

It is generally known that alcoholism is caused by abuse of alcoholic drinks, but even a regular use of liquor does not always result in alcoholism, while, on the contrary, in some cases even a few drinking-bouts develop alcoholic dependence. Therefore the statement that alcoholism is a multifactor and polyetiological disease can be regarded as grounded. Along with a specific effect of alcohol, an important part in the etiology of alcoholism is played by *social, psychological and individual-biological factors*.

*The social factors* predisposing to the development of the illness are drinking customs, the society's attitude to using alcoholic drinks, the social state, material welfare, education, marital status, ethnic group and religious confession.

The part of *psychological factors* is confirmed by a high rate of alcoholism in psychopathic persons who differ with their insufficient adaptation to the social medium, they are primitive, diffident, dependent upon negative leaders.

*The individual-biological factors* of alcoholism are determined, first of all, by heredity. Scientific data show that the risk of developing alcoholism in relatives of the first degree of relationship is 7-15 times higher than in the population, the risk of falling ill in monozygotic twins is 2-2.5 times higher than in dizygotic ones. The role of heredity can be realized both directly through peculiarities in the enzymatic systems responsible for metabolism of alcohol in the organism and through inherited peculiarities of the personality predisposing to the use of liquor. Not the least of biological factors of alcoholism are residual phenomena of an organic impairment of the CNS, delays and deviations in the somatic maturation and puberty, chronic and acute severe diseases, neurotization and neuropathy in childhood, as well as early accustoming to low-grade strong alcoholic drinks.

*The pathogenesis* of alcoholism is complex. In recent years, the greatest importance has been attached to the effect of acute and chronic alcoholic intoxication produced on the function of neurochemical systems of the brain: dopaminergic, serotonergic and GABA-ergic. It is considered that alcohol acts on all (or many) neurotransmitter systems of the brain. The mechanism of development of dependence in alcoholism is very common with narcomaniae: this is an effect on catecholamine (dopamine) mediation. Alcohol increases discharge of mediators from the depot. As a result, their reserves run low and the general feeling worsens, therewith causing a wish to take spirits again. The relation between the metabolism of catecholamines and endorphins indicates an important part of endogenous morphines in forming alcoholic dependence. The mechanism of a toxic effect of alcohol on the CNS can be also explained by the fact that it is a membranotropic lipophilic substance. Also very high is

the part of alcohol dehydrogenase, a hepatic enzyme which contributes to oxidation of alcohol to end products (water and carbonic acid). A lack of this enzyme, developing in alcoholics as a result of a rough disruption of the hepatic function, causes accumulation of acetaldehyde in the blood, the former producing a toxic effect on the brain.

### **Treatment of alcoholism**

Taking into consideration that alcoholism is a polyetiological disease and many factors take part in its pathogenesis, the treatment of such patients must be long and uninterrupted, maximally differentiated and complex. The patients must be treated even at early stages of alcoholism. The therapy of alcoholism consists of several steps: step I – treatment of acute and subacute morbid manifestations developing in connection with alcoholic intoxication (interruption of a drinking-bout, control of abstinence); step II – restorative therapy directed at normalization of somatoneurological functions, as well as struggle against a drive for alcoholic drinks; step III – rehabilitation of the patients, stabilizing therapy aimed at support of remission and prevention of relapses.

The first step of the therapy must be preceded by an absolute discontinuation of taking liquor, as a gradual reduction of doses is more difficult for the patient. In order to produce a stable aversion to alcoholic drinks, the conditioned reflex, sensibilizing therapy and psychotherapy are used. A negative (vomiting) reaction to the sight, smell and taste of alcoholic drinks is produced in the process of the conditioned reflex therapy. As refreshments, various emetics are used, apomorphine being the commonest remedy. Other emetics are also used, they are: emetine, club-moss (*Lycopodium*), thyme (*Thymus*). The struggle against a pathological drive for alcoholic drinks is also made with help of sensibilizing therapy; its essence consists in creating a chemical barrier which makes any use of liquor physically impossible. Sensibilization to spirits is caused by taking Antabuse (teturam, disulfiram, esperal), metronidazole, (Flagyl, trichopol), furadonin, furazolidone.

*The primary prophylaxis of alcoholism* requires taking a complex of administrative, legislative and medical-hygienic measures. The measures of administrative and legislative character are administrative-legal and educational ones directed at intensification of antialcoholic struggle. Medical-preventive measures include broad explanatory work among population using mass media. It is necessary to fight traditions beginning with childhood. *The secondary prophylaxis* is an early recognition and early treatment of alcoholism; it is necessary to recognize and overcome the patients'

counteraction to the treatment. *The tertiary prophylaxis* is an inhibition in the development of rough, irreversible disorders in alcoholism.

### **Narcomaniae**

Narcomaniae are diseases caused by use of the substances, which are included in the state list of narcotics and manifesting themselves by a mental and sometimes physical dependence upon these substances, tolerance for them and expressed medicosocial consequences. In the Ukrainian narcology, it is accepted to consider as narcotics only those substances which are included in the official list of narcotics approved by the Ministry of Health of Ukraine. The term “narcotic substance” includes 3 criteria: medical, social and legal. The medical one means that this substance produces such an effect (stimulating, sedative, hallucinogenic, etc.) on the CNS which may cause its nonmedicinal use. The social criterion means that the nonmedicinal use of the substance becomes so spread that it creates a social danger. The legal criterion depends on the two previous ones and demands inclusion of the substance in the list of narcotic drugs. Only a substance satisfying all these three criteria is regarded as narcotic. Absence of at least one of the criteria excludes considering of any given substance as narcotic, even if its abuse results in development of dependence and other harmful consequences. In our narcology, abuse of substances which are not included in the list of narcotics is termed as toxicomaniae. From the clinical and medical aspects, an approach to patients ill with narcomaniae and toxicomaniae, as well as the principles of their therapy are identical. Differences depend upon the legal criterion which is absent in toxicomaniae.

According to the data of the World Health Organization (WHO), “narcotization” of the Earth’s population goes on rising: only by the official data, there are more than one milliard people in the world taking psychoactive substances, 50 million of them being drug addicts; by the data of the WHO’s European Bureau, there are almost 16 million drug addicts in Europe. A general increase in the manufacture of illegal narcotics is noticed, it broadening their markets and making them available for new groups of population. Differences between the manufacturing countries and those which consume narcotics have disappeared, injection forms of using narcotics have become more widely spread, it contributing to a higher number of AIDS cases. The whole world demonstrates a tendency towards an increased manufacture and use of the substances which stimulate the CNS and hallucinogens, and it is most typical for the Central and Western Europe. A rise in the absolute

number of drug addicts, as well as in the cases of the primary abuse of heroin and amphetamines is clearly seen.

*The clinical manifestations and peculiarities in the course of narcomaniae* depend upon the stage of narcomania and the kind of a narcotic substance. Narcotic “inebriation” is characterized by feelings which are subjectively positive for this person: the mood improves, it becomes tranquil and complacent without any real improvement of the situation. Problems are temporarily desactualized but not eliminated. Such a subjectively pleasant effect is produced by a narcotic only in the beginning of the illness, and later it is taken only in order to prevent abstinence, restore and improve capacity for work. Every narcotic causes its typical state of intoxication, which is often accompanied by disturbances of consciousness, thinking and perception. Sometimes taking of the first doses of a narcotic elicits defence reactions of the organism in the form of itching, nausea, vomiting, dizziness and profuse perspiration, but they disappear after taking subsequent doses. Acute narcotic intoxication depends upon the way of taking a narcotic, external interference, somatic and mental state of the person who took it.

Abuse of narcotics without any dependence upon them is not narcomania, and our narcology defines it as addictive behaviour, i.e. abuse of various substances which change mental state before formation of any dependence upon them.

*The clinical picture* of narcomaniae is mostly represented by three basic syndromes: *mental dependence, physical dependence and tolerance for a narcotic.*

*Mental dependence* is characterized by a pathological striving for taking a narcotic constantly or periodically. It develops in all cases of a systematic taking of narcotics, but sometimes it may appear as early as after the first dose of a narcotic. The patient strives for taking a narcotic in order to have pleasant feelings or eliminate phenomena of some discomfort. The drive for a narcotic may be obsessive or compulsive. In the obsessive drive, the patient constantly has thoughts about a narcotic accompanied by animation, high spirits with eager anticipation of its taking, or depression and dissatisfaction when it is not available. The compulsive drive is characterized by an irresistible striving for a narcotic, it determines the patient’s behaviour and motives of his actions with an absolute absence of criticism. This drive may develop in abstinence or at the height of intoxication, in the latter case there may be overdosage of a narcotic.

*Physical dependence* is the state of reconstruction of all functions of the organism in response to a chronic use of narcotics manifested by severe mental and somatic disorders after discontinuation of the effect of a narcotic. The resultant abstinence syndrome is alleviated or absolutely controlled by next taking of a narcotic. Clinical manifestations, terms of formation and

duration of the abstinence are different in different kinds of narcomaniae. It should be noticed that physical dependence develops in cases of a chronic use of many, but not all the narcotics.

*Tolerance* is the state of adaptation to narcotics manifesting itself by a constant reduction of a response to taking its usual doses. In the process of the development of the illness there is an increase of tolerance when the addict's organism can tolerate doses of a narcotic several times exceeding therapeutic and even lethal ones. The increase of the tolerance results in higher doses and rates of taking narcotics. At a certain stage of the disease the tolerance reaches to its maximum and remains constant for a long period of time. Later there is a reduction of the tolerance, and taking of usual doses causes overdose, often with the lethal outcome.

In the course of narcomaniae, 3 stages are distinguished. In the beginning, there is an episodic taking of narcotics, when there is no definite rhythm of narcotization and a change of the tolerance yet. Gradually, and sometimes after taking the first dose of a narcotic, there is formation of mental dependence, narcotics are already taken regularly, and tolerance for them increases – this is *stage I (the initial stage) of narcomania*. *Stage II (the developed stage)* is characterized by a further rise of the tolerance up to its maximum, the character of the narcotic inebriation changes, and physical dependence appears. *Stage III (the terminal stage)*: the tolerance falls, positive feelings after taking a narcotic absolutely disappear, severe somatoneurological disorders develop.

### **Classification of narcomaniae**

- I. Opiumism
- II. Cannabism
- III. Barbiturism
- IV. Narcomania caused by abuse of psychostimulants:
  1. amphetamine narcomania;
  2. abuse of hand-made drugs, preparations of ephedrine and ephedrine-containing mixtures;
  3. cocainism
- V. Narcomania caused by abuse of hallucinogens:
  1. mescaline and psilocybin;
  2. LSD;
  3. phencyclidine
- VI. Polynarcomaniae, complicated narcomaniae

### **Opiumism**

*Opiumism* develops in cases of abuse of opiates – narcotic analgetics obtained from the opium poppy (*Papaver somniferum*), as well as by a synthetic way. There are about 20 kinds of alkaloids contained in the poppy, their phenanthrene group producing a narcotic effect. Opiates include: a) natural preparations (raw opium, milk of the opium poppy, poppy straw, Pantopon, pure opium alkaloids: morphine, codeine); b) synthetic preparations (promedol, methadone, lidol); c) semisynthetic preparations (heroin). Narcotic “inebriation” develops even after taking small doses of opiates. The patient feels some specific bliss and joy, his thoughts flow rapidly, all the problems go to the background. *The first phase* of opium intoxication lasts from 40 seconds to 1-3 minutes. *The second phase* of the intoxication (“kaif”) develops the feelings of delight, joy and many other pleasant sensations which are difficult for the patients to describe with words: “you should feel it yourself, then you will understand”. Any thoughts of unpleasant things are “forgotten”, the problems disappear, and the feeling of a pleasant rest and relaxation develops. The 2<sup>nd</sup> phase of intoxication, which lasts 10-30 minutes, is followed by superficial, interrupted sleep during 2-3 hours. After waking up the patients feel depression and general mental discomfort.

Overdosage of opiates is a state which is dangerous for life and accompanied by slow respiration, hypothermia, hypotension, bradycardia, pupillary constriction. The death usually results from respiratory arrest. A triad of the signs (a coma, the pupils in the form of a pinhead, difficult respiration) testifies to an overdosage of opiates and requires urgent medical aid (an injection of opioid antagonists, particularly naloxone or nalorphine).

*Stage I of the narcotic disease* is characterized by appearance of mental dependence, a regular taking of a narcotic, an increasing tolerance. The latter rises 2-6 weeks after the beginning of a systematic use of a narcotic. In case of an absence of the narcotic, the patients’ spirits become lower and their mental state worsens.

*Stage II of the disease* develops 3-8 weeks after the beginning of a systematic use of a narcotic. Tolerance sharply increases and achieves high values. Thus, the patient may take doses of opiates exceeding therapeutic ones 200-300 times. The patients usually know their maximal tolerance doses, but after some interruption in using a narcotic the tolerance decreases and taking of a dose which is usual for a narcomaniac results in an overdosage. Stage II is characterized by the abstinence syndrome which develops within a few hours after the last use of a narcotic and reaches to its maximum after 1.5-3 days, its most acute symptoms persist up to 10 days, and residual ones even longer. Six-eight hours after the last use of a narcotic, the patient develops short temper, anxiety, dysphoria, general malaise, weakness, yawning, lachrimation, rhinitis, sneezing, itching in the nose and nasopharynx, a sensation that the nose is stuffed, the intestinal peristalsis is increased. This state may be

wrongly assessed by the surrounding people as some respiratory disease. As early as in the beginning of abstinence, there is mydriasis, tachycardia, tremor, anorexia, an aversion to a tobacco smoke, a sleep disturbance up to absolute insomnia. Later the patient feels chill, hyperhidrosis, unpleasant painful sensations in the muscles, the body is covered with “gooseflesh”. By the end of the 2<sup>nd</sup> day severe pains appear in the muscles of the arms, legs, back (in their slang, narcomaniacs term them as “jonesing”, “kicking cold (turkey)”, or “monkey”), which are extremely excruciating for the patient. The anxiety and nervousness become intensified, the patients develop dysphoria, a feeling of despair and hopelessness, a compulsive drive for a narcotic. The patients would fret, toss and moan.

At *stage III*, the euphoric effect of a narcotic disappears and it is injected only to maintain the capacity for work and the mood. Tolerance for a narcotic decreases. In the state of abstinence the patients feel muscular discomfort. Some cases develop disturbances in the cardiovascular system dangerous for life. The abstinence syndrome lasts from 5-6 weeks to several months.

A systematic use of opiates results in severe somatic and mental disorders. The patients look older of their age, their skin is pale, dry and icteric, the face is wrinkled, the hair and nails are thin and fragile, the patients are exhausted, they early grow bald and often loose all the teeth. The veins are thickened, resemble plaits, have numerous scars, sometimes they are absolutely obliterated; phlebitides are very common. Pulmonary emphysema develops; pneumoniae, hepatitides, glomerulonephrititides and polyneurititides frequently occur. Mental disorders at the initial stages manifest themselves by asthenic symptoms, in the late stage of the illness the patients become disabled because of severe asthenia and anergy. Many patients (oftener those who use heroin) form signs of an intellectual-mnemonic defect, lack of criticism, torpidity of thinking, diminished attention, superficial statements, memory disturbances. Their interests are concentrated only on the ways of getting a narcotic, they are untruthful and shameless, do not worry about loss of their job, family and their own health. The prognosis of opiumism is unfavourable, the recovery is very seldom and remission may be achieved only in 1/5 of the cases.

## **Cannabism**

Abuse of hemp preparations is the most wide-spread form of narcomania in the world; they are used by more than 200 million people of the Earth. The narcotic effect is produced by psychoactive substances which the hemp (*Cannabis*) contains – cannabinoids; the most active of them is trans-

tetrahydrocannabinol (THC), the Indian hemp (*Cannabis indica*) being especially rich in it.

Cannabinoids are used with food and drinks, but more often inhaled when smoking. Marihuana is mixed with tobacco and cigarettes are rolled; they are longer than common ones and burnt out slantwise (in the narcomaniacs' slang, they are called "joints", "rockets"). The use of marihuana often begins as early in the older forms of school.

According to literature data, the majority of the people who tried and use hemp preparations live in the USA, Australia, Canada, Norway. In the countries of the Commonwealth of Independent States about 2/3 of narcomaniacs join narcotics through the hemp.

The first 5-10 minutes after a use of a narcotic may develop some fear, anxiety followed by euphoria with an ardent desire to run, dance, jump, a feeling of warmth in the whole body, some particular lightness, as if the feeling of one's own weight were lost ("weightlessness"). Movements are perceived as free, they do not require any effort and their coordination is not affected. An inadequate gaiety is accompanied by loud laugh in connection with an insignificant thing. If a narcotic is used by a group, then usually the laugh "catches" the whole company because of increased suggestibility. By the same mechanism, the group may feel fear, anxiety, horror. Many people develop psychosensory disorders with phenomena of derealization and depersonalization, when their perception of the surrounding objects and time changes. It is not in rare cases that macropsiae appear, the perception of the shape of objects is distorted. The patients' orientation in time and space is affected: at one moment the course of time accelerates, at another it decelerates; a distance between objects as well as between those people who have used a narcotic and others seems tremendous; it seems to them that the hand will never reach to a glass, steps of a staircase "stretch up to the sky". Self-consciousness is disturbed, there is some split personality, when on the one hand the one's own "self" is perceived, but nearby there is another person who controls the acts, made by the first one, and mocks at him. Drives are sharply disinhibited, appetite increases, hypersexuality and aggressiveness appear.

The state of intoxication is accompanied by autonomic disturbances: hyperaemia of the face, a marbled skin (livedo), a pale nasolabial triangle, tachycardia, dryness in the mouth, dilatation of the pupils and their weaker reaction to light, hyperaemia of the sclerae. The intoxication lasts from 30 minutes to 2-4 hours after marihuana and up to 5-12 hours after hashish. The return from intoxication develops a sharp feeling of hunger, followed by tiredness and sleepiness. During several hours the smoker's clothes produce a peculiar sweetish smell. Within next 3-4 days there is asthenia with an emotional lability, short temper and low spirits.

An episodic smoking of hemp preparations may be rather prolonged and without causing any mental dependence. In adolescents, the smoking at first is of an irregular group character which persists rather long. Mental dependence appears 2-3 years later, now the preparation being used by the smoker alone. More than half of the people who used hashish many times and over a long period, leave it, while some others pass to other narcotics or liquor. It is not in rare cases that hashish is an atrium for other narcotics. Mental dependence in people using marijuana develops significantly slower than in cases of hashish smoking.

*Stage I of narcomania* is characterized by appearance of mental dependence; the narcotic is now smoked by the patient alone 2-3 times a day, he is preoccupied only by thoughts how to get next dose. Within breaks in the use of the narcotic the patient suffers from listlessness, sleepiness, low spirits, headache, unpleasant sensations in the heart region, short temper. All these unpleasant sensations disappear after smoking the narcotic. At this stage of their intoxication state the patients do not need any personal contacts, strangers begin interfering with euphoria. They look indifferent, apathetic, distracted from the reality, as if in the realm of fancies and fantasies; they may preserve the same posture for a long period of time, do not strive for any personal contacts, and accosting them causes irritation.

*Stage II of narcomania* develops after 2-3 years of a regular smoking of hashish. The abstinence syndrome develops: malaise, tiredness, jadedness, loss of appetite, tremor, sweatiness, palpitation, low spirits with short temper, irateness, maliciousness, anxiety, fear. Typically, there are different cenesthopathies: sensations of compression and heaviness in the chest, difficult breathing, tightening pains in the heart, a sensation of squeezing of the head, sensations of burning and pricking on and under the skin, sometimes insomnia develops. All these things are accompanied by a compulsive drive for the narcotic. The maximum development of abstinence is achieved by the 3<sup>rd</sup>-5<sup>th</sup> day, its duration averages up to 2 weeks. Within this period, there is a rise of tolerance, the number of cigarettes with hashish increases from 2-3 to 4-5 and more, still stronger and stronger brands of hashish are used. The drive for the narcotic becomes compulsive.

During *stage III of narcomania*, which develops in chronic use of hashish, psychopathization of the personality begins. The patients become listless, passive, inert, sullen, reserved. Their memory is reduced, the attention is not steady. Moral-ethic directions are lost, the behaviour becomes roughly disrupted, often with antisocial acts. Occasionally, the pseudoparalytic syndrome is described. Hashish addicts often develop cancer of the lungs, chronic bronchititides. In 15 % of long-term hashish smokers, there are chronic psychoses whose clinical manifestations are similar to those of paranoid schizophrenia.

### **Narcomaniae caused by soporifics**

Abuse of soporifics, included into the list of narcotics, belongs to narcomaniae, while abuse of other soporifics is regarded as toxicomaniae. Narcotics are derivatives of barbituric acid: Barbital (Veronal), Phenobarbital, **Barbamyl**, Nembutal, as well as Noxyron from soporifics of the nonbarbituric line. Abuse of soporifics may be in those patients who take them for sleep disturbances. Another group begins taking soporifics to feel euphoria. In patients with sleep disturbances of various etiology, soporifics control insomnia, improve mood and general state. A long-term use even of therapeutic doses results in the development of mental dependence, when the patient is sure that he will be unable to fall asleep without soporifics. There is a gradual increase of the dose required for achieving the soporific effect, i.e. tolerance appears. The patients themselves do not notice the appearance of the dependence; taking soporifics at daytime is one of its signs, and the patients explain it by the fact that the drug preparations calm them.

While in the patients abusing barbiturates in order to control insomnia a need to increase the dose appears within 6-12 months, those who strive for the euphoric effect of barbiturates develop this need after several days of the intravenous administration of the drug preparation or during 1-1.5 months in case of its oral use.

The patients abusing soporifics with the purpose of euphoria, usually inject them intravenously in the doses exceeding the therapeutic ones 2-3 times. Gradually the euphoric effect in the patients of this group decreases and they develop tolerance.

### **Narcomaniae caused by barbiturates**

Acute intoxication with barbiturates resembles alcoholic one: inhibition, lack of coordination of movements, torpidity of thinking, hypomnesia, slow speech, disturbance of criticism, difficulties in concentration of attention, emotional lability, disinhibition of sexual and aggressive impulses, sharpened personality peculiarities. These disturbances are accompanied by neurological signs: nystagmus, diplopia, ataxia, hypotonia, uneven reflexes. The patients' blood reveals barbiturates.

After 2-3 years of a regular use of barbiturates a need in an increased dose is reduced and the latter is stabilized, the duration of the period of stabilization in the patients who take barbiturates to control their insomnia being several years and that of narcomaniacs whose object is to achieve

euphoria being much shorter, 4-6 months. Later the dose is lowered, and within this period the patients often develop overdoses with resultant states endangering their life: dizziness, nausea, vomiting, profuse perspiration, hiccough, a feeling of faintness, a cutting pain in the eyes, salivation. This period is followed by the comatose state, the death results from a respiratory arrest and cardiovascular insufficiency. It should be noticed that in barbiturism a range between the narcotic and lethal doses is small. The abstinence syndrome in barbiturism develops during the first 24 hours after the withdrawal of the drugs, it reaches to its peak 2-3 days later, and then slowly regress. By the end of the first day after the withdrawal of barbiturates narcomaniacs reveal anxiety, shortness of temper, touchiness, tearfulness. Their sleep becomes worse, they sleep not more than 5-6 hours a night, the sleep is accompanied by hyperhidrosis, nightmares, by the 2<sup>nd</sup>-3<sup>rd</sup> days they develop insomnia, their mood becomes even lower, dysphoriae are commonly observed. In this state the patients would commit ostentatious suicidal attempts. They develop weakness, unpleasant sensations in the body, pains in the joints and epigastric area, nausea, vomiting. Typically, there is a severe tremor of the hands, tongue, eyelids and muscular twitches. The blood pressure becomes unstable, its abrupt fall may cause the lethal outcome. Particularly dangerous are grand mals, which most often occur during the 3<sup>rd</sup>-5<sup>th</sup> days of abstinence; sometimes the epileptic status develops. During the 3<sup>rd</sup>-8<sup>th</sup> days of abstinence some narcomaniacs develop psychoses in the form of the delirious syndrome; it resembles the alcoholic one but is distinguished for greater anxiety, maliciousness and tension. The abstinence syndrome in barbiturism lasts from 3 to 4-5 weeks and endangers the life. For this reason it is necessary to gradually reduce doses of soporific drugs, rather than withdraw them at once.

A chronic intoxication with barbiturates rather rapidly, within 4-5 years, results in rough disorders of the personality, formation of the psychopathy-like organic defect. The patients' appearance is specific: their face is grey-greenish, with some thin greasy coating, paste-like and with deep mimic folds. The pupils are dilated, their reaction to light is reduced. The movements are not coordinated. The blood pressure is abnormal (higher in the state of abstinence and lower in intoxication). The tongue is covered with some thick dingy brown coat. Commonly, the following neurological disturbances are observed: small-swing tremor of the fingers of the stretched arms, unsteadiness on the legs in Romberg's posture, horizontal nystagmus, absence of convergence. Some patients develop polyneuritides, anaemia, agranulocytosis.

## **Narcomaniae caused by abuse of psychostimulants**

Psychostimulants produce an exciting effect on the CNS, increasing activity and urge towards actions, relieving the feeling of tiredness, they create the feeling of cheerfulness, easiness of movements, clearness of mind and quickness of wit, relieve sleepiness. As if they engage potential abilities of the activity inaccessible for a usual volitional effort. The narcogenic activity is displayed by the following psychostimulants: *amphetamines, preparations of ephedrine and ephedrine-containing mixtures, cocaine.*

*Amphetamine narcomania* is now particularly common among young people. The most known amphetamines are as follows: amphetamine sulphate (Phenamine), dextroamphetamine (Dexedrine), methamphetamine (Methedrine), methylphenidate (Ritalin). Amphetamines are taken orally and injected intravenously.

Acute intoxication with amphetamine manifests itself by high spirits, physical cheerfulness, accelerated thinking, a higher urge to act and communicate, garrulity. Outwardly, this state resembles the hypomaniac syndrome, and usually develops in those people who episodically take amphetamines by the dose of 5 mg of a drug.

In case of a regular use of an amphetamine the stimulatory effect weakens and in order to achieve it the dose has to be increased. Tolerance rises as early as after the first few weeks of abuse, the patients have to inject the drug several times a day. A systematic use of an amphetamine causes rapid development of physical dependence, and an abrupt interruption in taking the narcotic results in development of the abstinence syndrome. In this state, the patients feel very tired, jaded, sleepy at daytime and sleepless at night. Their mood changes; there is predominance of asthenodepressive syndromes with ideas of self-condemnation and suicidal attempts in some cases, or shortness of temper, anxiety, maliciousness, hysteria in others. The abstinence syndrome reaches to its maximum by the 2<sup>nd</sup>-4<sup>th</sup> day and lasts up to 2-3 weeks. Sometimes in the state of abstinence there is a disturbance of consciousness by the delirious type. Besides, chronic amphetamine psychoses lasting from 2-3 weeks to several months have been described.

A chronic use of amphetamines gives rise to dystrophia, avitaminosis, ulceration of skin integuments, sleep disturbance, rough autonomic disorders. Amphetamine narcomaniacs develop degradation of the personality.

In recent time young people, often juveniles, use for their entertainment such a drug as Ecstasy, which is 3,4-methylenedioxymethamphetamine (MDMA). As a rule, Ecstasy is used in the form of pills at discotheques and dance parties in order to raise activity. Taking a pill of Ecstasy gives rise to a feeling of general fraternity, intimacy, love for people, some particular bliss, delight for 20-30 minutes. Later, a stimulatory effect develops: a desire to

move and dance, appearance of illusions, sexual excitement, a rapid flow of thoughts, “the brain is as if in some mist”. The postintoxication period is characterized by listlessness, weakness, sleepiness, depression, difficult intellectual activity, pains in muscles. A regular use of Ecstasy results in a higher tolerance and a need to take the drug every day. The picture of inebriation changes, euphoria turns into some fear, shortness of temper; visual hallucinations and illusions, panic attacks, depressive and paranoid states have been also described. Taking of Ecstasy causes severe disorders in the liver and heart, hyperthermia with a subsequent heat stroke and lethal outcome, all these things being contradictory to a current opinion that Ecstasy is a “safe” drug.

Narcomaniae caused by *hand-made preparations of ephedrine and ephedrine-containing mixtures (efedron and pervitin narcomaniae)* are rather common. *Ephedrine*, an alkaloid contained in the ephedra grass (*Ephedra*), produces an exciting effect on the CNS. By a hand-made method and using potassium permanganate with acetic acid, narcomaniacs manufacture potent home-made psychostimulants *Efedron* and *Pervitin* from ephedrine and ephedrine-containing mixtures. Abuse of these drug preparations gives rise to the development of manganic encephalopathy.

Taking of Efedron develops euphoria with particular psychosensory disorders, the patients feel an unusual lightness in the body, a sensation of stirring hair on the head, a feeling of weightlessness. The surrounding objects seem richly and brightly coloured. Synaesthesiae develop: together with sounds, some iridescent spots appear in the eyes. The patients develop a feeling of their own kindness, love for people, an unusual clearness of thoughts, their mood becomes higher, they are garrulous not to the point. Their appetite and sleep disappear, urination is suppressed, tachycardia and dryness in the mouth develop. This state of intoxication lasts up to 6-8 hours.

In Pervitine inebriation, depersonalization disturbances are expressed to a larger extent. Taking of large doses of hand-made psychostimulants, 1/3 narcomaniacs in the state of intoxication develop intoxication psychoses in the form of acute or rudimentary paranoid with delusions of persecution and special meaning, verbal and visual hallucinations. The psychoses usually appear after many days of narcotization, when doses of a drug reach to maximally tolerable values. In these cases, instead of euphoria, a usual injection of a drug gives rise to fear, anxiety, stress, a feeling of some oncoming danger. The patients develop auditory hallucinosis or the hallucinatory-paranoid syndrome with delusions of persecution, reference, affection, sometimes grandeur, accompanied by an expressed motor excitement.

An episodic abuse of *Efedron* lasts from 1-2 weeks to 6 months, usually 2-4 months. Mental dependence forms during 3-4 weeks. In *Pervitin* abuse, formation of mental dependence is much more rapid, within 3-4 days, and

sometimes the stage of an episodic use of Pervitin is absent and even the first injection is followed by its regular use. Physical dependence forms after 6-12 weeks of a regular narcotization on Efedron and after 2-3 weeks on Pervitin. The abstinence syndrome develops 6-12 hours after Efedron intoxication and 18-20 hours after Pervitin one. The abstinence is characterized by three groups of disorders: sleep disturbances, affective disorders and asthenia.

An abuse of home-made psychostimulants causes rapid development of psychopathization of the personality, an expressed emotional roughness, reduction of the capacity for work, moral-ethic decrease. Gradually, a reduction of the memory and intellect increases. The patients' appearance is typical: they are exhausted, their skin is pale with some greyish tint, they develop myocardiac dystrophy, chronic gastritis, spastic enterocolitis, impotence in males and amenorrhoea in females.

For many centuries there is a habit in a number of countries of East Africa and Arabian Peninsula to chew *kat leaves* (leaves of the kat shrub, *Catha edulis*) which contains several active substances, including amphetamine-like cation and less active katine, which is identical to appetite suppressing D-norpseudoephedrine, a component of many slimming remedies. **Katinon** alkaloid has been recently included into the list of narcotic drugs. Chewing kat leaves for many years causes mental dependence, a drive for kat may be overvalued-dominating (more frequently) and obsession-like. Abstinence develops in elderly patients who have been using kat for 15-20 years and is characterized by a slight expression of the following signs: myasthenia, cramps in the sural muscles, sleep disturbances, paresthesiae, decreased peristalsis, reduction of appetite and sexual drive. Some patients in the state of abstinence may develop mental disorders in the form of asthenic-dysphoric, subpsychotic state with suspiciousness, watchfulness, overvalued fears and apprehensions. The abstinence syndrome lasts 1-2 weeks.

Chronic kat intoxication goes through 3 stages of development. *The first stage* is characterized by an expressed mental dependence, no abstinence, and a stable tolerance. In *the second stage*, there is an episodic loss of the quantitative and situational control over the kat consumption, the form of the inebriation changes (the period of euphoria decreases), the tolerance slowly rises and achieves stabilization, abstinence develops, negative streaks of the character sharpen, signs of social degradation develop. In *the third stage*, the ritual-symbolic manner of using the drug is violated, the physical dependence is expressed, atypical forms of the inebriation prevail, the kat is chewed to eliminate asthenia and anxiety, the single and daily dose are reduced, psychopathization and social degradation augment. Chronic kat intoxication is often characterized by psychoses with a broad range of psychopathological syndromes: exogenous, exogenous-somatic and exogenous-organic. The paranoid syndrome is the most frequent one.

*Cocainism* has been known for a long period of time. *Cocaine* is an alkaloid (ether of the benzoic acid) whose narcogenity is caused by a strong stimulatory effect. Cocaine was extracted from leaves of the coca shrub (*Erythroxylum coca*), a plant growing in Bolivia and Peru. Cocaine was extracted in 1860s and widely used for local anaesthesia. At the same time, cocaine abuse originated. At present, cocainism is a serious medical and social problem for many countries of the world. There are different kinds of using cocaine, intranasal being the most common one.

Acute cocaine intoxication manifests itself by high spirits, a feeling of a fresh surge of energy, higher cheerfulness, a tendency towards overestimation of one's own significance and abilities, disinhibition, garrulity, hyperactivity. A more expressed cocaine inebriation resembles the maniac syndrome. Overdosage of cocaine develops psychotic intoxication with fear, anxiety, confusion, as well as visual, auditory and tactile hallucinations: a sensation of insects creeping over the body, the patients would search for and catch them, scratching their skin until it bleeds; it seems to the patients that the surrounding people want to deal with them, threaten with murder.

Sometimes the intoxication is followed or accompanied by cocaine delirium with a flow of vivid frightening visual, auditory and tactile hallucinations perceived by the patient as the reality; cocaine oneiroid with a passive contemplation of scene-like pictures; cocaine paranoid with a sudden appearance of delusions of persecution or jealousy with outwardly normal behaviour. Cocaine psychosis is usually transitory and disappears after discontinuation of taking the drug, but sometimes it lasts several days.

The euphoria which develops in cocaine intoxication is short-term and turns into the opposite state, dysphoria, with anxiety, jadedness, short temper, they necessitating again the use of cocaine. If the period of postcocaine dysphoria is observed longer than 24 hours, this state is regarded as the abstinence syndrome characterized by depressive-dysphoric mood with moderately expressed autonomic disturbances and some ideas of reference, persecution, suicidal thoughts. In this state, a compulsive drive for the drug is sharply expressed. The above disorders achieve their peak on the 3<sup>rd</sup>-4<sup>th</sup> day of the abstinence and last from 10-14 days to 1 month.

Such patients have a steady expressed mental dependence which develops at different terms depending upon different ways of using the drug. In cases of an intravenous injection and crack smoking, it forms within a few weeks, in the intranasal use after many months, in chewing the coca leaves after several years.

Cocaine causes physical dependence which forms within 4 years in adults and after 1.5 years of abuse in juveniles. Cocainism results in a change in the personality, decrease of moral-ethic emotions, a sharply narrowed sphere of interests, defective memory and reduced intellect. Often the patients

leave their job, do not care for their relatives, live a parasitic life. They are sharply exhausted because of a loss of appetite, their face is greyish and mucosae are dry. The intranasal use of cocaine may cause necrosis and perforation of the nasal septum, intravenous injections often give rise to abscesses. The sleep is roughly disturbed, it is accompanied by nightmares.

### **Narcomaniae caused by hallucinogens**

The abuse of hallucinogens, psychomimetic and psychodynamic substances, which cause hallucinations and other mental disorders, has been known for more than 2 millennia. This group of narcotics numbers over 100 natural and synthetic preparations. Narcomaniacs are attracted by the unusual feelings caused; thus during their religious rituals Indian tribes in America used dried tops of the peyote cactus (*Lophophora williamsii*), whose active substance is mescaline. Aztecs used for the same purposes the “divine mushroom” psilocybe (*Psilocybe mexicana*), whose active substance is called psilocybin. In the middle of the 20<sup>th</sup> century a substance was synthesized whose hallucinogenic activity by hundreds times exceeded that of vegetable preparations. This is LSD, lysergic acid diethylamine. Besides LSD, other synthetic hallucinogens are also used: dipropyltryptamine (DPT), phencyclidine, ketamine, 3,4-methylenedioxymethamphetamine (MDMA - Ecstasy).

Hallucinogens cause disinhibition of the activity of the occipital areas of the brain and limbic structures by influencing the metabolism of catecholamines, dopamine, acetylcholine, serotonin and GABA. All hallucinogens produce an expressed sympathomimetic effect manifesting itself through tremor, tachycardia, hypertension, sweating, mydriasis, indistinct vision.

*Abuse of LSD (lysergic acid diethylamine).* LSD can be in the form of powder, solution, capsules or pills; the substance has no taste, smell or colour; it can be dissolved on a lump of sugar or a piece of blotting paper. Oftener it is taken orally, in isolated cases it is injected subcutaneously or intravenously, sometimes it is smoked in a mixture with tobacco.

LSD effect begins even after taking 20-35 mg, but usually the taken dose is much higher, 50-300 mg. LSD intoxication develops one hour after its taking and lasts up to 8-12 hours. Most frequently, visual hallucinations appear; at first in the form of vague contours, geometrical figures, bright flashes of light. Later true visual hallucinations develop, rather often they are frightening. At the same time, auditory and tactile hallucinations are observed. The patients' mood changes from euphoria, ecstasy to anxiety, panic.

Suggestibility and sensitivity to stimulants become higher, colours acquire an unusual saturation, perception of music and taste sharply become more sensitive. Typical are synaesthesiae, when sounds are perceived as coloured and colours sound. Perception of the time is affected, as if it became prolonged. Depersonalization, derealization and a disorder of the body scheme develop. LSD intoxication is accompanied by a sensation of the work of one's internal organs whose signals usually do not reach to consciousness. In the memory there is reanimation of events from the remote past, often early childhood. The depersonalization acquires peculiar forms: the patients have the feeling that their own "self" separates from the body, they also feel that they are going mad and will never be healthy again. Many people taking LSD develop a feeling of profound understanding of religious and philosophic ideas which was difficult for them before. After that they have a false idea about a higher creative potential of their own personality.

The hallucinations and other mental disorders affect the patients' behaviour. If criticism is preserved, they only passively contemplate everything occurring with them. If the intoxication is more profound, then criticism towards morbid feelings is absolutely absent and the patients may commit aggressive or autoaggressive acts. At the height of an expressed intoxication, psychotic states develop with the hallucinatory-paranoid or maniac-paranoid syndromes whose duration is insignificant (a few days), but a delirious interpretation of the hallucinations is preserved even after their disappearance. In the postintoxication state there is development of severe depression with agitation and suicidal tendencies, their duration being from 1 to 7 days.

The most typical complication in people taking LSD is a recurrence of mental disorders some time after using the drug. This is a so-called "bad excursion", "bad trip", which resembles an acute panic reaction to cannabis accompanied by psychotic symptoms. This state develops in 1/4 of the people using LSD and lasts 8-12 hours, sometimes even longer.

Another typical complication of the effect of hallucinogens is a spontaneous transitory drug-induced feeling which appears when the person did not take the drug before. In some cases the hallucinatory-paranoid or depressive (with hallucinations) syndromes develop, in others isolated fragments are reproduced in the form of elementary visual hallucinations or illusions. The American classification terms these disturbances as a "flash back", their duration is 24-48 hours, sometimes longer. Some LSD consumers develop mental dependence in the form of a strong drive for a repeated use of the drug. Tolerance develops rapidly, but disappears rapidly too (within 2-3 days). Physical dependence in case of LSD use is absent. Also the literature does not have any clear data about significant personality changes or protracted psychoses.

*Abuse of phencyclidine (PCP).* Beginning from 1970s, phencyclidine was used as a “street drug”, which in the narcomaniacs’ slang is called “angel dust”, “angel hair”, “dust of angels”, “crystal”, “peace”, “supergrass”, “(super) cools”, “superjoint”, “supergrain”, “rocket fuel”. It is taken orally, intravenously, when smoking and in combination with other drugs. Most frequently it is injected into a marijuana cigarette or taken orally. The drug is easily absorbed by the blood and produces a sympathomimetic, cholinergic effect, it evokes a response of the serotonin system.

Psychotic manifestations develop even in a moderate intoxication. As a rule, these are cloudiness of consciousness with hallucinations, delusions or a maniac state with hyperactivity, accelerated thinking, tachylalia, far-reaching plans. Sometimes, during an acute psychotic episode the behaviour is seriously affected: the patients would tear clothes on themselves, masturbate, laugh or cry, they are untidy. These periods are usually forgotten. An acute psychotic episode lasts from 24 hours to 1 month. It is possible to observe a recurrence of the psychosis after discontinuation in using the drug, a so-called “flash back”.

Tolerance for phencyclidine increases slowly, its regular use may develop mental dependence. The abstinence syndrome is never observed. The postintoxication period is characterized by general malaise, weakness, sleepiness, depression, paraesthesiae, tremor, cramps in the facial muscles. A chronic use of the drug develops the organic psychosyndrome with a sharp hypomnesia, disturbance of attention, inability to control one’s own actions, disruption of the cognitive function. In case of a prolonged abstinence from the use of the drug the patients’ mental faculties improve. Phencyclidine narcomania is characterized by frequent relapses of the illness.

*Abuse of ketamine.* The latter is used with medical purposes in anaesthesiology for transitory narcosis. Ketamine causes a rapid and short-term effect resembling that of phencyclidine. It is injected intramuscularly and intravenously in the form of 5 % solution. The effect of the drug begins 15 minutes following its injection and lasts up to 3 hours. After taking the drug, the patient’s mood becomes higher, he develops a feeling of an unusual bliss, some lightness in the body, flight, infinity of the surrounding space, phenomena of derealization and depersonalization, a disorder in the body scheme. Visual hallucinations are unusually vivid, sometimes of a frightening type, but they arouse some interest in the patients, rather than fear. At the height of the intoxication there is disturbance of consciousness with disorientation, a feeling that the patients are in some infinite space, they communicate with the God or devil, may hear some extraterrestrial music. Use of ketamine rapidly develops physical dependence, sometimes as early as after a few injections. Tolerance rapidly increases, single doses and their daily number become larger, in some cases the daily dose reaches to 1,000-1,500

mg of ketamine. No abstinence syndrome in ketamine abuse has been described, but an expressed pathological drive for the drug, aggravated postintoxication symptoms and frequent relapses are evidence of physical dependence.

*Polynarcomaniae* are the diseases when several narcotic substances are used simultaneously or in a certain sequence, and the patient has formed dependence upon each of them.

*Complicated narcomania* is a disease when the narcomaniac has dependence upon narcotics and substances which are not regarded as narcotic. The most common is narcomania complicated by alcoholism.

Polynarcomaniae and complicated mononarcomaniae often develop at the stage of choice of a preferred narcotic, as well as in the initial state when narcomaniacs strive for getting a desirable effect with help of additional psychoactive drugs. But they also can develop at other stages of narcomania formation. The commonest are opium-barbiturate, codeine-glutethimide and opium-efedron polynarcomaniae. Of complicated narcomaniae, more frequent are abuses of opiates and diphenylhydramine hydrochloride, benzhexol hydrochloride, tranquillizers, alcohol, a simultaneous abuse of sedatives-soporifics and alcohol. Most narcomaniacs begin their abuse with hashish, then other drugs are added. The clinical picture of the abstinence syndrome in polynarcomaniae and complicated narcomaniae includes the signs characteristic of each of the drugs used. But if among the preparations there are opiates then the abstinence is mostly characterized by the action of the drugs of this group.

## **Toxicomaniae**

*Toxicomaniae* are the diseases, which are caused by abuse of the substances not included in the state list of narcotics and manifesting themselves by mental (and sometimes physical) dependence upon them. The main difference between narcotics and toxic substances is in the fact that the latter do not have any juridical criterion. But from the medical viewpoint the approach to these diseases and principles of their treatment are identical. If the abuse of some substance, not regarded as narcotic, becomes widely spread then this substance may be included in the list of narcotics and the disease caused by its abuse will be termed as narcomania.

## **Classification of toxicomaniae**

- 1) Toxicomaniae caused by abuse of tranquillizers and soporifics
- 2) Toxicomaniae caused by abuse of psychostimulants
- 3) Toxicomaniae caused by abuse of hallucinogens
- 4) Abuse of atropine-containing drugs
- 5) Abuse of antihistamine preparations
- 6) Abuse of benzhexol hydrochloride
- 7) Toxicomaniae caused by inhalation of volatile organic solvents
- 8) Nicotinism
- 9) Polytoxicomaniae

Prenosological forms of abuse of toxic substances, when any dependence upon them has not formed yet, are not morbid states and are defined as toxicomaniac behaviour, episodical use or additive behaviour. The latter (from 'addiction' = a bad habit, a vicious disposition) means abuse of various substances which change the mental state before the formation of a dependence. In this case, sanctions or educational measures are required rather than medical ones.

### **Toxicomaniae caused by abuse of tranquillizers**

*Abuse of tranquillizers* is one of the commonest forms of toxicomaniae, as the latter are widely administered by doctors of all specialities, and often used even without any prescription. The most toxicogenic are benzodiazepine tranquillizers, the most wide-spread group of the drugs in the world. The most frequent is abuse of Diazepam (seduxen, relanium, sybazon), lorazepam (activan), nitrazepam (radedorm, eunoktin), phenazepam, alprozolam (xanax), clonazepam, abuse of chlordiazepoxide (Helenium) is less common.

Tranquillizers are taken orally, intravenously and intramuscularly. They are widely used for treating various borderline mental disorders in general medical practice. According to the data by T.I. Kaplan and B.J. Sadok (1994), some 15 % of the population of the USA are treated with benzodiazepines. A long-term use of benzodiazepines develops tolerance and abstinence syndrome. Benzodiazepine-induced intoxications in case of the oral use occur after 15-20 minutes. Dizziness and a feeling of rest develop, the mood improves, all the problems come to the foreground. There is development of obnubilation: the patients would ask to repeat questions, answer with a delay, their attention is difficult to attract, the speech becomes slurred, the gait is unsteady. Taking of very large doses of the drugs induces sleep, or sopor in some cases.

Abstinence develops in discontinuation of the use after taking doses from 10-20 mg/day to 40 mg/day and the dose-dependent duration of the

taking from 1 to 4 weeks. The first signs of abstinence develop on the 2<sup>nd</sup>-3<sup>rd</sup> day following discontinuation of the use. A long-term abuse of tranquillizers results in the formation of an organic defect of the personality with an intellectual-mnemonic decrease, listlessness, hard-heartedness, rudeness, selfishness, cruelty towards friends and relatives. Ethic norms of behaviour are roughly violated, capacity for work sharply falls, the patient's face becomes mask-like, his mimics is scanty, the speech and movements are decelerated.

### **Toxicomaniae caused by abuse of psychostimulants**

*Caffeine* is found in food products and drinks: coffee, tea, cocoa, chocolate, cola. A cup of coffee made of grains contains 90-140 mg of caffeine, a cup of instant coffee – about 70 mg, a cup of tea – 30-80 mg. Caffeine intoxication is expressed by a hypomaniac state: the mood becomes euphoric, activity rises, the patients feel a fresh surge of strength and energy, their environment is perceived more vividly, the flow of thoughts is rapid, intellectual-mnemonic abilities improve; at the same time gastric peristalsis increases, heart beat accelerates, blood pressure rises. Overdosages of caffeine (taking of 240-720 mg of the preparation) develop excitement, anxiety, some panic attack, insomnia. A dose of caffeine equal to 20 g is regarded as lethal. In the postintoxication state the patients are asthenic, their mood is unstable.

A long-term use of caffeine causes the abstinence syndrome which usually appears a few hours after having the last caffeine-containing drink. The patients develop severe headaches which are not controlled by analgetics, muscular tension, shortness of temper, anxiety, depression, a feeling of tiredness, sleepiness accompanied by tremor. Abuse of **chephir** (concentrated tea) leads to psychopathization with unstable mood, unrestrained emotions, social dysadaptation.

### **Toxicomaniae caused by soporifics**

It is possible to observe addiction to non-barbiturate soporifics which are administered for a long term to treat insomnia at first under a doctor's control and then these drugs are taken by the patients without any administrations of the doctor. The dose required for receiving a therapeutic effect gradually increases and achieves the values significantly exceeding the therapeutic ones.

A regular use of soporifics results in pathological addiction and enlargement of the single dose. Mental dependence increases, the patient believes that he will not be able to sleep without the soporific. Within 20-24 hours after discontinuation of taking the drug there is development of abstinence with expressed autonomic, neurological and mental symptoms (shortness of temper, maliciousness, anxiety, nervousness, sometimes epileptiform seizures). Chronic intoxication leads to the formation of the psychoorganic syndrome.

### **Toxicomaniae caused by abuse of cholinolytic preparations**

The cholinolytic drug preparations used by narcomaniacs include three groups: *atropine-containing drug preparations (thorn apple [Datura stramonium], belladonna [Atropa belladonna L.], asthmatol); antihistamine remedies (diphenylhydramine hydrochloride, pipolphen); antiparkinsonian drug preparations (benzhexol hydrochloride)*. Use of cholinolytics develops hallucinations and other mental disorders. Abuse of these drugs is common mostly among juveniles.

*Abuse of antihistamine drugs.* Most frequently, toxicomaniacs use diphenylhydramine hydrochloride and asthmatol. Taking of large doses of diphenylhydramine hydrochloride results in the development of delirium. Visual hallucinations are notable for their kaleidoscopic character and usually they really reflect the situation preceding the intoxication. At the height of the morbid state a critical attitude to the hallucinations is lost with a resultant possibility of actions endangering both the patient himself and surrounding people. In the postdelirious state, phenomena of asthenia prevail.

In case of asthmatol delirium, the patients are disorientated in place and time, they would look around out of fear, listen to something, search for something in the furniture or on the floor. They are almost impossible to contact with, they utter fragmentary phrases testifying to hallucinatory feelings. The face is hyperaemic, the pupils are dilated, the pulse is rapid. After a return from delirium, as a rule, no memories about morbid feelings are preserved or they are fragmentary and dim. The postdelirious period develops adynamia, weakness, listlessness, indifference towards the surroundings, higher mental fatigability, an inability to concentrate attention.

*Abuse of antiparkinsonian drugs.* Antiparkinsonian drug preparations (benzhexol hydrochloride, **Romparkin**, **Parkopan**, **Artane**) are widely used in neurology and psychiatry for impairment of the extrapyramidal system. In the treatment of mental patients with large doses of some neuroleptics, antiparkinsonian drugs are administered for preventing and controlling the

neuroleptic syndrome. Toxicomaniacs use mostly benzhexol hydrochloride in combination with other drugs. Less frequently, benzhexol hydrochloride is taken alone, therewith forming toxicomania with expressed mental and physical dependence and tolerance. Benzhexol hydrochloride toxicomania is observed mostly in juveniles and young people. An acute intoxication with benzhexol hydrochloride, taken by several dozens of pills a day, manifests itself by 4 phases: euphoria, narrowed consciousness, hallucinations, and return.

Overdosage of benzhexol hydrochloride develops benzhexol hydrochloride delirium. At first, fragmentary visual hallucinations appear, later they are joined by delusions and scene-like hallucinations. The main symptoms of benzhexol hydrochloride delirium are disorientation in the surroundings, frightening visual and auditory hallucinations with acutely developing delusions of persecution and reference.

At first, toxicomaniacs take 4-6 pills of benzhexol hydrochloride, 2 mg each; its regular use forms a pathological drive. Taking of 10-15 doses of the drug by 1.5-2 mg develops mood changes, typical for toxicomaniae, from euphoria in intoxication to depression in abstinence, and an increase of tolerance. The abstinence syndrome develops 1-1.5 years after the beginning of the abuse, the phenomena of abstinence appear 24 hours after the last use of the drug.

As early as in the first stages of narcotization the patients, who take large doses of benzhexol hydrochloride (up to 25-30 pills), reveal disturbances in their memory and attention, the quickness of wit is affected, the thinking is retarded, and typical neurological symptoms develop: against paleness of the face the lips become scarlet, the cheeks are pink, more often this colouring is of the shape of a butterfly. Tremor of the fingers and involuntary jerks of some muscle groups appear, the muscle tone increases, the gait becomes specific: the back is straightened, the legs and arms are brought apart, the walk is on the straight legs.

### **Toxicomaniae caused by inhalants**

*Inhalants* are volatile substances inhaled in order to get toxic inebriation. As inhalants, means of domestic and industrial chemistry are widely used.

In 1960s there were first reports that juveniles used various volatile substances whose inhalation produced states of some peculiar inebriation. It originated in the USA and West-European countries, but soon this drive involved other countries. Along with common signs, the clinical picture of

acute intoxication after use of different substances has a number of differences. The effect is felt a few seconds after the inhalation begins.

Inebriation with *petrol vapours* begins with a tickling sensation in the nose and throat, coughing, reddening of the face and sclerae, mydriasis, tachycardia, nystagmus, the speech becomes dysarthric, the movements lack coordination. It is followed by the development of euphoria which is not accompanied by any intensification of motor activity. After discontinuation of the inhalation the above symptoms disappear within 15-30 minutes, substituted for by listlessness, shortness of temper, headache. If the inhalation continues, it results in the state of delirium with frightening visual hallucinations joined by auditory ones. The content of the hallucinations depends upon what the patients saw, heard and read before. Disturbances of perception are accompanied by fear and interest at the same time. Some 10-30 minutes after discontinuation of the petrol inhalation the consciousness becomes clear, the hallucinations disappear, but instead of them there is torpor followed by adynamia, weakness, listlessness, headaches.

Inhalation of *vapours of stain-removers*, acetone, nitro dyes, glue at first develops dizziness, some noise in the head, lacrimation, salivation, a tickling sensation in the throat, seeing double, tachycardia against a background of obnubilation. The patients are unable to concentrate the attention, their responses to stimuli are delayed, the pupils are dilated, the speech becomes dysarthric, the gait is unsteady. After discontinuation of the inhalation the state of intoxication lasts 10-15 minutes, then the patients feel weakness, a sensation of heaviness in the head, headache, some sweaty smack in the mouth, thirst, nausea, sometimes vomiting. The postintoxication disturbances last up to 2-3 hours. If the inhalation of organic solvents continues, the obnubilation is followed by motor restlessness and, in some cases, excitement. There is the development of euphoria, psychosensory disorders in the form of macro- and micropsiae, dysmorphopsiae: the objects are seen distorted in size and shape, a timbre of external sounds changes, the heard words and sounds are repeated many times like an echo. Then (with continuation of the inhalation) the patients' orientation in their surroundings is affected, they do not perceive the reality any more. If the eyes are closed there are vivid, imagery, scene-like hallucinations which with some plot change one another or these pictures do not have any logic relation. The real gets entangled with the fantastic: there is predominance of pictures with fabulous, adventurous or erotic content; sometimes they copy the plots of the seen films as if projected on a screen.

In case of inebriation with vapours of stain-removers, euphoria is followed by visualization of notions, all the visions are involuntarily called forth and reflect what the patient heard, saw, read or imagined. The mood

depends upon the content of the hallucinations, and like when inhaling petrol vapours, in these cases even frightening visions are pleasant.

Some long-term inhalation by patients with residual consequences of an organic lesion of the brain develops the oneiroid variant of inebriation. These people are estranged from the reality, their hallucinations appear “not by order”. They feel a flow of vivid dream-like visions with fabulous-fantastic content, rather often there is double orientation, when the patients see themselves as participants in hallucinatory pictures, utter some delusions. It is not in rare cases that the visions resemble animation films and are accompanied by a feeling that the patient is shown some film, here the patient feels as a spectator rather than a participant in the visions. Usually juveniles try to seclude themselves to places, where nobody will disturb them, and spend many hours enjoying their visions. If somebody disturbs or interferes with continuation of the inhalations, it immediately arouses anger and aggression in the patients. Outwardly juveniles in the oneiroid state look obnubilated and torpid, they hang the head, their eyes are semiclosed, there is a fixed smile on the face, they do not respond to any accosting. In case of severe intoxication with acetone, oneiroid turns into sopor and coma. Usually the patients remember their oneiroid feelings and during several days often return to these recollections.

Inspiration of inhalants is more common among boys at the age of 9-15 years. The abuse usually begins in a group numbering from a few persons to 2-3 dozens. Such groups are usually formed either in school or at the place of residence of the juveniles. Most of juveniles later discontinue their abuse of inhalants, some others pass to abusing alcohol or other toxic substances.

The stage of episodic use lasts 1-5 months, sometimes up to 1 year. There is a gradual formation of mental dependence, one of its main diagnostic signs being a transfer from a group use of inhalants to an individual one. Tolerance rises. The period of the inhalation becomes prolonged (sometimes many hours in succession), the inhalations are repeated every day, several times a day. Juveniles-toxicomaniacs do not feel any embarrassment when somebody catches them in the abuse, but on the contrary display malicious aggression. Now they do not try to conceal the inhalations from their parents any more. Not all researchers assume development of physical dependence in abuse of inhalants. Some believe that physical dependence manifests itself by autonomic disturbances, as well as depressions with dysphoriae in the postintoxication state. But the majority regard these disorders as manifestations of encephalopathy.

Almost an everyday use of inhalants during several weeks and months develops toxic encephalopathy and the stable psychoorganic syndrome. The most serious manifestations of toxic encephalopathy and the psychoorganic syndrome are observed in petrol intoxications. The same patients reveal

involvement of the liver and kidneys, anaemia with leukopenia. In the abuse of stain-removers, chronic bronchititides are frequent.

### **Nicotinism (tobacco dependence)**

Tobacco smoking can develop into toxicomania. In compliance with ICD-10, the disturbances caused by the use of tobacco (F17) belong to behavioural and mental disorders resulting from the use of psychoactive substances (F1).

In Western countries, more than 1/2 of men and over 1/3 of women are smokers, half of these people using more than 11 cigarettes a day. The majority of smokers know about the harm of smoking, but go on doing it. The habit of smoking has solidly entered the social and private life of many people, it has become a vital requirement. One of the main reasons to begin smoking is curiosity, a desire to learn something new, what is mostly expressed in juveniles. Nicotine and other components of the tobacco smoke are easily absorbed into the blood and distributed by it all over the organism. Two-three minutes after inhaling the tobacco smoke nicotine produces its effect on the brain expressed by a short-term increase of its activity, and this is subjectively perceived by the smoker as an influx of new strength, a peculiar feeling of high spirits and calm. This effect is transitory, and soon the activity and mood become lower and the smoker strives for a new cigarette. A severe degree of intoxication develops disorders which can result in the lethal outcome. A more or less mild degree of intoxication is felt actually by everybody who began smoking, as if their organism “rebelled” against the violence done to it. But, unfortunately, a so-called negative effect of the first cigarette rapidly disappears and tolerance for nicotine increases.

Nicotine possesses a high degree of narcogenity, proved at least by the following fact: 85 % of people, who have smoked their first cigarette, later become smokers. Not all the smokers develop dependence. Along with so-called ardent smoking there is moderate smoking and smoking for removal of mental stress. But in two last cases the tobacco smoke causes the same pathological symptoms as in heavy smokers, only less expressed. The strength of negative feelings depends upon the individual peculiarities of the organism and the subjective psychological state of the patient. On the basis of numerous studies made by researchers of our and other countries it is possible to say about nicotine-induced mental and physical dependence. The phenomena of abstinence develop 1.5-2 hours after the last cigarette smoked.

The overwhelming majority feel mental dependence whose main symptom consists in an ardent desire to smoke a cigarette, as well as tension and shortness of temper. The patients complain of: a terrible desire to smoke;

melancholia, shortness of temper; tearfulness, excessive touchiness, a hot temper; listlessness, apathy, depression, “blue mood”, futility, dissatisfaction; “the head is wadded, it would not work”; higher sleepiness or, on the contrary, dyssomnia. A lot of other complaints may be presented, they depending upon individual peculiarities of the patient’s mind.

If compared with nonsmokers of the same age, smokers having phenomena of dependence more frequently develop the asthenic syndrome, they easier get tired, often make mistakes fulfilling the tasks which require tension and attention. By the literature data, they are characterized by impulsive behaviour, a lower level of education, anxiety, ill will towards other people. Unlike nonsmokers, they more frequently divorce or leave their families, they are more extroverted, hostile and disposed to using strong drinks. Smokers oftener develop insults and infarctions with resultant defect-organic mental disorders up to dementia. Their hearing is significantly diminished, the sense of taste is affected. Tobacco smoking causes severe disturbances in the internal organs.

### **Peculiarities of narcomaniae and toxicomaniae in juveniles**

The first acquaintance with toxic substances and narcotics is more frequently at the juvenile age, it being explained by characterological peculiarities of juveniles and forms of their behaviour. Common for this age are reactions of grouping with people of the same age, emancipation, hobby, protest. Joining of juveniles to psychoactive substances takes place in companies of people of their age group with asocial and antisocial directions, under the influence of leaders who are people of older age. Addictive behaviour is the most typical form of using drugs by juveniles. The rate of formation of narcomania in the abuse of psychoactive substances depends upon the pharmacochemical properties of the substance, regularity and ways of its administration. The most rapid development of the dependence is in intravenous injections of drugs. Hereditary predisposition to alcoholism and mental diseases is one of the risk factors of developing narcomania or toxicomania at the juvenile age.

*The course* of narcomaniae and toxicomaniae in case of an early beginning is the most progressive. Though the terms of formation of the abstinence syndrome in juveniles are longer than in older age groups, its clinical picture is characterized by prevalence of psychopathological phenomena indicating a significant severity of this state. The juveniles, who have given themselves up to psychoactive substances, rapidly develop degradation of the personality with psychopathy-like syndromes and signs of a moral-ethic reduction, sometimes there is a swift formation of the stable

psychoorganic syndrome and a disturbance of attention; their memory, quickness of wit, stock of knowledge and capacity to acquire new knowledge are affected. The juveniles become passive, lacking initiative, indifferent to their health, studies, future. The highest degree of these manifestations is observed in those who abuse inhalants and sedatives.

### **Peculiarities of narcomaniae and toxicomaniae in women**

A significant rise of narcomaniae and toxicomaniae in women has been recently observed all over the world. Females begin using narcotics usually under the influence of male narcomaniacs, this regularity being revealed both in adult women and juvenile girls. While grown up women give themselves up to drugs under the influence of their husbands or sexual partners, juvenile girls are usually trained by older boys. It is girls with asocial forms of behaviour who oftener fall under such an influence. The “help” of drugs is looked for by the women who have various psychological problems and are accentuated or psychopathic persons. The first acquaintance with narcotic drugs by medical indications in females is more frequent than in males. A greater part, than in men, is played by various problems in the social and private life, as well as an influence of a microenvironment.

More often, women begin abuse with medicinal drugs (barbiturates, tranquillizers) and then pass to other remedies. From the very beginning of narcotization a combined use of several drugs prevails in them. Many females immediately after the beginning of narcotization pass to a systematic use of narcotics escaping the period of their episodic taking. The rate of formation of the narcomaniac syndrome in them is significantly higher, very rapidly physical dependence develops and tolerance rises, initial stages of narcomania become shorter. In a systematic use of drugs, the dependence and compulsive drive in women are more expressed. The researches show that twice oftener than males females develop the dependence within one year, and almost half of them during the first 3 months of using drugs. Such rapid development of narcomania is explained by absence of the stage of episodic taking of a drug.

Degradation of the personality with resultant psychosocial dysadaptation in female narcomaniacs is expressed more roughly. Most of them are engaged in prostitution, commit various criminal acts. The earlier the abuse of drugs, the rougher the personality degradation. Narcotization of females also very often results in a severe obstetric pathology: they often have premature deliveries, miscarriages, premature placental separation, stillborns and early neonatal mortality among newborns. It is not in rare cases that the use of narcotic drugs by a woman within the first two trimesters causes the

birth of a child with signs of the neonatal syndrome of drug withdrawal (in 60-90 % of cases).

Thus, it is possible to affirm that narcomaniae in females have a more malignant course than in males and result in more severe disorders both in the mental and somatoneurological spheres of the organism.

### **Etiology of narcomaniae and toxicomaniae**

Up to now, the etiology of narcomaniae has not been fully revealed. The commonest cause of using various psychoactive substances may be considered their ability to change the mental state of a human being with appearance of subjectively pleasant states, feelings and emotions (euphoria), as well as a man's desire to achieve euphoria by this way which does not require any significant efforts. Appearance of a positive conditioned reflex contributes to a repeated use of the drug with a subsequent formation of dependence. Thus, a psychoactive substance, whose pharmacological peculiarities of influence on a human being make it possible to develop physical and mental dependence, are the main etiological factor of narcomaniae and toxicomaniae.

Modern theories explaining appearance of narcomaniae are numerous and prove the causative role of many various factors.

Hereditary-genetic factors are confirmed by a dysfunction, found in narcomania, of opioid peptides (enkephalins, endorphins and other representatives of this group) taking an active part in the control of homeostatic functions of the organism, and biogenic amines of the brain (dopamine, noradrenaline, serotonin) mediating pharmacological and behavioural reactions. Individual hereditary-genetic factors of these biochemical processes may form the basis of predisposition to the appearance of dependence.

Spread of narcotic drugs is facilitated by a number of psychological moments, particularly a wish to obtain a feeling of an absolute mental relaxation, some striving for creative "inspiration", "clear thinking", expression of one's own independence, and sometimes an oppositional attitude towards the surroundings. Sociologists state that people come to narcomania because of their wish to escape problems of the life at present, alarms, possible troubles, as well as uncertainty in tomorrow, absence of any perspective, purposefulness and real plans for future. One of the provoking factors is incorrect upbringing: incomplete families, conflict relations between parents, incorrect methods of upbringing (a pandering hyperprotection or various kinds of hypoguardianship), antisocial behaviour of close associates, physical violence – all these contribute to violation of the social adaptation of

a developing personality. Here the individual is not engrafted any steady motives and interests, solid social directions; as a result, there is drawing in the use of drugs.

The use of narcotic drugs can be caused by bad postoperative states, various somatic diseases accompanied by pains. Narcomania develops owing to either a too prolonged use of medical remedies or the patient's personality peculiarities, when after a "test" the patient himself looks for opportunities to repeat taking of the drug. Along with exogenous factors, endogenous ones have been also established to produce their effect on the development of narcomaniae.

Among personality peculiarities in the premorbid of future narcomaniacs (toxicomaniacs) there are expressed streaks of instability, higher excitability, pathological conformism and mental immaturity; absence of strict principles, a "real voice of the consciousness", a weak will and unruliness; antisocial behaviour, a weak sense of responsibility and duty, a search for unusual feelings, general aggressiveness; unformed higher emotions, reduced self-control, emotional-volitional imbalance with disinhibition of drives, hedonistic tendencies on a biologically inferior ground caused by effects of perinatal and postnatal hazards. Taking of psychoactive substances may be caused by an attempt of their use in a morbid mental state for alleviating emotional discomfort and changing a morbidly depressed emotional background in affective disorders, dysthymia. Owing to insufficient criticism and weak volitional qualities, people with improper development of the character and intellect are more disposed to drawing in the use of drugs. In each particular case of the disease, a proportion of various etiological factors whose combination results in the beginning of the use of a psychoactive substance is individual.

The mechanism of the further development of the illness, its pathogenesis in narcomania and toxicomania is influenced by the following factors: an effect of the psychoactive substance on the neurotransmitting systems of the brain which depends upon its pharmacodynamic and pharmacokinetic peculiarities; individual feelings which are aroused by the psychoactive substance and depend upon hereditary-constitutional properties of the organism and personality peculiarities of the individual; sociocultural, microsocial and other effects of the surroundings. The clinical practice shows that these factors act simultaneously, supplementing one another.

At the level of the neurotransmitting systems, the dopaminergic (particularly its mesolimbic-frontal portion) and endogenous opioid systems are the main routes of the general influence of narcotic drugs. A long-term use of opiates causes hypersensitivity in the dopaminergic, noradrenergic, serotonergic and cholinergic systems of the brain. The effect of narcotics results in an intensive discharge of mediators of the catecholamine group from

the depot and a strong stimulation of the supporting system, it being accompanied by positive emotional feelings. A chronic use of drugs causes exhaustion of the stock of mediators, while repeated doses of the drug temporarily compensate for their deficit, thereby normalizing activity of the limbic structures. But it causes even a larger reduction of their content. A forming vicious circle lies in the basis of the development of mental dependence. At the same time, some inhibition in the activity of adrenergic neurons in the blue spot (**macula cerulea**) is observed. Intensification of this activity plays its part in the development of abstinence. Neurophysiological mechanisms of the development of narcotic dependence are based in the stem and limbic structures of the brain, where a so-called supporting system is located.

Thus, the common link in the pharmacological action of the substances capable of causing the syndrome of dependence is their effect on the catecholamine (dopamine in particular) mediation in the supporting system of the limbic area of the brain. This is a pivotal biological mechanism in the development of narcotic dependence in abuse of various psychoactive substances. Examining specific peculiarities of certain narcotic drugs, researchers distinguish the main points in the application of their action. Now the mechanism of action of drugs is also examined at the level of gene expression, a change in the activity of intracellular enzymes, a concentration of ions in the cell. For instance, opiates can affect expression of the genes encoding opioid neurotransmitters. Essentially important for the rate of the development of dependence are such pharmacological peculiarities as the route of the narcotic entrance, ensuring the rate of its penetration into the brain, and the degree of lipophilicity of the psychoactive substance.

### **General principles in treating narcomaniae and toxicomaniae**

*The treatment* of narcomaniae and toxicomaniae is provided by several stages. *The first stage* in the majority of patients begins with a sharp absolute abolition of the drug. Excluded are the cases of abuse with barbiturates, sedatives-soporifics, combinations of other narcotic drugs with high doses of these preparations, as well as presence of a severe accompanying pathology. In such cases the drug is abolished stage by stage. The treatment includes control of the abstinence syndrome and disintoxication measures directed at correction of the somatoneurologic and mental disorders.

*At the second stage*, the treatment includes general health improving therapy up to the absolute restoration of the somatic functions, as well as

correction of behavioural and mental disorders up to the normalization of the mental state.

*The third stage* consists in employing purposeful therapy for the dependence syndrome. The therapy should be pathogenetically substantiated with regard for the chemical structure and the mechanism of action of the narcotic, and clinical peculiarities of each patient (prevalence of physical or mental dependence, psychopathological arrangement of the pathological drive for the drugs, peculiarities in its dynamics [periodical, constant], pathocharacterological peculiarities of the patient).

*The fourth stage:* antirelapse supportive therapy with regard for the conditions of the appearance of previous relapses of the disease. External situations and endogenous factors, which cause exacerbation in the drive for drugs and result in relapses, are to be revealed.

The first two stages usually take place under in-patient conditions, the third one under in- or out-patient conditions, the fourth one is outpatient. The duration of the therapy depends upon the degree of severity of the abstinence syndrome, expressiveness of the somatoneurologic and mental changes, the degree of formation of the patient's directions towards discontinuation of the use of drugs. A large part in the treatment of narcomania is played by psychotherapy, whose basic principles include voluntariness, individuality, a complex character and a refusal to take narcotics. At the first stage, the therapy is directed at raising the patient's motivation in order to overcome the abstinence phenomena. Besides, in some cases it makes possible to reduce morbid manifestations of the abstinence. Even the first examination of and the talk with the patient should be used as the first session of psychotherapeutic influence. Subsequent psychotherapeutic talks should be directed at achievement of positive directions in the patients for the absolute abstinence from using drugs and other things which cause a morbid predilection, as well as a systematic undergoing of courses of supporting antirelapse treatment by the patient outside the hospital. Their main goal is to cultivate a direction for abstinence from narcotic drugs. Effective psychotherapeutic programmes presuppose use of a complex of psychotherapeutic approaches including various methods and forms of psychotherapy. Special kinds of psychotherapy are given after controlling abstinence phenomena up to the moment of discharge and are provided by a team of specialists along with psychopharmacotherapy and nonmedicinal methods of treatment. In order to potentiate pharmacotherapy (after establishing a psychotherapeutic contact) it is possible to use various kinds of suggestive psychotherapy and suggestion.

The treatment of patients dependent upon psychoactive substances can employ various models of family psychotherapy directed at creation of the microsocial environment which would facilitate activation of the mechanisms

of recovery and adaptation of the patients, as well as overcoming frequent family crises which accompany these disorders.

In the practice of narcological establishments, controlling of the abstinence phenomena is often followed by completion of therapeutic programmes, while in order to prevent repeated episodes of using psychoactive substances it is necessary to perform psychotherapeutic and social-rehabilitative programmes during 1-2 years. Methods for treating certain forms of narcomaniae and toxicomaniae depend upon peculiarities in their pathogenesis.

# SCHIZOPHRENIA, SCHIZOTYPICAL AND DELUSIONAL DISORDERS

## Schizophrenia

*Schizophrenia* is a chronic mental disease with unclear etiology, which develops on the basis of hereditary predisposition and is characterized by changes of the personality in the form of autism, emotional flattening, reduced activity, loss of the integrity of mental processes with various productive psychopathological symptoms. The term “schizophrenia” comes from Greek words “*schizo*”, which means “to split, crack”, and “*phren*”, which means “soul”. Thus, the term emphasizes the main sign of the illness: a disturbance of the integrity, unity of the mind and an inadequacy of mental responses to external stimuli. The concept of schizophrenia developed in psychiatry gradually. In 1894 E. Kraepelin united such already known forms as dementia praecox (Morel V., 1852), hebephrenia, catatony and the paranoid form, described by him, into one nosological unit, leaving the name of dementia praecox for all this group. Kraepelin proceeded from the common for all these forms course and outcome, considering the latter unfavourable. In the opinion of many researchers, the term “dementia praecox” is not correct, as it is not in all the cases that the illness begins early and/or ends with dementia. In 1911 a Swiss psychiatrist E. Bleuler suggested the term “schizophrenia”, which was the most successful in describing the essence of the disease: splitting of mind.

The spread of schizophrenia among the population is about 8 cases in 1,000 people. Continuous sluggish and paranoid forms with a fit-like progressive course prevail. The first manifestations of the illness are observed at the juvenile and young age. It seldom occurs in children and people over 30.

According to modern ICD-10 classification, the schizophrenia code includes *deusional psychoses, schizoaffective psychoses, acute and transitory psychotic disorders*.

F2 Schizophrenia, schizotypal and delirious disorders.

F20 Schizophrenia

F20.0 Paranoid schizophrenia

F20.1 Hebephrenic schizophrenia

F20.2 Catatonic schizophrenia

F20.3 Undifferentiated schizophrenia

F20.4 Post-schizophrenic depression

F20.5 Residual schizophrenia

F20.6 Simple schizophrenia

F20.8 Other forms of schizophrenia

- F20.9 Unspecified schizophrenia
- F22 Chronic delirious disorders
- F23 Acute and transitory psychotic disorders
- F24 Induced delirious disorder
- F25 Schizoaffective disorders

*Clinical manifestations.* The cardinal mental disorder in schizophrenia consists in a split of psychic activity with a resultant loss of the inner integrity of the intellectual, emotional and volitional functions, as well the unity of the personality with the environment. The most important for clinical practice is division of the schizophrenia symptoms into basic, permanent (negative), typical for all the forms of the illness, and additional (secondary, “productive”), typical for some or another form.

*Autism* is disconnection of the personality from the environment, loss of contacts with surrounding people, shutting oneself off, self-reservation, absorption into one’s own world of the person’s mannered autistic feelings. The patient becomes silent, avoids any contacts with other people, because he feels better alone. Even with the relatives, the verbal contact becomes formal, poor.

*Emotional disorders* are expressed in a gradual impoverishment of emotional responses. At first, higher emotions (compassion, altruism, emotional sympathy) are affected. Later the patients become cooler and more egoistic. They lose any interest in events at their job and their family. Severe cases develop emotional bluntness with an absolute indifference to the environment and one’s own fate. Against a background of a significant impoverishment of the emotional life, some inadequacy and paradoxicalness of emotional responses is notable. The patient would laugh in an improper situation, quietly state the events which are sad for him and surrounding people, but inadequately and often violently respond to quite insignificant causes. As a result of the splitting process in the emotional sphere, the schizophrenic can simultaneously combine two contradictory feelings: he loves and does not love, he is angry and happy, cheerful and depressed (ambivalent). The patients’ mimics does not correspond to their feelings (paramimia), but demonstrates a splitting of their integral emotional mimic reactions. Emotional modulations of the voice and nuances of the intonation are lost; the patients would say about stirring and indifferent things in the same tone (a “wooden voice”). The style of dressing often changes too. Some patients become untidy, careless, while others begin wearing extremely extravagant and flashy clothes, losing even elementary tact and taste.

*A splitting of thinking* also manifests itself by contradictory judgements and double orientation. In a long course of the illness in the defect state there may be absolute destruction of the thinking and speech. As a result, not only

laws of meaning are violated, but syntactical and grammar ones are affected too (a “verbal crumb”).

Typical for schizophrenic thinking are symbolization, formation of new concepts, compression of concepts. A disposition to futile judgements, empty fruitless philosophizing without any logic sense, abstract thinking, its estrangement from the reality, very abstract or strictly concrete generalization is observed.

Schizophrenics write in a very peculiar way too. Sometimes from left to right. Their writing abounds in mannered, ornate letters, underlining, exclamation marks, small vertical lines, symbolic designations and drawings.

The rate and course of thoughts are affected. Some patients reveal a flow of thoughts with a feeling of their artificial character – *mentism*, or disappearance of thoughts with a feeling of emptiness in the head – *sperrung*. Rather often are perseverations (repetition of the same words), verbigerations (repetition of the same phrases), ornate expressions. The symptoms of “open thoughts” and “sounding thoughts” are observed; the patients state that their thoughts are read by people nearby, known for everybody.

Disorders in *the effector-volitional sphere* manifest themselves by a reduction in the purposeful activity (hypobulia and abulia), it being attributed to a “lower power potential”. The patients feel it more and more difficult to study and work. Any activity, mental in particular, requires much effort. Concentration of attention is very difficult. Communication with other people is tiresome. As a result, there are increasing problems in studies, professional degradation, or absolute incompetence in severe cases, the formal functions of the intellect being preserved.

*Splitting of the mind* is reflected by the patients’ behaviour. In patients with schizophrenia, the struggle of motives in a volitional act is prolonged or does not end at all, so it makes taking of a decision impossible. It is shown by ambitendency, when the patient is unable to make any action because two opposite tendencies occur in him. In order to enter the doctor’s room, the patient would open the door, but immediately afterwards close it; he would make a step forward, and then back. He would like to shake somebody’s hand, but then take his hand off. The patient’s instinct life changes, the food, sexual and self-preservation instincts are reduced. Male patients at the age of 30 and older usually do not live a sexual life; as a rule, they masturbate and later regard it as the cause of their illness. Sometimes the sexual instinct is increased and insufficiently differentiated, with resultant homosexuality and disordered sexual life. A higher sexual instinct in women causes their moral degradation earlier, than their morbid state becomes evident. The food instinct is reduced or distorted. In cases of a long course of the process the perversion may reach to coprophagia. The instinct for self-preservation may be increased, as it is demonstrated by aggressiveness, suicidal acts, self-injuries.

A purposeful activity is always affected in some or another degree. Typical for the patients is their strange behaviour, absence of usual logic motives. Such patients often astonish with their absurd actions, though their formal intellectual functions are sufficiently preserved. A sensation of estrangement of their own thoughts, feelings and actions is a peculiar kind of the activity disorder. Some part of the mental activity is felt by the patient as not belonging to him, taking place independently of his will, automatically, against his intention (Kandinsky-Clérambault syndrome). Thus, a female patient, who sometimes shouts, dances, swears, states that all these things are done not by her, but the doctor who seized her will and directed her. She knows that she says and does “unnecessary things”, but this is because there is some foreign object in her larynx, “my larynx obeys somebody’s will”. Other patients say that “somebody decides in advance “what they must do”, they are forced to think, remember, act”. Depersonalization symptom develops: a feeling of splitting of one’s own “ego”. The patient feels two “egos” inside him, says about himself in the third person, “he wants to eat, he went”, uses various family and first names for himself, states that together with his “ego” another one lives in him.

Besides the changes typical for schizophrenia, various productive (delirious, catatonic, hebephrenic and affective) symptom complexes appear and regularly change into one another in the course of the illness; they are responsible for the form of schizophrenia.

*Paranoid (F20.0)* is the commonest form. Hallucinatory-paranoid symptoms develop against a background of mental splitting. The symptoms typical for this form are revealed at the age of 20-40. The appearance of the productive symptom is preceded by suspiciousness, over-anxiousness about one’s health, captiousness, hypochondria. Exacerbation begins with the appearance of insomnia, anxiety, nervousness, shortness of temper. Against a background of a change in the general condition, there is development of the feeling of an environmental change, appearance of some barrier between the patient and the world. Delusions of reference, persecution, affection and poisoning develop. The patient states that his relatives and friends have changed their attitude to him, everybody in the street pays attention to him, watches him, points at him, talks about him. The delusions manifest themselves by the patient saying that his organism or mind are subjected to the influence of hypnosis, electrical current, some invisible energy. Sometimes these delusions astonish with their absurdity. The patient may state that having touched door handles he caught syphilis or AIDS, that some animal started living inside his body, that his internal organs have rotten, the food is not digested, “there are piles of pills in my stomach”. In the onset of the illness the delusions are of an unsystematized and fragmentary character, with time they take a form of some system, often queer-symbolic, with ideas of power,

grandeur, reforming; i.e. they get paraphrenic features. The delusions are accompanied by verbal hallucinations and illusions: “they talk about me”, the patients hear somebody calling their names, some words and phrases, “voices”. The latter directly concern the patient, condemn, frighten, threaten him, often are imperative. They, particularly the frightening and imperative ones, create some anxious mood, arouse fear. Often paranoid schizophrenia develops Kandinsky-Clérambault syndrome: a combination of psychic automatisms, pseudohallucinations and delusions of affection, estrangement of one’s own thoughts, actions and “ego”, the patients say about themselves like about an externally controlled automaton. Pseudohallucinations differ from real ones by the fact that the “voices” are heard inside the head and body parts, with their “inner sight” the patients see some figures and parts of their internal organs. Rather common are tactile hallucinations and cenesthopathies. The patient feels that his head, throat and genitals “are pierced with electrical current”, the internal organs are twisted, burst, etc. Olfactory and gustatory hallucinations are not common, but they are particularly unpleasant. The patient feels even smells exhaled by himself rather than by the outside world only (smells of a corpse, intestinal gases, blood, decomposed sperm, etc.). These hallucinations are particularly typical for an unfavourable course of the illness. Visual hallucinations are rare. Usually they are fragmentary, colourless, non-scenic; more frequently the patients see faces or their parts, figures. The patient says that he saw through the wall, a flap of the overall and the hand, and knew that it was the doctor’s hand which “drew a white line of my temperature curve on a white wall with chalk”. Another patient “saw” some bent figure and knew that it was his dead brother, etc. Illusions are rather commonly observed. The patient would take a knock at a door for a shot, explosion; the patient with delusions of persecution would perceive clattering of kitchen utensils as clanking of weapons.

In compliance with the contents of the delusions and hallucinations, the patient’s behaviour changes. He can be dangerous for both himself and other people. Under the influence of imperative hallucinations the patient would refuse taking food, inflict self-injuries, commit suicide. Delusional motives may make the patient be aggressive, kill somebody. It is not in rare cases that the patients would dissimulate their feelings for years; as a result, they may be prematurely discharged with severe consequences.

*Hebephrenic (F20.1)* is the most malignant form of schizophrenia, which begins at the juvenile or young age. This form is characterized by senseless foolish behaviour, emotional disorders in the form of rough inadequate emotions, foolishness, absurd grotesque hilarity, which does not involve other people but astonishes and frightens them. Typical for hebephrenic excitement are purposeless grimacing, clowning, somersaulting. The patients would jump on their beds, roll on the floor, try to hit, laugh at

once, shamelessly bare themselves, masturbate. They are untidy, slovenly and voracious, may purposely urinate and defecate in the beds. Turns of their speech, intonation in particular, are pretentious, they would speak in an unnatural voice, lisp like children, torture words and use obscene ones. Their thinking is poor, paralogic and stereotyped. Thus, a patient may jump on one leg, beat himself on the face, laugh and stereotypically repeat “twice two is a rabbit”. Sometimes the patients’ speech resembles a senseless set of words or phrases.

*Hallucinatory-delirious* manifestations are fragmentary and astonish with their absurdity. A sudden transition from foolishness and euphoria to hypochondria is often observed. This form is characterized by an extremely unfavourable prognosis and usually rapidly (during 1-2 years) results in disintegration of the personality and dementia.

*Catatonic form (F20.2)* begins at a young age and manifests itself by an alternation of catatonic excitement and catatonic stupor. In recent years the typical kind of this form was seldom observed. Catatonic excitement is absurd, stereotyped, purposeless. The patients are impulsive and unreasonably aggressive, they would shout and make faces. Their movements and gestures are monotonous, stereotyped and awkward. Particularly mannered and pretentious is the patients’ gait: with jumps, stops and swift impulsiveness. The thinking is noncontinuous and paralogic, the speech is stereotyped, has verbigerations (repetitions of the same phrases, words and gestures) and neologisms. The patients would repeat words (echolalia) and gestures of the surrounding people (echopraxia). They would stubbornly resist everything, make the opposite to what they are asked about (active negativism), often tear off their clothes, make self-injuries.

*Catatonic stupor* is absolute immobility with muscular tension, mutism, negativism, refusal to eat. The patient would often lie in the embryonal position, resist any attempts to change it (active negativism), on examination actively resist taking his pulse and temperature and feeding him, would not follow instructions (passive negativism). Feeding in such cases is performed through a tube. Phenomena of catalepsy (wax flexibility) are observed: preservation of the position, given to the body, extremities or head, for an indefinite period of time (“air pillow”). Consciousness during the stupor may be absolutely preserved, and after the stupor passes away the patients describe in detail everything that took place. *Catatonic-oneiroid states* are characterized by immobility and somnolent cloudiness of consciousness. Various fantastic, often catastrophic situations are experienced (war, earthquake, shipwreck), where the patient does not participate and only observes them, but at the same time “feels particular responsibility for everything that takes place”. The expression of horror on the face changes into some interest and ecstasy depending upon the contents of hallucinations. The

patients can describe their feelings later, they perceive real events in a fragmentary way, and the environment is perceived in compliance with the dream-like fantasies (other patients were taken for extraterrestrials, the hospital itself for some camp, etc.).

*Simple form (F20.6)* is the brightest manifestation of the basic symptoms of schizophrenia: a reduction of volitional activity, affective bluntness and disturbances of thinking, whose totality is designated as the apathoabulic syndrome. The illness begins gradually, more frequently in children and youths. Listlessness, apathy and indifference augment. The patients begin studying bad and missing classes, they develop a disposition to prolonged idleness, spend a larger part of the day in bed, become still more reserved, silent, lose social relations and friends. Emotions grow dull, indifference and even some hostile attitude towards the relatives appear. They lose any interest in their clothes and outward appearance, become slovenly, do not wash themselves, do not change their underwear, sleep with their clothes on. They lose diffidence, develop a disposition to impulsive actions and vagabondage, in some cases openly masturbate. The behaviour becomes absurd; as a rule, the patients have neither any plans nor prospects, but it does not upset them, also they are not troubled by the fact that being young and physically healthy they live at their parents' expense and do not help them at all.

Besides, the patients may develop absurd and strange interests, which do not correspond to their age and position, as well as a disposition to scholastic fruitless judgements (philosophizing), contradictory statements. Their thinking is characterized by sliding down to an unexpected subject and breaks in thoughts. The patients' appearance is peculiar, their movements are awkward, expressiveness of mimic responses is lost, the voice becomes monotonous (a "wooden voice"). Productive symptoms (delusions and hallucinations) are seldom observed, they are rudimentary, short-term and do not produce any effect on the course of the disease. The prognosis is often unfavourable, because the simple form is diagnosed late and the patients are admitted to hospital already having signs of the defect formed.

The types in *the course* of schizophrenia are distinguished depending upon the progression of the illness, the rate and degree of augmentation of schizophrenia symptoms, peculiarities in its clinical syndromes which prevail in the picture of the disease.

*Process schizophrenia* is characterized by progressively augmenting schizophrenic changes and absence of any spontaneous responses. Remissions usually result from treatment and last till supporting therapy is given. The degree of progression varies: from a slow course with slight changes in the personality to deep devastation and its destruction. Particularly malignant is

the course of schizophrenia which began in children and youths: malignant hebephrenia, hallucinatory-paranoid, simple forms.

*Paroxysmal progressive schizophrenia* is characterized by a paroxysmal course. The attacks last from 2-3 weeks to a few months and alternate with light periods, remissions, whose duration ranges from 1-2 weeks to several months and even years. The quality of the remissions is various. They may be complete (practically full recovery) or incomplete (with signs of schizophrenic defect or residual phenomena of the attack). With every new attack the quality of remission becomes lower, and the attack itself acquires new unfavourable (hebephrenic, hallucinatory-paranoid, schizophasic) symptoms.

*Recurrent (periodical) schizophrenia* is characterized by attacks of atypical depressive or maniac phase with stable remissions. Eventually, the attacks become more frequent and prolonged. This course is typical for schizoaffective psychoses.

*Types of remissions.* Depending upon the degree of reduction of psychotic symptoms and expressiveness of dissociative-apatetic disorders, a remission can be complete, incomplete or partial.

*Complete remission (remission A)* is a complete reduction of productive psychotic syndromes with insignificant expressiveness of negative symptoms which practically do not change the patient's capacity for work, his family and everyday life; occupational reorientation is necessary only in some cases.

*Incomplete remission (remission B)* is a complete reduction of productive psychotic syndromes with moderately expressed changes necessitating rehabilitative measures: a change of profession (work with limited loads), or getting a job at special shops of industrial enterprises.

*Remission C* is a significant reduction of psychotic symptoms (residual delusions, which lost their actuality, and some hallucinatory phenomena are possible) with an expressed apathetic-dissociative defect plus a loss of capacity for regular and professional work. The patients are adapted to work at medical industrial workshops of mental and day hospitals.

*Partial remission (remission D)*, an intrahospital improvement, is characterized by only an insignificant improvement of the state with some loss of actualization of psychotic phenomena. The patients are subject to further treatment at in-patient department.

*Age-specific peculiarities of the clinical picture and course.* Schizophrenia is less common in children than in adults. Its onset is usually gradual, with unreasonable absurd fears and strange fantasies which are estranged from the reality and resemble delusions. In the foreground, there may be motor disturbances of the catatonic character: standing stock-still in one position, stereotyped speech and movements, echo symptoms, impulsive acts, various grimaces, often drawing out of the lips like a trunk. Attacks of catatonic excitement are rather common. Episodes of visual hallucinations

with some fairy, fantastic contents. Delusions are not typical. The course is usually malignant. The defect consists of basic negative symptoms. The mental (intellectual) development may be often delayed at that age stage where the disease (profschizophrenia) began.

In juveniles, the hebephrenic, simple (psychopathy-like) and neurosis-like forms prevail. The structure of neurosis-like pictures includes dysmorphophobia, dysmorphomania and “metaphysical intoxication”, as well as hypochondriacal syndrome and that of depersonalization and derealization.

The beginning of schizophrenia at an old age is rather problematical.

*Etiology and pathogenesis.* According to modern concepts, schizophrenia belongs to a group of hereditary predisposed diseases. A significant accumulation of schizophrenia and personality abnormalities in families with schizophrenics, as well as a high concordance (coincidence) in monozygotic twins have been revealed. A risk of the child to fall ill in case if one of the parents suffers from schizophrenia is 16.4 %, if both parents are ill this risk sharply rises up to 68.1 %. But the genetic essence and the type of inheritance still remain not quite clear. It is considered that the role of the hereditary factor is in transmitting a peculiar predisposition, which under certain conditions is realized into a morbid process. An unquestionable part in the manifestation of the illness is played by the environmental effect (exogenous factors), as well as by general biological shifts in connection with somatic diseases and endocrine age-specific peculiarities. Some somatic and infectious diseases, brain injuries and psychic traumas may be provoking factors and followed by the manifestation of the illness. Along with these factors, the residual-organic cerebral insufficiency caused by an unfavourable course of the pregnancy and delivery and diseases of the 1<sup>st</sup> year of age, is also of some importance in the etiology of schizophrenia. Thus, schizophrenia develops as a result of interaction of genetic and environmental factors. But the mechanisms of interaction of these factors, as well as their relative role in the origination and manifestation of different forms of the illness have not been clarified yet.

Psychogenic theories regard schizophrenia as some peculiar development of the personality resulting from an early (infantile) conflict of the child with his mother, an improper attitude of the mother to her child (a dominating hyperprotection or emotional rejection). In our opinion, the above psychogenic factors may contribute to, but cannot cause schizophrenia. Thus, in spite of numerous researches during several decades, today there is no generally accepted theory of schizophrenia pathogenesis. On the whole, there two viewpoints on the pathogenesis of schizophrenia. According to the first one, accepted by the majority of Ukrainian psychiatrists, the first organ to be affected in schizophrenia is the brain (some authors mean its cortex, others point at the subcortical structures). As a result, the control over all the

processes in the organism is lost, metabolic disturbances, endocrine and other dysfunctions develop, thereby forming some intoxication, which produces a secondary effect on the brain cells disrupting their functions. According to the second point of view, disturbances in metabolism, internal and secretory organs are primary, and the brain is secondarily affected owing to autointoxication.

Very important for understanding the pathogenesis of schizophrenia is I.P. Pavlov's thesis that clinical manifestations of this disease are more based on neurodynamic, reversible disorders rather than on morphological ones. I.P. Pavlov suggested that in case of schizophrenia the brain cortex develops incomplete and uneven protective inhibition manifesting itself in such phase states as equalizing, paradoxical and ultraparadoxical. From this viewpoint, it becomes possible to understand the basic symptom of schizophrenia, splitting, as a manifestation of inadequate (phase) responses to various biological and physiological stimulants, as well as such a symptom as hallucinations (Ye.A. Popov: prevalence of the equalizing and paradoxical phases), catatonic and oneiroid symptoms. Proceeding from the above things, a whole number of somatic manifestations of the illness (for instance, inadequate responses to biological and physiological stimulants) can be explained. Thus, I.P. Pavlov's hypothesis and its subsequent development in clinical practice (N.P. Tatarenko, N.I. Streltsova, V.P. Gavenko, K.V. Mikhaylova, and other researchers) explains a number of pathogenetic links of schizophrenia.

The endocrine-toxic theory of the pathogenesis relates the disease to a gonadal dysfunction, the humoral-toxic one explains it by the presence of toxins in the cerebrospinal fluid, blood and urine of schizophrenics. Biochemical theories of the pathogenesis were based on disturbances in the metabolism of proteins, nitrogen and carbohydrates. Other theories proceed from a disturbance in the metabolism of mediators, biogenic amines or their enzymes (catecholamines, indolamines). Immunological hypotheses try to explain the pathogenesis of schizophrenia by a failure of autoimmune responses expressed in the production of anticerebral antibodies by the patient's organism, that are able to affect the cerebral tissue. Biochemical, immunological, neurophysiological and other examinations have not revealed any specific disorders in schizophrenia. Certain disturbances correlated with either some form, syndrome or type of treatment.

*Pathomorphosis* is a change in the clinical picture and course of a disease during various epochs (epochal pathomorphosis), under the influence of some treatment (drug pathomorphosis) or related to age (age-specific pathomorphosis). At present, the catatonic form seldom occurs, more widespread are neurosis- and psychopathy-like forms, postschizophrenic depression has appeared, while amentia and acute onsets of the illness are less common. It may result from drug pathomorphosis.

*Differential diagnosis* of schizophrenia must be based, first of all, on specific negative symptoms: autism, emotional impoverishment and inadequacy, reduced activity, disturbances of thinking, such as splitting, paralogism, philosophizing, symbolism. The expressed polymorphism and changeability of productive psychopathological symptoms make them less reliable diagnostic signs of the illness. Diagnosing also takes into account the dynamics of the disease characterized by a progressive course and augmentation of negative symptoms of deficit. Manifestations of the illness are often preceded by psychic traumas, previous brain injuries, infectious diseases, and intoxications. In this connection, schizophrenia has to be differentiated from reactive (psychogenic), organic (somatogenic, infectious) psychoses. Situational psychoses (reactive paranoid, reactive depression) are characterized by psychological clarity of morbid feelings, they reflect the contents of a psychotraumatizing situation and disappear after its solution. Typical for the course of exogenous-organic psychoses is prevalence of asthenic symptoms, hallucinatory (more frequently visual) disorders, syndromes of disturbed consciousness (delirious, twilight) and memory, personality changes by the organic type.

The simple form of schizophrenia at certain stages of its course may resemble manifestations of psychopathy and protracted neuroses, asthenoapathetic depression. Differential diagnosis is facilitated by a careful study of the case history, dynamics and typical schizophrenic changes in the emotional and cognitive functions. Schizoaffective psychoses are differentiated from the manic-depressive one. Appearance of acute imagery delusions, hallucinations, delusions of persecution, phenomena of psychic automatism and catatonic disorders in the structure of an attack, as well as formation and augmentation of personality changes between attacks tilt the diagnosis in the favour of schizophrenia.

Febrile schizophrenia has to be differentiated from symptomatic (somatogenic) psychoses. In all its cases, febrile schizophrenia begins with catatonic excitement or substupor with oneiroid cloudiness of consciousness, these symptoms being untypical for symptomatic psychoses, where the above disturbances develop at certain stages of the illness against a background of a severe somatic state, shortly before the lethal outcome. Febrile schizophrenia should be differentiated from the malignant neuroleptic syndrome with hyperthermia as a result of treatment with neuroleptics (particularly haloperidol and other derivatives of buterophenone), often with large doses, but this syndrome may develop even after small doses in cases of sensitivity to the drug.

Postpartum psychoses, caused by puerperal sepsis, should be differentiated from schizophrenia provoked by pregnancy and delivery. The presence of delirious episodes and catatonic disorders at the height of amentia

are the signs in favour of symptomatic psychosis, whereas the development of amentia after catatonic excitement is more typical for schizophrenia. If a psychosis develops 2-3 weeks after the delivery and later within an uneventful puerperal period, the diagnosis of postpartum psychosis is doubtful. Acute polymorphous schizophrenia may have much in common with infectious and intoxication-induced psychoses. The final diagnosis is made in the process of a long-term supervision.

*Prognosis.* Schizophrenia is a progressive disease with a resultant mental defect. Active therapy cannot finally change this assessment yet, but at the same time now the percentage of favourable outcomes is markedly increasing. The clinical and social prognoses proceed from consideration of the degree of expressiveness and rate of the development of the defect, a possibility of social (family, labour) adaptation. A better prognosis is made in a paroxysmal course of the disease, and a worse one if the course is continuous. In case of the paranoid (continuous) form with Kandinsky-Clérambault syndrome, the prognosis is much worse: about 50 % of the patients reveal terminal defect states. Even more unfavourable prognosis is made in continuous hebephrenia. The prognosis for slightly progredient schizophrenia is better. Hereditary predisposition, presence of organically changed grounds (residual organics), stable verbal hallucinosis, olfactory hallucinations, body weight gaining without any improvement of the mental state are prognostically unfavourable signs.

With respect to life, the prognosis is favourable. Lethal outcomes are practically possible only in febrile schizophrenia. Suicides occur in cases of imperative auditory hallucinations and depressive states (postschizophrenic depression, schizoaffective psychoses).

*Treatment and rehabilitation.* The system of therapeutic measures in schizophrenia is conventionally divided into separate stages: controlling therapy is directed at regressing psychotic symptoms; stabilizing therapy is the period of restoration of the previous level of psychological, social and occupational adaptation; preventive (maintenance) therapy.

Schizophrenics can be treated both as in- and outpatients. Urgent hospitalization without the patient's consent (in case when owing to his mental state the patient is unaware of his actions and unable to direct them, without the consent of his relatives or the people substituting them) is indicated, if the patient has delusions, hallucinations, morbid anxiety, fear, confusion, suicidal thoughts and intentions, on which his behaviour depends. The feelings which lost their actualization and do not produce any effect on the patient's behaviour, do not belong to such indications, unlike hebephrenic, catatonic and maniac excitement, expressed depression with suicidal thoughts, stupor with refusal to eat, aggression with a risk of inflicting severe injuries or making destructive actions. If hospitalization is desirable in order to specify

the diagnosis or select the most effective drugs, it can be done only by the patient's consent. But if owing to his illness he is not able to take a decision, it is necessary to have a consent of his relatives or the people substituting them. If being cared by his relatives the patient is not dangerous for either himself or other people nearby, it is desirable to treat him at day hospitals or as an outpatient, in touch with his family.

The treatment must be complex: with use of both psychoactive drugs and such methods of treatment which are directed at the normalization of the somatic sphere, vascular, neurodynamic and other processes. The treatment is to be provided proceeding from the basic psychopathological syndrome, the clinical form, course and stage of the disease, the patient's age, his somatoneurotic state. Therapy with psychoactive drugs is the basic method of active (biological) therapy. Side by side with it, some place also is given to insulin coma, electroconvulsive and sulfosine therapies. For paranoid form of schizophrenia with expressed psychomotor excitement, the feeling of fear and nervousness, neuroleptics with the sedative, inhibiting effect are indicated: aminazine, propazine, tizercine, chlorprothixene; the above neuroleptics are indicated for catatonic and hebephrenic excitement. Antipsychotic effect is produced by haloperidol, trifluoperazine, trisedil, rispolept and Clopixol which are used in paranoid form with Kandinsky-Clérambault syndrome. In case of a protracted course, Leponex (clozapine), Azaleptin, Majeptil and Piportil are indicated. Piportil influences stuporous, substuporous and other states with listlessness and inhibition. It is administered for the simple form. Activating neuroleptics, such as phrenolon, small doses of trifluoperazine (Stelazine), semap and eglonil, are also indicated for the simple form of schizophrenia. In neurosis-like states, phenazepam, haloperidol and antidepressants are used; the latter ones are also administered in postschizophrenic depression. Neuleptil is indicated for psychopathy-like states. Schizoaffective psychoses are treated depending upon their phase; maniac ones with haloperidol, aminazine or pyrazidol in combination with trifluoperazine, depressive ones with antidepressants. Lithium salts or small doses of trifluoperazine in combination with carbamazepine (phinlepsin) are administered with prophylactic purposes.

In case of acute polymorphous schizophrenia, it is better to begin therapy with Clopixol-acuphaz or aminazine, and later pass to another neuroleptic depending upon the prevailing symptoms. Febrile schizophrenia requires intensive therapy: haemosorption and disintoxication, general health improving and dehydrating therapy, restoration of the vital functions of the organism.

Maintenance therapy, which must be given during many months and years, uses long-action neuroleptics: Moditen-depot, haloperidol-decanoate,

Piportil, flushpyrilene (Inap), semap, pimozide (Orap), thioridazine-retard, Clopixol-depot, fluanxol-depot.

Treatment with neuroleptics may give rise to complications in the form of the neuroleptic syndrome: parkinsonism, akathisia, dystonic phenomena; they are controlled with correctors: benzhexol hydrochloride, triphen, parkopan.

Insulin coma therapy is given by the patients and their relatives' consent, if the illness lasts less than one year. The treatment begins with 5 units, every day the dose is increased by 10 units until coma. The number of comas is 20-25. Each coma is controlled 10-15 minutes later by an intravenous infusion of 40-60 ml of glucose, after that the patient is given sugar syrup and breakfast. Side effects and complications may include psychomotor excitement, repeated hypoglycaemiae, protracted comas, twitchings, epileptiform seizures, phlebitides. Insulin coma therapy is contraindicated in mitral heart defects, states after myocardial infarction, hypertensive disease of the 2<sup>nd</sup>-3<sup>rd</sup> stage, stenocardia, active pulmonary tuberculosis, ulcerative disease, all forms of diabetes and other endocrinopathies, nephrosonephritides, pregnancy, epileptic paroxysms.

Electroconvulsive therapy is administered in the cases resistant to other kinds of therapy. It is indicated in catatonia, schizoaffective psychoses with depression, febrile schizophrenia. It is given by the patients and their relatives' consent.

The simple form of schizophrenia with apathoabulic, neurosis-like and hypochondriacal symptoms is treated with sulphur (1 % suspension of purified sulphur in peach oil); it is termed sulphosine therapy. Sulphur produces a detoxicating effect, improves tissue respiration and body metabolism, changes reactivity of the organism. It is also used in cases of resistance to neuroleptics.

The multimodality treatment of schizophrenia uses the method of craniocerebral hypothermia: cooling of the brain through outer integuments of the head.

Acute attacks of schizophrenia, accompanied by somatic-autonomic disorders and intoxication phenomena, require haemosorption.

Intravascular laser blood irradiation, quantum haemotherapy, deprivation of sleep, high-intensity light therapy, transcerebral galvanization are used in some forms of schizophrenia in order to remove therapeutic resistance.

Psychotherapy and social-occupational therapy are included in the complex of medical measures after the patient returns from his acute psychotic state. The kind and contents of the psychotherapeutic influence depend upon the patient's psychotic state, the contents of his feelings, the form and stage of the disease. Rational, interpersonal therapy directed at creation and preservation of social skills, and family psychotherapy accentuating creation

of a positive emotional climate in the family are used. Suggestive methods (hypnosis, narcohypnosis, autosuggestion) in schizophrenia are even harmful, rather than only not employed. The character of a conversation with the patient should be benevolent, calming, inspiring them with confidence in their recovery and return home. In conversations with patients having delusions, the doctor should not persist in dissuading them from the morbid character of their feelings, because it is harmful and even dangerous; it is better to talk on some distracting subjects, and only when delusional ideas lost their actualization the doctor should contribute to their critical analysis. In cases of the simple form, the states of listlessness and poor contact the patients should be engaged into group therapy, particularly in sessions of communicative training (elementary communication in everyday life). Psychotherapeutic conversations are of paramount significance in depressions. They should inspire the patient with confidence in his recovery, an optimistic attitude to his future, but the doctor should not try to cheer up the patient as it may be harmful.

*Rehabilitation* includes measures for preservation (in case of loss – at least, partial restoration) of the patient's social status, including his capacity for work, family relations, an active life in the society. A complex of rehabilitative measures is conducted at all the stages of treatment. It consists of the maximally possible lessening of restrictive measures for the patients; e.g., their staying at some closed department or observation ward, as well as an active involvement of occupational, culture and group therapy, as acute manifestations of the illness are controlled. Therapeutic vacations with a possibility to spend weekends at home should be widely used, or the patients should be transferred to day hospitals. Hospitalization should last as little as possible, because a long-term stay at mental hospital may cause a loss of social skills and an ability to live independently, it suppresses the wish to work, it may break family relations, i.e. result in hospitalism.

Very important is to have an adequate job, which should correspond to the patient's state. Even in incomplete remission and maintenance therapy it is necessary that students go on their studies and working people work under relieved conditions (studies at night school, at home, work at home, at medical industrial workshops, work with an incomplete load). Labour restrictions should depend upon the sphere of activity or study.

*The primary prophylaxis* consists in sanitary-educational work: marrying schizophrenics should be informed about a risk of the disease in their posterity, a necessity to receive genetic consultations, as well as about a risk of falling ill as a result of using hashish or amphetamine. *The secondary prophylaxis* is aimed at prevention of relapses through maintenance treatment and a healthy way of life. *The tertiary prophylaxis* includes social-

rehabilitative and therapeutic measures at the stage of remission with the purpose to prevent formation of a defect.

### **Schizotypal disorder**

Differences between schizophrenia and schizotypal disorders are far from being always marked. A supposition is made that a patient with schizotypal disorder has some genetical predisposition to schizophrenia, in a favourable social situation he is not decompensated and only subpsychotic manifestations are observed in him. In stress situations the patients may be decompensated, they develop short-term psychotic symptoms, the suicide rate being 10 %. The diagnosis of schizotypal disorder is based on the presence of at least 4 of the following signs in the clinical picture during more than 2 last years: 1) *emotional coldness, not always adequate situations of personal contacts*; 2) *eccentric strange behaviour and appearance*; 3) *a tendency to avoid social contacts*; 4) *strange, often metaphysical thoughts which do not conform to subcultural norms*; 5) *mistrustfulness, suspiciousness*; 6) *annoying reflections on one's own personality with dysmorphophobic, sexual or aggressive contents*; 7) *unusual feelings, phenomena of derealization and depersonalization*; 8) *diffuse thinking which does not reach to the extent of non-continuity*; 9) *periodical transitory subpsychotic episodes (more frequently with illusions, hallucinations, delusion-like ideas)*.

*The differential diagnosis* of schizotypal disorders with schizophrenia and schizoid psychopathy is extremely difficult, therefore ICD-10 adequately does not recommend to widely use this item of the classification.

### **Chronic delirious disorders**

These are disorders with dominating, encapsulated and systematized delusions without any marked change in the personality. Their rate is 25-30 cases per 100,000 of population. The disease begins at a middle age, oftener at 30-40 years. The patients seldom take medical advice, more frequently they are sent by their relatives.

Often the onset of the disease is triggered by an unfavourable psychological situation. The patients may express delusions with various contents. The system of the delusions may have different degrees of their complex character. The illness is notable for absence of formal disorders of thinking, though delusions are often expounded loquaciously, thoroughly and whimsically. The patients may be aggressive and dangerous for the

surrounding people. Suicidal tendencies are not rare. There is no criticism to delusions. Besides the acts and opinions reflecting the contents of delusions, the patients' behaviour does not differ from the normal one. Emotional feelings correspond to the contents of delusions, which most frequently are of a pure personal character. Delusions may be of the kinds described below.

*Erotomaniac delusions, delusions of love charm.* The patients are convinced that some person with a high social status (some chief, celebrity, businessman, etc.) is in love with them, though often they are not even acquainted with him. The feeling is expressed in spiritual relationship and romantic love, rather than sexual attractiveness. Often the patients try to establish a contact with the object of their delusions. These disorders are more typical for women. *Delusions of grandeur.* The patients are sure that they have exceptional abilities and talent which are not recognized by other people. They declare that they have made some discovery important for the mankind, that they maintain special relations with celebrities or deities, often becoming leaders of religious sects. In *delusions of jealousy (Othello's syndrome)* the patients would look for adultery, spy on their spouses, often manifest aggression with respect to their spouses or lovers. *Delusions of persecution* are often accompanied by litigious behaviour or aggressiveness towards the people who, as the patient thinks, harm him. Patients with *hypochondriacal delusions* are sure that they give off a bad smell, that the functioning of their internal organs is affected. They would visit various internists asking for help. The psychosis lasts at least 3 months, or the whole life in some cases.

*The etiology* of the illness is unknown; suppositions about its biological origin have been made. As a rule, the treatment is symptomatic, with administration of antipsychotic drugs and antidepressants. Suicidal and aggressive tendencies in the patients are indications for hospitalization.

### **Acute and transitory psychotic disorders**

The onset of psychotic states is acute, from 48 hours to 2 weeks; **the more acute the onset, the more favourable the prognosis**. The clinical picture is characterized by delusions, hallucinations, excitement, non-continuous thinking. If the morbid state lasts less than 1 month and schizophrenic symptoms appear only in the beginning of an episode and for a short period of time, the state is encoded as an acute polymorphous psychotic disorder without symptoms of schizophrenia: F23.0. If schizophrenic symptoms are observed longer, but not more than 1 month, the state is encoded as an acute polymorphous psychotic disorder with symptoms of schizophrenia: F23.1. If the state is stable and not polymorphous, but symptoms of schizophrenia

persist less than 1 month, the episode is encoded as an acute schizophrenia-like psychotic disorder: F23.2.

Transitory psychotic disorders may end with a practically full recovery, a complete restoration of the capacity for work and socialization. In some cases they relapse, sometimes with a subsequent manifestation of schizophrenia or manic-depressive psychosis. Isolation of this item is aimed at making the diagnostic limits of schizophrenia and affective psychoses narrower.

### **Induced delusional disorder**

This is characterized by development of similar delirious feelings in people who are in close (oftener family) relations. A (psychological or some other) dependence on a patient, who induces delusions, is a predisposing factor. This delusion is more verisimilar in an induced person. Hypochondriacal delusions and those of persecution are most frequently induced. These delusions never appear prior to a contact with an inducer (i.e., a patient) and disappear after discontinuation of the contact. This disorder is more typical for women. The induced completely reproduce the thoughts expressed by inducers. This is usually observed in families: parents – children, elder sisters – younger ones, the husband – the wife. It is necessary to treat the basic disease in the inducer and remove the induced person from him.

### **Schizoaffective disorders**

In past, these disorders were thought to be a form of schizophrenia. The modern classification (ICD-10) regards schizoaffective disorders as a borderline group between schizophrenia and affective psychoses. The morbidity rate in the population is 0.5-0.8 %. The etiology is not known. The clinical picture is represented by both affective and schizophrenic symptoms. The bipolar variant of the course is characterized by remissions in the form of practical recovery; in the depressive type, mild signs of a schizophrenic defect are formed. The most unfavourable prognosis is in cases of a hereditary predisposition to schizophrenia, a low level of adaptation in the premorbid period, an early and gradual onset without any provoking factors, a continuous course.

# AFFECTIVE DISORDERS

## Manic-depressive psychosis

Affective disorders in the form of maniae and melancholiae were known in ancient times. They were vividly described by Hippocrates and regarded as separate diseases. On the basis of clinical observations and researches, Kraepelin (1896) concluded that maniac and melancholic attacks without a progressive course are the same disease termed by him as manic-depressive psychosis. Still the modern psychiatry uses such designations as “affective psychosis”, “phase psychosis”.

### Classification of affective disorders by ICD-10

F3 Affective disorders (mood disturbances)

F30 Maniac episodes

F31 Bipolar affective disorders

F32 Depressive episodes

F33 Recurrent depressive disorder

F34 Chronic (affective) mood disturbances, including cyclothymia (F34.0) and dysthymia (F34.1)

F38 Other (affective) mood disturbances

F39 Unspecified (affective) mood disturbances

*Manic-depressive psychosis* is an endogenous disease characterized by alternation of outwardly contradictory states or phases, maniac and depressive, with presence of a light interval between them (the bipolar course). In other cases, the illness may manifest itself only by its maniac or depressive phases (the monopolar course). In any type of the course there is no progression and destruction of the personality. Manic-depressive psychosis is characterized by a seasonal prevalence in the appearance of phases (oftener in spring or autumn), the number of phases in different patients is not the same, the phases last from 3 to 6 months. The rate of manic-depressive psychosis in the population ranges within 0.07-7 %, depressive forms with a monopolar course being prevalent. Females fall ill 3-4 times more frequently than males, but the bipolar course of the disease prevails in males. Manic-depressive psychosis oftener begins at a mature age of 35-40 years, the onset of the bipolar disorder being somewhat earlier (20-30 years).

*Clinically*, manic-depressive psychosis manifests itself by affective, effector-volitional disturbances (which at maniac and depressive phases are of

the opposite character) and those of understanding, as well as by somatoautonomic symptoms demonstrating, as V.P. Protopopov showed, a higher tonus of the sympathetic autonomic nervous system (Protopopov's triad: spastic colitis, mydriasis, tachycardia).

*The maniac phase (F30)* manifests itself by three clinical signs: a) a disturbance in the emotional sphere: an increase of the vital emotion of joy (euphoria); b) a disturbance in the intellectual activity: an acceleration of the rate of associations, in severe cases reaching to "galloping ideas"; c) effector-volitional disturbances: a general increase of purposeful activity with a reduced concentration and a higher attractiveness of attention.

*Clinically*, maniac states manifest themselves by a higher, cheerful mood, which as a rule is displayed without any external apparent cause. The positive emotions of joy, happiness, general well-being are augmented, i.e. euphoria develops. The patients' environment is perceived by them through a prism of positive emotions. The patient sees it in attractive, delightful, charming colours, "as if through rose-coloured spectacles". Reactive emotions are not deep and unstable. The spirits remain high even when the patient receives some bad news or has misfortunes. The patient believes that everybody treats him well, he is pleasant and interesting for everybody. He is sociable, talkative, easily strikes up new acquaintances, visits his friends and relatives, continuously amuses himself. The rate of his thinking is accelerated. The patient would talk much without a stop, sing songs. In severe maniac states the rate of thinking reaches to "galloping ideas". The speech is usually accompanied by active expressive mimics and gestures. The patients would overestimate their abilities and capacities, sometimes saying delusion-like ideas of grandeur, invention, one's own superiority and exclusiveness.

The patients constantly demonstrate an urge to act (psychomotor excitement). Their attention is not stable, they are extremely distractible. Showing a higher interest in activities, they would undertake to do some work, drop it, being rapidly distracted and always in a hurry somewhere. Instincts in the patients at the maniac state are augmented. A higher erotism manifests itself by coquetry increase, mannered smart clothes and decorations, love-letters and search for amorous adventures. Augmentation of the food instinct manifests itself by voracity. The patients would much and irregularly eat, but do not gain any weight. Very typical for the patients is their indefatigability: being all the time in movements and actions, they do not display any signs of tiredness and weariness in spite of insufficient sleep for weeks and months. Such patients would sleep 2-3 hours a day. As a result of high spirits, reduced criticism and psychomotor excitement, the patient often gives hollow promises, undertakes higher engagements, lightly appropriates somebody else's property, commits embezzlements in order to satisfy his needs and implement "far-reaching plans", establishes irregular sexual relations.

Criticism to their state is absent, the patients do not regard themselves as ill and refuse treatment.

Disturbances of perception are not deep and manifest themselves in the form of visual and auditory illusions, pareidoliae and metamorphopsiae (a symptom of “false recognition”). Memory becomes extremely retentive (hypermnnesia), the patients recollect the pettiest details from their personal and social life, the books they have read and the films they have seen. The maniac phase of manic-depressive psychosis lasts 3-4 months.

At the maniac phase of manic-depressive psychosis, somatic and autonomic disturbances are observed; they are caused by a higher tonus of the sympathetic section of the autonomic nervous system (Protopopov’s triad): tachycardia, higher blood pressure, loss of weight, a disturbance of menstrual cycle in women, insomnia. The patients do not make any complaints about their health, feeling cheerfulness and great strength. By the degree of expression of psychopathological symptoms the following maniae are distinguished: mild maniac states (hypomania), mania without psychotic symptoms, mania with psychotic symptoms.

*Hypomania (F 30.0)* is a mild degree of maniac state characterized by slightly high spirits, increased energy and activity of the patient, a feeling of full well-being, physical and mental productivity. The above peculiarities are observed not less than several days.

*Mania without psychotic symptoms (F 30.1)* is characterized by markedly high spirits, a significant increase of activity with a resultant violation of occupational activity and relations with other people; this state requires hospitalization. An attack lasts not less than one week.

*Mania with psychotic symptoms (F 30.2)* is accompanied by delusions of overestimation, grandeur and persecution, hallucinations, galloping ideas, psychomotor excitement. An attack lasts at least two weeks.

*The depressive phase (F32)* of manic-depressive psychosis manifests itself by a triad of disorders: a) a sharp strengthening of negative vital emotions (melancholia, grief, sometimes with a shade of fear, anxiety); b) a slower rate of thinking, its scanty contents, up to monoideism, development of delusions of being sinful and self-condemnation; c) a sharp oppression of the effector-volitional activity, a deep inhibition (up to stupor), riveted attention.

The central place in the clinical picture of the depressive phase is taken by a vital affect of melancholia, grief, sorrow. A morbid depression is particularly augmented in the morning up to melancholia with despondency. The patients would complain of poignant melancholia with squeezing pains in the heart region, substernal heaviness, “precardiac melancholia”. It is impossible to distract the patient from this state and cheer up, under the influence of positive external stimulants the mood remains as it was before. The patients are inhibited (up to depressive stupor), not mobile and spend all

the time in similar mournful postures. They would answer questions with a low monotonous voice, showing no interest in talks, express ideas of self-humiliation, self-condemnation, being sinful, in severe cases these ideas become delusions. They regard themselves as criminals, wretched and useless people, some “worthless stuff for the society and family”, a source of various evils and troubles for other people nearby. The patients interpret their previous behaviour in a delirious way, assigning themselves the most negative part. It is not in rare cases that the patients refuse to sit at a common table, to shake their interlocutor’s hand, to lie in bed, motivating it by the fact that they are not worth of it. As a rule, suicidal thoughts and attempts to realize them are observed. The patients do not make any plans for future as they do not see any prospects in it, they do not express any wishes but to die, but the latter may be concealed and dissimulated. The patients’ attention is concentrated on their own feelings, external stimulants do not cause any adequate responses. The instincts are suppressed (anorexia up to absolute rejection to eat, reduced libido, attempts of self-injuring and suicide). The patients do not feel the taste of their food, satiation, sensation and saturation with sleep. Against a background of an increased depression and despair they may develop psychomotor excitement with suicidal attempts, a “melancholic explosion”. The patient would hit his head against a wall, scratch his face, bite his hands, etc. Suicidal attempts may be both impulsive at the moment of a melancholic explosion and more purposeful with preparation for a suicide. Sometimes the patients commit an “expanded suicide”, killing their children, old parents, and then themselves. Such actions result from delusions of having no prospects in the patient’s existence and of torments threatening his relatives for his own sins. Suicidal tendencies are more frequently realized at a period of reduced motor inhibition and constraint with preservation of melancholic feelings. Depressive patients need constant observation and control over their actions.

Along with augmentation of negative emotions there may be a loss of feelings when the patients say that they do not feel typical human emotions, they have become impassive automatons, insensitive to their relatives’ feelings, and therefore poignantly suffer from their own hard-heartedness, a symptom of “morbid mental anaesthesia” (*anaesthesia psychical dolorosa*); cenesthopathies and illusions are common. Depression is often characterized by such a symptom as distorted perception of time and space, as well as psychosensory disorders with resultant feelings of depersonalization and derealization.

Like in the maniac phase, the somatoautonomic symptoms are caused by a higher tonus of the sympathetic nervous system: a loss of weight, persistent insomnia, the sleep does not refresh and in the morning the patients feel much worse than in the evening, the blood pressure is increased, lacrimation is difficult, the patients would not weep (grief, melancholia with

“dry” eyes), they reveal dryness and bitter taste in the mouth, amenorrhoea in women. Typically observed is Protopopov’s triad: mydriasis, tachycardia, spastic colitis.

The depressive phase often lasts more than 6-8 months. Depressive states occur 6-8 times more frequently than maniac ones. By the degree of their symptom expressiveness, mild, moderate and severe depressions with nonpsychotic and psychotic symptoms are isolated.

*Mild depressive episode F 32.0* is characterized by low spirits during the larger part of the day, a reduced interest in the surroundings and a feeling of satisfaction, a higher fatiguability, tearfulness. The patients regard their state as a morbid one, but take medical advice not in all the cases. Mild depressive episode occurs in two variants: a) without any somatic symptoms (F32.00); b) with somatic symptoms (F32.01). The somatic symptoms are as follows: 1) insomnia, wakening up 2 and more hours earlier than usual, or sleepiness; 2) fatiguability, a loss of strength; 3) a better or worse appetite, a loss of body weight or its increase without any relation to a diet; 4) a reduced libido; 5: constipations, dryness in the mouth; 6) headache and pains in different areas of the body; 7) complaints about the functioning of the cardiovascular, gastrointestinal, urogenital and locomotor systems.

*Moderate depressive episode F32.1* manifests itself by more expressed depressive symptoms.

*Severe depressive episode without any psychotic symptoms F32.2* is characterized by an absolute violation of vital activity resulting from a severe depressive state, abrupt low spirits with a feeling of vital melancholia and a tint of some physical suffering (precardiac melancholia, expressed psychomotor inhibition). The patients would express ideas of being sinful, have suicidal thoughts and commit suicidal acts.

In *severe depressive episode with psychotic symptoms F32.3*, there are signs of severe depression whose structure includes delusions of being sinful, reference, persecution, as well as hypochondriacal ones. Auditory, visual, tactile and olfactory hallucinations may be observed. The patient would hear funeral singing, feel a putrid smell of his “decomposing body”.

Depending upon the prevalence of some or other symptoms in the clinical picture of depression, the following variants of the latter are isolated: anxious-agitated, hypochondriacal, masked. Along with melancholia, the clinical picture of anxious-agitated depression includes anxious excitement. The patients would rush about, moan, hit their head, wring their hands, fret. In such states they would often commit suicidal acts, as their motor anxiety facilitates realization of suicidal intentions.

Hypochondriacal depression is characterized by numerous unpleasant sensations in different parts of the body. They do not have any definite localization and are not comparable with painful sensations in organic

sufferings. The patients would feel some pressing, boring, arching pain. It seems to them that their nerves have swollen, the intestines have dried up, the stomach is reducing in size, the liver has been corroded. The patients' complaints are peculiar, diffuse and cannot be grouped within the framework of some concrete somatic diseases. But unpleasant sensations are not hallucinations by their nature. They are not interpreted in a delirious way like in schizophrenics.

In masked depression, expression of the emotional component is insignificant, while motor, autonomic and sensitive disturbances prevail as depression equivalents. The patients would complain of general malaise, a loss of appetite, pains in the spinal column, stomach and intestines, insomnia and a reduced capacity for work. The pains are tormenting, and it makes the patients take medical advice. The "masks" may be in the form of pathocharacterological disorders (dipsomania, use of narcotics), asocial behaviour (impulsiveness, easy coming into conflicts, outbursts of aggression), hysterical reactions.

Diagnosing "latent depressions" it is necessary to take into account their following signs:

1. Presence of subdepressive states which are especially expressed in the morning.
2. Polymorphism, vagueness, abundance of persistent somatoautonomic complaints which cannot be grouped within the limits of some particular disease.
3. Disruption of vital functions (sleep, appetite, menses, potency, loss of weight).
4. Periodicity of the disorders, spontaneousness in their appearance.
5. Their seasonal character, mostly in spring and autumn.
6. Application of different methods of examination does not reveal any definite somatic disease.
7. Somatic therapy does not produce any effect.
8. The patient would be treated for a long period of time, persistently and without any result by doctors with different specializations, and despite failures would persist in visiting the doctors.

Along with typical maniacal and depressive attacks in manic-depressive psychosis, mixed states can be observed too and are characterized by coexistence of maniacal and depressive symptoms during an attack of the illness in the same patient. Several types of mixed states are isolated: a) depression with motor excitement and intellectual inhibition; b) maniacal stupor with motor inhibition; c) nonproductive mania: high spirits are combined with reduced psychic activity. Mixed states can be separate phases of the illness, but more frequently are observed as a short-term episode between two opposite phases, during a transition from one of them to another.

Mild forms of maniac-depressive psychosis are described under the name of cyclothymia F34.0 and most often pass in the form of slightly expressed depressions with a relatively short-term course.

The variants of uniphasic affective psychosis in the form of sullen-irritable mood, which gradually develops, lasts about one year and gradually passes away are termed dysthymia F34.1.

*Age-specific peculiarities of maniac-depressive psychosis.* Children of the preschool age do not reveal any clinically definite maniac endogenous or depressive phases, therefore they are partially assessed by the relatives and doctors in an inadequate way. Leading for children are somatic and autonomic symptoms. Thus, in depressions children reveal disturbances of sleep and appetite, listlessness, sluggishness, capriciousness, lost of interest in toys. Younger pupils study worse and develop inhibition. The child becomes shy and sullen, he looks pale and tired. No somatic pathology is revealed. Maniac states manifest themselves by excessive activity and behavioural disorders. The child is garrulous, constantly laughs, his face is hyperaemic, the eyes sparkle. Maniac states are more noticeable than depressive ones.

In teenagers, clinical manifestations of the disease acquire its typical signs, but along with the feeling of melancholia, sadness and depression adolescents develop a sullen dysphoric mood, conflict relations with their relatives and people of the same age, thoughts about their own inferiority, suicidal acts. It is not in rare cases that maniac states in adolescents are expressed through psychopathy-like forms of behaviour: violations of school discipline, alcoholization, offences, aggression. These disorders mask the phase of maniac-depressive psychosis.

The involutional age is characterized by prevalence of anxious-agitated or hypochondriacal depressions with a protracted course. Maniac states occur less frequently and are notable for complacency, fussiness and unproductiveness.

*The course* of maniac-depressive psychosis may be various. Sometimes there is a regular alternation of the maniac and depressive phases separated by light gaps without any morbid symptoms (the bipolar course). In other cases one phase turns into the other one, and the latter is followed by a light gap. At last, instead of the consecutive alternation of the phases, any of them may be repeated after a light gap (the monopolar recurrent course). The prognosis in each particular attack is favourable, no changes in the personality take place and the patient returns to his previous labour.

Maniac-depressive psychosis should be differentiated from the schizoaffective form of schizophrenia. Unlike maniac-depressive psychosis, schizophrenia is typically characterized by paralogic and splitting thinking, autism, emotional impoverishment, personality changes after the return from psychosis.

In somatogenic, infectious and organic psychoses the patients are asthenic, easily get impoverished, often have syndromes of disturbances of consciousness and intellectual-mnemonic disorders. Unlike endogenous depression, reactive one develops after psychotraumatizing factors, they find their reflection in the patients' sufferings. Endogenous depression is often seasonal, during its attacks there are daily fluctuations in the mood (the depression is more expressed in the morning hours, by the evening the mood becomes better). Presence of the seasonal character in its appearance, daily fluctuations, symptoms of sympathicotonia (Protopopov's triad), absence of any personality changes even after numerous attacks of the illness testify in favour of maniac-depressive psychosis.

*Etiology and pathogenesis.* Maniac-depressive psychosis belongs to diseases of unclear etiology, where hereditary aggravation is a predisposing factor. Thus, in case of one parent having the bipolar form of the disease, the child's risk to fall ill is 27 %, with two ill parents the risk of developing affective disorders in their children increases up to 50-70 %.

V.P. Protopopov and his disciples' works are devoted to the study of the pathogenesis of manic-depressive psychosis. Protopopov V.P. attributed the mechanisms of the disease development to some pathology in the thalamohypothalamic areas of the diencephalon, where the central autonomic apparatus playing an important part in manifestations of affective life is located. He believed that the most typical for manic-depressive psychosis is a complex of symptoms united under the name of the sympathicotonic syndrome: tachycardia, dilatation of the pupils, spastic constipations, a loss of weight, dryness of the skin, an increase of blood pressure, a high level of sugar level in blood. He related all these changes to the central mechanisms and put down to a higher excitability of the hypothalamic region.

A significant part in the pathogenesis of manic-depressive psychosis is played by synaptic transmission disturbances in the system of neurons of the hypothalamus and other basal areas of the brain caused by a change in the neuromediated activity (noradrenaline, serotonin). Thus, the catecholamine hypothesis proceeds from the fact, that depression is connected with a functional deficit of one or several catecholamine neurotransmitters on certain synapses, while mania is connected with the functional abundance of these amines.

On the whole, the *prognosis* in manic-depressive psychosis is favourable. But in cases of a long-term course with phases having some psychotic symptoms, difficulties of the social character develop and prognosis becomes worse. Assessing the prognosis, one should take into consideration the age of the illness onset and clinical manifestations of the first phase. Recovery is hardly probable with the bipolar type of the illness. If monopolar depressions begin early, the rate of phases at an old age reduces. With an early

onset of monopolar mania, an absolute recovery may take place at the age of 50-60. With respect to the general course of manic-depressive psychosis, it is impossible to make any absolutely reliable predictions for every case. Patients suffering manic-depressive psychosis often develop somatic diseases, such as hypertensive disease and diabetes, which worsen the prognosis too.

*Treatment and prophylaxis.* Maniac-depressive psychosis is treated using biological therapy combined with psychotherapy and social therapy. As a rule, the treatment should be provided under inpatient conditions in view of suicidal tendencies of depressive patients or inadequate behaviour of maniac ones. Prior to his admittance to mental hospital, it is necessary to provide the patient, his relatives or other people with continuous care and supervision. They should be explained a possibility of attempting suicide. Excited patients with the picture of anxious-agitated depression may be urgently administered for prehospital treatment aminazine (50-100 mg) intramuscularly in combination with diphenylhydramine hydrochloride (2 ml of 1 % solution) and **sibazon** (10 ml) intramuscularly. Excited patients with the picture of the maniac syndrome are prescribed haloperidol (up to 5 mg) intramuscularly in combination with aminazine (50-100 mg) intramuscularly.

There are three stages in the system of treating affective disorders. The first one consists in the controlling therapy directed at rapid removal of symptoms of acute affection. The second stage of the stabilizing therapy is conducted from the moment of gaining the therapeutic effect till the appearance of clinical intermission and the end of the phase. The third stage is the prophylactic therapy directed at prevention of a relapse of the illness; it is outpatient and lasts at least one year.

Maniac states are controlled with neuroleptic drugs and lithium salts. More effective are neuroleptics with sedative action, namely aminazine, propazone, **tizercine**, chlorprothixene, **leponex**. The doses of aminazine vary from 100 mg to 600 mg daily in combination with pipolphen (150 mg); **tizercine** is administered at a single dose of 25-50 mg twice a day. Haloperidol and **trisedil** are powerful means for controlling maniac excitement. Compared with other neuroleptics, haloperidol contributes to the most rapid release of motor hyperactivity and shortness of temper; unlike sedative neuroleptics, it normalizes the rate of thinking and mood more rapidly and does not cause any expressed inhibition and depression. Its doses vary from 60 mg to 100 mg. In order to achieve a more rapid control of excitement in acute maniac states, this drug is injected intramuscularly or intravenously by 10-15 mg. In the majority of cases, effect develops within the first 3-4 days. **Trisedil** is administered at high doses up to 30 ml intramuscularly, as in smaller doses it produces a stimulatory effect with appearance of motor disinhibition, shortness of temper and iratefulness.

A great part in controlling maniac-depressive states is played by lithium salts. They evenly reduce all the components of the maniac triad without causing sedation and somnolence. A stabilizing “normothymotic” effect is the most important aspect in the effect produced by lithium salts. In the beginning of treatment with lithium carbonate, it is recommended to administer 0.9 g/day and gradually increase the dose during 4-5 days up to 1.5-2.1 g/day. Appearance of nausea and tremor, especially after a prolonged uptake of this drug, indicates to overdosage and requires reduction of the dose. Lithium hydroxybutyrate is an active psychoactive remedy and possesses both antimaniacal properties of lithium and the tranquillizing effect of gamma hydroxybutyric acid (GHBA). This drug preparation is manufactured in ampoules, each having 2 ml of 20 % solution with 400 mg of lithium hydroxybutyrate. The most common doses are 1,600-3,200 mg/day, it is not recommended to intravenously inject a single dose exceeding 1,200-1,600 mg. The therapy should start with small doses (800-1,200 mg/day), and then it is necessary to gradually increase every day by 400-800 mg up to the achievement of a clinical effect and under the control of lithium in blood plasma, which should be 0.6-0.8 mM/l.

In order to rapidly control maniac excitement, lithium salts with neuroleptics are often used. Addition of *Finlepsin* proves to be effective in resistant maniae. It is administered at a dose of 0.2 g/day, and later the dose is gradually increased up to 0.6-0.8-1.2 g/day. Treatment with neuroleptics may develop the neuroleptic syndrome: hyperkineses, a higher muscle tone, akathisia (restlessness), tachykinesia (a need to move), hypersalivation, sebaceousness of skin integuments, importunity, insomnia. Complications are treated with *cyclodol* (2-6 mg/day), *parkopan* and *triphene* (the same dosage), caffeine (2 mg), 10 % cordiamine, vitamin B<sub>6</sub> (1.0-4.0 ml), 25 % magnesium sulphate (5 ml).

The treatment of the depressive phase of maniac-depressive psychosis consists, first of all, in the direct and aimed thymoanalytical influence on the vital depression affect and requires an intensive use of antidepressants of the tricyclic line: *imisin* (melipramine) and amitriptyline. Despite a great number of derivatives in this line (Anafranil, *petilil*, doxepin, nortriptyline, etc.), only the above-mentioned drugs remain remedies for producing the direct and rather potent general and selective antipsychotic effect on endogenous depression in maniac-depressive psychosis.

The choice of an antidepressant depends upon peculiarities in the psychopathological picture of depression. In there is vital melancholia, general psychomotor inhibition and blues, antidepressants with the activating (thymoanaleptic) effect are indicated: imipramine, melipramine (30-350 mg/day). In cases of expressed adynamics, listlessness and inhibition with reduction of the main depression symptoms it is expedient to heighten the

stimulatory effect with addition of **sidnocarb** or another psychostimulant. For anxious depression, antidepressants with the sedative effect are indicated, e.g. amitriptyline, whose initial dose is not less than 75 mg/day. If there are no contraindications, it is to be increased by 25-50 mg/day up to 200-250 mg/day. Depressive phases are treated with monoamine oxidase inhibitors characterized by prevalence of the stimulatory effect: **nuredal**, nialamide, **transamine** (Parnate). These drugs **must** not be combined with tricyclic antidepressants, some other medicines and food stuffs (cheese, smoked food, beans, wine), therefore they have not become so widely used as tricyclic antidepressants. In recent years, a lot of new antidepressants have been synthesized: **Fluoxetine** (Prozac), Zoloft, Paxil, Sinequan, doxepin, **Lerivon**, **Remeron**, **Cipramil**, etc. In cases of long-term and unsuccessful treatment with antidepressants, it is recommended to abruptly withdraw them in order to overcome resistance to this particular drug and transfer to another one.

Side effects and complications in treating with antidepressants manifest themselves by headaches, dizziness, disturbances in accommodation, thirst, dryness of the **oral mucosa and skin**, tremor, itching, retention of urine. Most of these disorders are revealed in the beginning of the therapy, they do not require withdrawal of the treatment and pass after reduction of the dose. Administration of antidepressants is contraindicated in acute diseases of the liver and kidneys, decompensated heart defects, hypertensive disease in the 3<sup>rd</sup> stage, blood diseases, ulcerative disease of the stomach at the stage of exacerbation and glaucoma.

Positive results in treating the depressive phase are achieved by electroconvulsive therapy (6-8 sessions), insulin therapy with hypoglycaemic doses (20-25 hypoglycaemiae) in combination with antidepressants. The method of sleep deprivation for 24-48 hours is employed. In recent years, the treatment of depression has involved use of anticonvulsants: **Finlepsin** up to **400-8,000** mg/day, Depakene up to 900 mg/day. In any kind of therapy it is necessary to take into consideration the patient's somatic state and before its administration to make a thorough examination of the state of the cardiovascular system, endocrine system and gastrointestinal tract.

*Prophylaxis of relapses.* Preventive therapy with lithium salts is effective for maniac attacks, and rarer for depressive ones. It begins with small doses of 300-600 mg/day, increasing them up to 900-1,200 mg/day. Lithium concentration in blood should be 0.6-0.8 mM/l. Application of tricyclic antidepressants for supportive therapy and prevention is more expedient in monopolar depressions. In recent years with prophylactic purposes some anticonvulsants have been used: **Finlepsin** (carbamazepine), Depakene, **Convulex**. An important part in preventing the illness is played by psychotherapy (supportive, cognitive, interpersonal, group ones), sanitary-educational work, genetic consulting, a healthy way of life.

## PSYCHOGENIC DISEASES

*Psychogenic diseases* are a large and clinically varied group of diseases resulting from an effect of acute or long-term psychic traumas which manifest themselves by both mental and somatoneurological disorders and, as a rule, are irreversible.

Among psychogenic diseases there are neurotic, stress-related disturbances, acute and protracted situational psychoses, somatoform disorders and psychosomatic diseases, as well as posttraumatic stress disorders (psychogenic development of the personality).

Psychogenic diseases are caused by a psychic trauma, i.e. some events which affect significant aspects of existence of the human being and result in deep psychological feelings. These may be subjectively significant events, i.e. those which are pathogenic for the majority of people. Besides, the psyche may be traumatized by conventionally pathogenic events which cause feelings in an individual because of his peculiar hierarchy of values.

Unfavourable psychogenic effects on the human being cause stress in him, i.e. a nonspecific reaction at the physiological, psychological and behavioural levels. Stress may exert some positive, mobilizing influence, but may result in disorganization of the organism activity. The stress, which exerts a negative influence and causes various disturbances and even diseases, is termed distress.

The disease is far from being caused by every unfavourable influence and in every person, as any personality uses his own inherited specific ways for processing feelings which neutralize their pathogenic effect and are called psychological protection. There are psychologically well and poorly protected individuals; it is in the latter cases that psychogenic diseases develop more frequently. The so-called extreme types of higher nervous activity, described by Pavlov, are the most vulnerable ones. These are weak, strong unrestrained and also extreme manifestations of the artistic and thinking type. Besides constitutional (hereditary) causes of the psychologically weak protection the latter can be caused by previous diseases, overstrain and other harmful influences. A part in the development of psychogenies is also played by the severity and personality significance of the psychic trauma (the trauma should fit the personality like a key to a lock), its acuteness and duration of its course, peculiarities of the intellect, general state of health, absence of possibilities to get any real help.

## Classification of psychogenic diseases

1. Neuroses
2. Situational psychoses
3. Somatoform disorders
4. Psychosomatic diseases
5. Posttraumatic stress disorder (PTSD)

### Neuroses (neurotic disorders)

*Neuroses* are psychogenically caused reversible mental disorders manifesting themselves by emotional instability, higher mental exhaustibility, affection of general state of health and various somatoautonomic functions, which do not change self-consciousness of the personality and realization of the illness.

All the neuroses are characterized by such common manifestations as:

➤ *disturbances of general state of health* – a feeling of inner discomfort, headache, weakness, jadedness, easy fatiguability, loss of strength, bad sleep, unpleasant painful sensations in different parts of the body;

➤ *emotional-volitional disorders* – lack of emotional restraint, touchiness, disposition to affects, unsteady mood, disposition to depressive reactions, fears and obsessions, insufficient volitional control over emotional manifestations;

➤ *disruption of other psychic functions* (memory, attention, thinking, perception and consciousness);

➤ *disturbances in the effector sphere* (tics, annoying actions, functional paralyses, pareses, mutism, tremor);

➤ *autonomic disturbances* (sweating, hot flushes, lability of pulse and blood pressure, tachycardia, dyspeptic phenomena, dyspnoea).

*Morbidity rate.* There are no exact data about the morbidity rate of neuroses among population. Information about registered cases is available for separate regions: from 15.8 to 30.0 per 1,000 people.

Neuroses make up 20-25 % of mental diseases. The number of people with neurotic disorders has significantly increased over the last decade.

### Classification of neurotic disorders

- I. Acute reaction to stress
  1. Depressive reactions
  2. Neurasthenic reactions
  3. Hysterical reactions
  4. Psychasthenic reactions
  5. Paralysis of emotions
- II. Neuroses
  1. Neurasthenia
  2. Hysteria
  3. Neurosis of obsessions
  4. Neurotic anxious disorders
  5. Neurotic depression
- III. Neuroses in children
  1. Systemic (monosymptomatic) neuroses
  2. Neuroses of fear
  3. Pathological habitual actions
  4. Peculiarities of “classical” neuroses in children

*Acute reaction to stress (neurotic reactions).* Neurotic reactions are acute responses to stress, the psyche being traumatized here by intimate-personal feelings. These may be a failure to satisfy some desires by the relatives, disappointment in a friend, an unfair (in the patient’s opinion) remark in presence of people of his age. Such reactions are more commonly observed in adolescents. According to ICD-10, they are encoded as F43.

There are no data about *the morbidity rate* of neurotic reactions, because in the overwhelming majority of cases these patients do not take medical advice. The clinical forms of neurotic reactions depend upon peculiarities in the patient’s personality; their development is caused by a bad psychological protection of the personality which makes it impossible to find an adequate way out of the given situation. The duration of these reactions is from a few minutes to several days. First of all, mental symptoms are reduced, while autonomic disorders last longer.

According to their clinical peculiarities, there are several forms of neurotic reactions.

*Depressive reaction F43.2* may develop 1-2 days following a psychic trauma; such a form of responding is mostly typical for a weak type of the higher nervous activity. The mood worsens, tearfulness appears, the patient’s attention is focused on the psychic trauma and its consequences. Some cases develop overvalued ideas of self-condemnation and self-humiliation with resultant suicidal thoughts and even acts. Suicides may have severe consequences and necessitate resuscitation of the patients. Low spirits are

accompanied by sleep disturbance, bad general state, easy fatiguability and unpleasant sensations in the heart region.

*Neurasthenic reaction F43.23* is characterized by phenomena of irritable weakness and autonomic symptoms.

*Hysterical reaction F43.25* follows the psychic trauma in the artistic type of the higher nervous activity and is accompanied by wild emotions, or sometimes the affective narrowed consciousness. It is not in rare cases that such patients commit suicides in order to attract attention to themselves or achieve something, and though the motives of these suicides are blackmailing, not always can the patients in the state of affect correctly assess consequences of what has been done, thereby making rather deep cuts or taking a large dose of some medicine.

*Psychasthenic reaction F43.22* appears in individuals of the thinking type and manifests itself by anxiety, indecision, inability to cope with the pettiest problems. Any simplest act is accompanied by importunity, multiple repeated checks of the correctness of the act.

*Paralysis of emotions F43.28* develops after an effect of some psychotraumatizing factor. Understanding all the tragedy of what is going on and the danger of the given situation for his life and that of his relatives, the patients do not feel any emotions. The person becomes indifferent and apathetic; understanding and noting everything he watches what is going on as if from aside.

Neurotic reactions do not require any special treatment. A positive effect is produced by benevolent talks with relatives and friends who sympathize with the patient and prompt a way out of the situation. Some cases require treatment with sedative vegetable drugs.

*Neurasthenia: F48* by ICD-10. This neurosis is caused by a long-term effect of unfavourable factors, the most significant of them being occupational nerve stress: a large volume of the information which should be learned under the conditions of time deficit and high demands to activity. The morbidity rate of neurasthenia is up to 5 % in the population, more than 60 % of patients take medical advice with symptoms of this neurosis.

Irritable weakness is the main clinical manifestation of neurasthenia. The patients would complain of fatiguability, weakness, reduced capacity for work. In the morning it is difficult to “engage” into work; by the time before lunch the symptoms of asthenia slightly reduce and the capacity for work improves a bit, but very soon fatiguability develops again, when any movement requires an incredible effort. The patients become impatient and cannot stand any waiting. They easily develop affects, after which asthenia increases still more and a feeling of being guilty appears for what was said or made in the state of affect. Many patients develop hyperaesthesia to visual, auditory and even tactile stimuli; they get irritated at water dropping, daily

rate sound of a time piece, touching their skin. Their sleep is significantly disturbed. Some patients cannot fall asleep for long periods of time, others fall asleep quickly, but in both cases the sleep is superficial with frequent awakenings and absence of the feeling of rest after the sleep. At daytime the patients feel sleepiness, but even if there is an opportunity to have rest, they cannot fall asleep. Some of the patients' constant complaints are headaches whose variety (compression, tightening, pricking) is very unpleasant for the patients. Headaches usually become more severe after some physical and mental overstrain.

Many patients develop unpleasant sensations in different organs. For this reason they go to different medical specialists, and though the latter do not reveal any pathology it does not calm the patients. They are fixed on these sensations and think that they have fallen ill with some severe incurable disease. Hypochondriacal symptoms are quite often accompanied by other symptoms of neurasthenia.

In **the course** of the illness there may be hypoaesthetic (when asthenia predominates) and hyperaesthetic (when short temper predominates) forms. The outcome of neurasthenia is favourable, most of the patients recover after the treatment.

*Hysterical neurosis. Dissociative (convertible) disorders: F44 by ICD-10.* The term "hysteria" was used as early as in ancient times, when the cause of hysterical manifestations was connected with sexual disturbances. This term comes from the Greek word *hystera* which means "uterus". Isolated hysterical symptoms are observed almost in 1/3 of the population. General hospitals admit up to 15 % of patients with such disorders. Females fall ill twice oftener than males. The clinical picture of hysterical neurosis is notable for a variety of its symptoms: mental, neurological, somatic. People with hysterical neurosis are characterized by easy suggestibility, **strong** and labile emotions. Hysterical disorders are peculiar for their demonstrative character, particular changeability, abrupt appearance and disappearance. Symptoms of the illness rather frequently assume the character of manipulations with the surrounding people, and after resolution of the psychotraumatizing situation they weaken or disappear at all. These disorders are allegedly protective.

In hysterical neurosis, somatic and neurological symptoms may be often connected with the contents of the psychic trauma. Thus, out of the fear to fall ill with some disease patients may develop its "symptoms". In this connection hysteria is called a great imitator, a chameleon.

Hysterical neurosis usually develops in sensitive and ingenuous people of the artistic type with signs of psychic infantilism and emotional immaturity. The clinical picture of hysterical neurosis has the following groups of symptoms: *affective, autonomic, motor, sensory*.

*Affective disorders* manifest themselves through excessive lability of emotions, extremely unsteady mood, wild emotional reactions. The patients may loudly sob, making an impression of inconsolable grief, and merrily laugh a few minutes later.

*Autonomic disorders* are expressed through numerous “somatic” symptoms: pains in the heart, palpitation, faints, nausea, vomiting, abdominal pains, dyspnoea, “attacks” of asphyxia, false pregnancy, etc.

*Motor disturbances* in hysteria may be in the form of hyperkineses or akineses. Hyperkineses are in the form of tics, tremor of the head and extremities, blepharospasm, glossolabial spasm, chorea-like movements, a fit of convulsions. The hysterical fit of convulsions should be differentiated from the epileptic one.

<b>Epileptic paroxysms</b>	<b>Hysterical fits</b>
Their appearance is not caused by any external factors	They appear in a psychotraumatizing situation
The duration of the fit is limited in time	Their duration depends upon the duration of a psychotraumatizing situation
Disengagement or change of consciousness is observed	Consciousness is clear or affectively narrowed
The postictal period is most often characterized by the development of coma which turns into sleep	After the fit, some elements of ostentatiousness and hysterical mutism are observed
The rate of paroxysms during the illness increases	The rate of paroxysms depends upon psychotraumatizing factors
Convulsive seizures are often observed	Convulsive seizures are seldom observed, only after a psychic trauma
Epileptic changes of the personality are formed in the patients	The patients have personality peculiarities by the neurotic type
Sometimes elements of hysteriform manifestations are possible	Hysterical symptoms are leading ones in the clinical picture
There are typical changes on EEG	EEG is within the physiological norm limits
Control of paroxysmal states is achieved with help of antiepileptic drugs	Control of paroxysmal states is achieved with help of psychotherapy and tranquilizers

*Hysterical hyperkineses*, unlike organic ones, depend upon the patients’ emotional state and are accompanied by unusual postures and autonomic

symptoms (a lump in the throat); they disappear or become weaker after elimination or desactualization of psychotraumatizing effects.

Hysterical akinesiae develop by the type of mono-, hemi- and paraplegiae. They are characterized by disturbances in the gait: “astasia-abasia”, when the patients are not able to stand and go without any organic disorders. Some patients complain of weakness in their arms and legs, which appears in cases of excitement, when the legs become “wadded”, “heavy” and these people “stumble at every step”. Typical for hysterical motor disorders is lack of correspondence between them and the topographic location of nerve trunks or localization of a focus in the CNS, absence of pathological reflexes, changes in tendon ones.

*Aphoniae* are seldom observed in recent time, more often the patients complain of *stammering, difficulties in pronouncing some words*.

*Sensory disorders* are represented by a disturbance of sensitivity and painful sensations in **various** organs and parts of the body. Disturbances of skin sensitivity have **various** configuration and location, more frequently they are localized in the region of the extremities in the form of gloves, stockings, socks.

It should be noticed that owing to a wide popularization of medical knowledge, some pathomorphism of hysterical manifestations has taken place. Thus, instead of an absolute loss of sensitivity the patients complain of dumbness in their extremities, a sensation of creeping, hot flushes to the extremities. In case of hysterical neurosis the patients would talk about their feelings with some inspiration, emphasize their exceptional character: the pains are “terrible”, “intolerable” and cannot be compared **with** anything. At the same time, they do not feel these disturbances as a burden, as if being indifferent to them.

The foreign literature terms some hysterical disorders *dissociative*. Dissociation is such a state when for a certain period of time some mental complexes get autonomy and control mental processes breaking of contact with the psychic life integrity. These are transitory disruptions in the integration of psychic functions. Hysterical disorders of the dissociative type include *amnesiae (F44.0)*, *fugue (F44.1)*, *stupor (F44.2)*, *trances and obsessional states (F44.3)*, and *hysterical psychoses* which will be described in the chapter “Situational psychoses”.

Clinically, the term “conversion” (from Latin *conversion*, i.e. “transformation”, “substitution”) means a particular pathological mechanism which causes transformation of psychological conflicts into somatoneurological symptoms. These are motor, sensory and autonomic symptoms of hysterical neurosis. Hysterical psychogenic reactions may be short-term and disappear without any treatment. But a prolonged (during several years) fixation of morbid symptoms is also possible. In some cases

there is a wavy course: after attenuation of hysterical disorders a tendency to their appearance in psychologically unfavourable situations remains. In a protracted course of hysterical disorders, the symptoms of conversion are fixed, characterological changes are aggravated and there is addition of steady asthenia, hypochondriacal and dysthymiac disorders. Underestimation of the clinical importance of hysteria symptoms interpreted as a result of autosuggestion or aggravation and simulation may cause improper diagnosis and administration of inadequate therapy.

Unlike conversion hysterical symptoms, in cases of malingering the disease-imitating signs are under the conscious control and can be discontinued by the malingerer at any moment. In hysteria, the somatoneurological disorders develop according their own clinical regulations irrespective of the patient's wishes.

*Obsessive-compulsive neurosis* is a common term for neuroses which manifest themselves through morbid fears (phobiae), annoying thoughts (obsessions), annoying actions, anxiety, recollections.

Different manifestations of obsessive-compulsive neurosis are encoded in ICD-10 with different signs: phobic and anxious disorders – F40, agoraphobia – F40.0 (without panic disorders – F40.00, with panic disorders – F40.01), social phobia – F40.1, specific (isolated) phobiae – F40.2, other anxious disorders – F41, obsessive-compulsive disorders – F42.

In Ukrainian psychiatry these states are traditionally described as a separate form of neurosis because they are joined by one common etiological factor (psychic trauma), develop in people with similar personality peculiarities, symptoms of the illness seldom occur in an isolated form and are accompanied by autonomic disturbances typical for all the neuroses. Separate manifestations of this neurosis are rather common for the patients treated by general practitioners. Thus, the morbidity rate of obsessive-compulsive disorders is up to 10-20 % in the general medical network, they occur in 1.5-2 % of cases in the population, while in the practice of psychiatrists they make up to 1 % of all the patients.

Manifestation of the symptoms of obsessive-compulsive neurosis is preceded by a psychic trauma which determines the contents of the leading disorder. Thus, a female patient who leaving the underground found herself in a crowd of people, felt unpleasant sensations in her heart and the fear that it might stop, and later she developed agoraphobia.

The initial stage of the illness is most commonly characterized by a panic disorder which determines the debut of the disease. It may be represented by abruptly appearing and rapidly increasing autonomic disturbances (sensations of asphyxia, difficulty in breathing, dizziness, palpitation, sweating) accompanied by the fear of losing consciousness, madness, death. This state may last up to 20-30 minutes. Panic attacks are

followed by an annoying fear (phobia), the most frequent of them being *agoraphobiae*, *social phobiae*, *hypochondriacal phobiae*.

*Agoraphobia* is the fear of open spaces, transport and crowd. This disorder is provoked by an underground journey, being aboard an airplane, in a shop, crowd, lift, going to the theatre, cinema, etc. The fear is accompanied by autonomic symptoms (dryness in the mouth, tachycardia, profuse sweating, tremor), thoracoabdominal symptoms (dyspnoea, asphyxia, chest pains, nausea, discomfort in the gastrointestinal tract), mental symptoms (derealization, depersonalization, fear to lose self-control). The patients try to avoid any situations when they may find themselves without being accompanied by a relative in places where it is difficult for them to go out unaided. Some patients would not leave their home being afraid of attacks of the fear; it affects their life stereotype and social adaptation, sometimes they refuse any activity outside their home.

*Social phobiae* are the fear to find oneself in the centre of attention, the appearance of confusion and shame in presence of other people. Social phobiae usually manifest themselves in adolescents and young people; they are provoked by particular situations in school, such as answering at the blackboard, an examination, a necessity to appear on the stage, as well as to contact with teachers, masters and representatives of the opposite sex. At the same time, an intercourse with the relatives and friends does not produce any fear. The patients are afraid of the situations when they have to make some action in the presence of strangers and its negative appraisal is supposed. They try to avoid evening parties, are afraid to eat, write, use public conveniences in the presence of strangers. The patients are afraid that their associates will notice this fear and mock at them. The patients' attitude to the fear is always critical, but they cannot get rid of it with and as a result their self-estimation is understated. Social phobiae are often accompanied by other mental disorders: anxiety, other phobiae, affective pathology, alcoholism, disturbances in food behaviour.

There two main groups of social phobiae: *isolated* and *generalized*. *Isolated social phobiae* are the fear not to make some habitual actions in public and avoidance of concrete situations. No difficulties in personal contacts outside these situations appear. One of the forms of an isolated social phobia is the fear to flush, to demonstrate awkwardness, confusion in personal contacts (ereuthophobia). Being afraid that their associates will notice it, the patients are shy in public and often embarrassed. In *generalized social phobiae*, the fear is accompanied by appearance of **ideas** of littleness and reference. Most frequently, these disorders develop in the syndrome of scopophobia (the dread to look absurd, to display one's own **defect** in public. The patients feel shame which is not caused by any real facts but affects their behaviour (avoidance of contacts with people).

*Hypochondriacal phobiae (nosophobia)* are the morbid fear of some bad disease. Cardio-, cancro-, syphilo-, AIDS- and insult phobiae are the most common. These patients often visit different doctors demanding medical examination. The patients' efforts are aimed at elimination of the conditions which cause appearance of the fear and panic attacks. They independently work out a complex of protective and adaptive measures: they move to an ecologically clean region, change their job. **Certain** hypochondriacal lines are formed: limited contacts, a sparing way of life, **non-participation** in some activities.

*Specific (isolated) phobiae* are limited by a strict definite situation: being near some animal, fears of height, thunderstorm, nausea, dental manipulations. Any contact with an object of the fear causes anxiety, therefore typical for these patients is to avoid phobic situations or objects.

Besides morbid fears, obsessive-compulsive neurosis is characterized by *obsessions* (annoying thoughts) and *impulsions* (annoying actions).

Annoying thoughts appear in spite of the patient, are perceived by him as alien and absurd, he tries to resist them. Obsessions are more common in the form of doubts, contrast drives, the morbid fear of becoming dirty.

In annoying doubts, the patients are haunted by thoughts about correctness of their decisions and actions. Such patients would constantly try to remember if they have locked a door, turned off gas, electricity and water supplies. These doubts haunt the patient when he fulfills his job duties: whether he has correctly arranged some papers, carried out his chief's order, put down a telephone number, etc. This diffidence makes them waste much time for repeated checks. Morbid sluggishness is a bad obstacle in any everyday activity, requiring hours for the simplest acts: dressing, meals, shaving. Commonly observed are morbid counting, repetitions, pedantry, an increased carefulness, development of different rituals in counting, "good" and "bad" numbers. Some concrete contrast drives are extremely unpleasant, when the patients develop an irresistible desire to make some act or pronounce a phrase which contradicts to their own directions and generally accepted ethics. For instance, to say obscene words, injure one's own relatives and children. These thoughts cause the fear to lose self-control and, possibly, make some actions dangerous for others and the patient himself. The patients would ask their relatives to hide knives, forks, axes. Annoying thoughts are accompanied by the feeling of estrangement and bright affective satiation, which are alien to the contents of the thoughts and combined with annoying drives and actions. Rather often the patients reveal annoying thoughts and fear of becoming dirty (mysophobia). They are afraid to make themselves dirty with dust, urine, soil, faeces, as well as fear penetration of toxic substances or invasion of microorganisms into their body. In order to avoid it, the patients would carefully follow rules of personal hygiene: they often wash their hands,

change clothes, every day do their flat, carefully treat foodstuffs. The patients would resort to various ways of protection, some of them seldom leave the flat, do not receive even their relatives being afraid of any contact with dirt or toxic substances. Morbid doubts are accompanied by frequent checks of their own actions.

Morbid actions almost never occur in an isolated state. Sometimes they are in the form of isolated monosymptomatic motor disturbances, oftener tics. The patients would shake their head, move their arms, blink.

Depending upon structural peculiarities of the obsessive syndrome, the following categories are isolated: F42.0 – annoying thoughts, mental chewing; F42.1 – mostly compulsive actions, obsessive rituals; F42.1 – mixed annoying thoughts and actions.

The course of obsessive-compulsive neurosis is chronic. Recovery is rare. The cases of monomorphic manifestations may be characterized by long-term stabilization, with a gradual reduction of psychopathological symptoms and social adaptation. The most resistant to therapy are phobias of contamination, sharp objects, contrast obsessions, numerous rituals. Such patients often have relapses of morbid manifestations and are at the risk of formation of residual disorders.

ICD-10 isolates “*other anxious disorders*”, F41, as a separate group.

*Panic disorder (episodic paroxysmal anxiety)*, F41.0. The attacks of panic pass like in agoraphobia. The patients rapidly develop the fear of expectation of repeated attacks which they try to conceal. These attacks often appear spontaneously without any connection with the situations endangering or threatening the patients’ life. The anxiety develops abruptly, achieves its maximum within a few minutes and is accompanied by autonomic disturbances. If there are 4 attacks a month, this is a moderate panic disorder (F41.00); if there are up to 4 attacks a week, this is a severe panic disorder (F41.01).

*Generalized anxious disorder (F41.1)* is often accompanied by other neurotic states. It is observed in 2-5 % of the population, twice more frequently in females than in males.

*Clinically*, the disorder manifests itself by some steady anxiety, often having no contents, and is accompanied by the feeling of internal tension and autonomic symptoms whose intensity is less than in the panic disorder. The patients feel some internal trembling, they are timid and foresee the worst outcome in all affairs. Such persons are impatient, short-tempered and fussy. Usually they do not regard their morbid symptoms as psychic, therefore seldom visit psychiatrists, most of them seek help of internists.

*Mixed anxious and depressive disorder (F41.2)* is the state where expression of the depressive and anxious components is not sufficient and none of them predominates over the other one. These disorders are

accompanied by autonomic disturbances and develop in psychogenic situations.

*Neurotic depressions.* Neurotic depression was first described as a separate nosological form in the beginning of the 20<sup>th</sup> century. In ICD-10 these disorders are classified as a prolonged depressive reaction manifesting itself with mild neurotic depressive disturbances caused by some protracted stress situation (F43.21).

In the Ukrainian psychiatric literature, some authors consider neurotic depression as a separate form of neurosis, others regard it as a disorder accompanying other neuroses.

Neurotic depression develops more frequently in people with rigidity and not inclined to compromises, who try not to manifest their emotions outwardly, but suffer their troubles “inside”. This neurosis is usually caused by a long-lasting, unsolved unpleasant situation, e.g. a disease of the child, living apart from the relatives, absence of any ability to share one’s own feelings with other people. The patients would try to suppress negative emotions in themselves and not to demonstrate them to their associates.

The onset of the illness is characterized by appearance of autonomic-dystonic symptoms (sleep disturbances, headache, pains in the heart region), a few weeks later followed by asthenia with blues and anxiousness. The patients say that they have lost the joy of life, but at the same time they do not assess their future as hopeless, they make plans for future as if not taking into account their unsolved psychoraumatizing situation. It is not in rare cases that the patients try to alleviate their **mind** pain with a higher activity when fulfilling their professional and home duties, despite weakness and fatiguability. Some patients become tearful on any occasion. A long course of depressive neurosis develops garrulity, which was not peculiar to such patients before, and they begin to “unburden their heart” even to people whom they hardly know, telling them about their feelings and troubles.

One of the peculiarities of this neurosis is the fact that psychotraumatizing situations usually do not affect the patients’ feelings; as a rule, they do not attribute their state to it. Like in other neuroses, the clinical picture of neurotic depression is characterized by a significant expressiveness of somatoautonomic disturbances: fluctuations in blood pressure, dysfunctions of the gastrointestinal tract, sleep disturbances in the form of difficult falling asleep and wakening during early morning hours with a feeling of anxiety, palpitation. The patients often visit therapists, who either treat them symptomatically or diagnose some somatic disease. It should be noticed that despite a lot of somatic complaints in the patients, there is no hypochondriacal fixation on them. Neurotic depressions have a wavy course and often are a stage in the neurotic development of the personality.

*Neuroses in children. Systemic (monosymptomatic) neuroses* are usually observed in children and are caused by functional weakness of some somatoautonomic system as a result of its immaturity or affection. They appear by the mechanism of conditioned reflexes. Neuroses in children are a disease of the forming personality which involves its significant aspects, the system of its relations. More commonly, their onset is not acute but during some more or less prolonged period of time. Such systemic neuroses include: *stammering, enuresis, tics, regurgitations in infants, anorexia, encopresis, neurotic habitual vomiting, neurotic cough*. One of the peculiarities of childhood neuroses is the fact that they are seldom triggered by an acute psychic trauma. More common are long-term unfavourable external effects, which not always are regarded by adults as negative. For instance, if the child is cared by other people rather than by his mother. Little children cannot rationally assess the situation, but emotionally respond to it. In the young children's age there may be a disturbance of nutrition (F98.2), expressed by *anorexia* or periodic belching of food followed by its chewing and swallowing. Such disturbances are common for the period of the child's passing on to independent eating, when the meal is in a sitting position (new for the child), with help of unknown covers (plates, spoons, cups). If then the mother (or anybody else, who feeds the child) displays impatience, punishes the child, the latter develops a negative conditioned reflex to the process of feeding. Besides, refusal to eat may be caused by a food burn, forced feeding. Children refuse either any food, or selectively. The child's feeding is accompanied by capriciousness, depression, tearfulness, sometimes vomiting.

Young children sometimes develop *neurotic habitual vomiting*; it is usually connected with anorexia and refusal to swallow any thick and solid food. This is a psychogenic reaction to some unpleasant feeling in the process of eating.

*Eating of inedible stuffs (pica) in childhood (F.98)* develops at the age of 1-6 years, often in children with a severe degree of oligophrenia. Mothers of such children do not care for them, they are emotionally cold and immature. More frequently, the children would eat pieces of plaster, rags, hair, stones, paper, sand, clay, plants with possible severe complications (intoxications, helminthic invasion, ileus).

*Enuresis* and *encopresis* develop at the period when skills of tidiness are formed. *Neurotic enuresis (F98.0)* appears after an acute or protracted psychic trauma in 7 % of boys and 3 % of girls at the age of 4-5 years. Enuresis is more common at night, accompanied by sleep disturbances, emotional lability and tearfulness, and depends upon the conditions in which the child is. In a long-term course of neurosis the child's suffering of his defect is morbid, he develops fear and anxious expectation of the night with a resultant difficulty in falling asleep and interrupted sleep.

*Neurotic encopresis* is a voluntary or involuntary secretion of faeces with a psychogenic cause (such as a long-term conflict situation in the family, extremely strict upbringing, appearance of the second child in the family). The children do not experience any disposition to defecation, and learn about secretion of faeces by smell or revealing it on their **linen**. They suffer morbidly, are ashamed of their parents and other children, hide the spoiled linen from the parents, become tearful, short-tempered, and feel depression.

*Neurotic tics (F95)* are more frequently observed in children of the school age (7-11 years). They manifest themselves with sudden, quick and repeated stereotyped movements: winking, twitches of the shoulder or head, movements of the facial muscles, tongue, neck and mandible, coughing or (more seldom) movements of the extremities and trunk. At first, tics develop in stress situation, and later may be fixed. ICD-10 classifies transitory tic disorders (F95.0) and chronic tic disorders (F95.1).

*Neurotic stammering (F98.5)* is a disturbance of the rhythm, tempo and fluency of the speech caused by a convulsive excitability of the speech apparatus muscles. It is accompanied by disorders in speech respiration and communicative function of the speech. Its rate is 1.5-5 %, most frequently it develops at the age of 2-4 years. Stammering in young children results from either some fright or parting with their parents.

The disorder develops gradually, and episodes of stammering alternate with periods of normal speech. In the elementary school forms, stammering becomes constant. It does not manifest itself in some children when they sing, recite, address animals or inanimate objects. It is not in rare cases that in the process of talking such children make auxiliary movements in the muscles of their face, neck, extremities (so-called speech “tricks”). In adolescents, stammering usually increases during talks with strangers, a speech before the class, a telephone conversation.

The outcome is favourable with a spontaneous recovery in up to 80 % of cases. An unfavourable course results in the formation of logoneurosis.

*Elective mutism (F94.0)* is the rarest disturbance of childhood, girls prevailing among the patients. It develops after either acute or (more frequently) chronic psychic traumas. The parents of these children are notable for various personality peculiarities and often express their discontent with silence. Such children would not talk at school or in street, and use speech at home in contacts with their relatives. The disorder appears more often in the beginning of education, at school, and is accompanied by a higher shyness, timidity before strangers. Sometimes mutism manifests itself only at some lessons, often after tactless remarks of the teacher concerning the child accompanied by laughter of the whole class. The disorder lasts a few months, sometimes it can be fixed and persist for several years.

*Pathologically habitual movements (F98.8).* These are habitual fixed movements in younger children: sucking of the fingers and tongue (cheilomania), biting of nails (onychophagia). The most typical for younger pupils and increasing in excitement are such things as a drive to pull out hairs on the head, eyebrows and eyelashes (trichotillomania), rhythmical voluntary swings with the head and body, observed in little children before falling asleep (jactation). Pathologically habitual actions are observed in cases of mental stress in anxious and excitable children as conditional reflex devices to relieve their anxiety.

*Anxiety neurosis.* Patients develop overvalued dreads, whose contents depend on the child's age and a concrete psychotraumatizing situation. In children at the age of 3-6 years, these are dreads of animals, characters of fairy tales and films, darkness, various images used by adults for frightening ("Baba-Yaga", a witch in Russian folk tales, "scarecrows", etc.). Younger pupils develop some dread of the school, when the teacher unfairly scolded or punished the child. Such children would leave school, walk in streets. They would complain of fatigue, headaches and nausea. Being afraid of punishment, some children run away from their home and are on the tramp. At the age of 6-8 years there may be dreads of darkness, loneliness, separation from relatives. Dreads in adolescents are connected with apprehension for their own life, a possibility of death.

*Peculiarities of classical neuroses in children.* Depressive neurosis at the preschool age manifests itself with autonomic disturbances, anxiety, fear, disturbances of behaviour, sleep and appetite, loss of body weight. Separation from parents and loss of parents are the psychotraumatizing factors of this age. At the young and middle school age, a psychotraumatizing effect is produced by poor progress in studies which is superfluously condemned by the parents. Such children develop listlessness, fatigue, shortness of temper, and melancholia at an older age. The duration of depressive neurosis in children is short, some cases have a neurotic development of the personality.

*Neurasthenia (asthenic neurosis)* of childhood is characterized by weakness, shortness of temper, autonomic and motor disturbances (restlessness, motor disinhibition, inability to preserve the same position for a long period of time).

*Hysterical neurosis* in children manifests itself by sensomotor and autonomic disturbances: retention of urine and speech, sleep disturbances, palpitation, faints, dizziness, dyspnoea. Disturbances of sensations are not common, sometimes the child is unable to stand and walk, but can move legs in the recumbent position. Prohibitions or punishments at the young age result in attacks with motor excitement: the children would fall down on the floor, cry, jerk their legs.

*Obsessive-compulsive neurosis* of childhood usually develops in two variants: phobic and obsessive. The latter is characterized by various annoying actions: tics, twitchings with their critical assessment.

Pupils develop motor rituals as a protective reaction in dreads and apprehensions, e.g. multiple washing of their hands in the dread of catching some infection. Sometimes the rituals are of a forced character. In order to prevent an anticipated danger the patient commits various acts. The phobic variant of neurosis in pupils manifests itself by the dread of spoiling, sharp objects, anxiety for the parents' health. Older children develop the dread of falling ill with some disease: cancerophobia, cardiophobia, etc.

### **Posttraumatic stress disorder (PTSD)**

These are various psychic and somatoautonomic disturbances developing after some extreme psychic traumas. PTSD appears not immediately after a psychic trauma, but in a few weeks, this delay being not more than 6 months. An acute psychogenic disorder in such patients may be insignificant or even absent. Various uncontrolled and controlled events endangering the patient's life are etiological factors of PTSD. Usually these are great calamities: natural (earthquakes, hurricanes, floods, etc.), caused by man (fires, explosions, industrial accidents, train smashes, shipwrecks, etc.), as well as "designed calamities" (wars, social riot, terrorist acts). PTSD may also develop in cases when a catastrophic situation is directed against one person (aggressions, rapes).

In ICD-10, PTSD is encoded as F-43.1. According to literature data, *the morbidity rate* of PTSD ranges from 10 % in catastrophe witnesses to 95 % in casualties. The cases of PTSD at peace-time make up 0.5 % among men and 1.2 % among women.

*The clinical signs* of PTSD develop after the patient goes out of the stress situation. The initial period of PTSD formation is characterized by anxious-phobic states with tearfulness, nightmares, disturbances of derealization and depersonalization. The patients develop influxes of unpleasant recollections, related to the psychic trauma, often of the annoying character and usually without any outward reasons. These recollections are extremely strong in the patient's consciousness and cause in him the same feelings as the real tragedy. A very strong feeling is also caused by various reminders of what has been suffered, e.g., in films, TV broadcasts, talks of one's associates. These secondary feelings develop against a background of some emotional dullness, social estrangement, reduced responses to the surroundings, anhedonia. The patients would try to avoid such situations and

thoughts which could even remotely remind the tragedy endured. They develop diffidence caused by the fear to have agonizing recollections again; as a result, the patients become less sociable and postpone taking different decisions. Their sleep is disturbed, they suffer from memory loss, distractible attention, short and hot temper.

It is hard for the patients to associate with other people, even their relatives; they become reserved, estranged, sometimes malicious, with manifestations of outwardly unmotivated fits of aggression. At their jobs, such patients are not able to observe subordination and meet requirements of the labour discipline; in the families they are unable to share feelings of their relatives, rather often they would lose their job and family. Many of them begin to abuse liquor, narcotic drugs, toxic substances, it increasing their social dysadaptation even more. These behaviour peculiarities resemble the picture of the psychopathy-like syndrome. But typical for the patients with PTSD are anxiety, melancholia, the feeling of their own guilt, uselessness of their life, suicidal thoughts. They suffer from repeated recollections of the tragedy endured, which often appear abruptly in the form of vivid imagery representations (flashbacks) lasting for up to several hours and accompanied by expressed autonomic disorders. Many patients are afraid of falling asleep, because it is not in rare cases that “the tragedy is suffered” while sleeping. Usually the patients do not take medical advice, as they believe that the people who have not endured their tragedy are unable to understand them. In the majority of cases, recovery occurs with favourable family circumstances and good social conditions. But within the remote period there may be sleep disturbances and a pessimistic assessment of what is taking place in the surroundings. Some psychoorganic changes caused by various vascular disorders are likely to develop. Follow-ups show that complete recovery occurs in 30 % of PTSD cases, some residual mild abnormalities are observed in 40 % of the patients, moderate ones in 20 %, and deterioration of the state takes place in 10 % of the cases.

*Etiology and pathogenesis of neuroses and neurotic reactions.* Many researchers believe that a psychic trauma is the main etiological factor of neuroses; but it is generally known that neuroses are far from being observed after every psychic trauma and in all the patients. At the current stage in the development of the study of neuroses, at least three main factors determining etiology and pathogenesis of these diseases are considered to be significant: a psychotraumatizing feeling, peculiarities of the personality and heredity. Different researchers assess importance of these factors in different ways, often making only one of them absolute.

Fundamentals for understanding the psychophysiological nature of neuroses were laid in I.P. Pavlov’s teaching, who made an experimental model of neurotic disorders. According to Pavlov’s theory, neuroses result from

some overstrain in the strength or motility (“collision”) of the main nervous processes: excitation and active inhibition. An overstrain in the strength of the main nervous processes is caused by an effect produced by some stimulant having an extreme intensity or duration, and a “collision” results from production of very fine differentiations. Guided by the teaching about types of the higher nervous activity, which nowadays are regarded as profiles of interhemispheric relationships, I.P. Pavlov supposed that hysteria more frequently developed in people of the artistic (dextrohemispheric) type, obsessive-compulsive neurosis in people of the thinking (sinistrohemispheric) type, and neurasthenia in people of the intermediate (middle) type.

P.K. Anokhin considered that competition between two systems of excitation, rather than the struggle between excitation and inhibition, was the main mechanism in the development of neuroses, conditional inhibition appearing in case of collision of these systems. Results of current neurophysiological researches make it possible to relate various clinical forms of neurotic disorders to exhaustion of intracortical or cortical-subcortical relationships of inhibitory systems.

The priority importance at **different** stages in the development of the teaching of neuroses was attributed to **various** concepts of their origin.

According to S.Freud’s psychoanalytical theory, neurosis is expression of the conflict between subconscious but strong obsessions, “**it**”, and the system of social interdictions, taboo, “super-Ego”, with the resultant development of anxiety and other symptoms of the illness. Z. Freud and his followers attached the paramount importance in the appearance of neuroses to sexual conflicts of the personality and did not take into account any effect of social factors.

**Neofreudists**, on the contrary, believed, that the human psyche was determined only by cultural and sociological conditions, rather than by biological ones.

Representatives of the constitutional trend assigned the leading part in the origination of neuroses to the hereditary factor and regarded that development of the personality took place irrespective of social influences. There is no doubt that hereditary factors play some predisposing part in the appearance of neuroses, as it may be demonstrated by the fact that **concordance** of neurotic disorders in monozygotic twins is higher than in dizygotic ones. In the families of probands with neurotic disorders the rate of neuroses is higher than in the population.

A great part in the origination of neuroses is played by peculiarities in the formation of the personality and asthenizing factors which precede the illness. Neurotic symptoms are often observed in persons with retardations at various age periods, with a resultant violation in the sequence of formation of the personality structures and preservation of infantilism features. The part of

personality disorders is most convincingly expressed in the formation of protracted or periodically relapsing neurotic states. As P.B. Gannushkin asserts, under a repeated effect of unfavourable psychological factors there is hypertrophy of some personality features which were poorly expressed (accentuated) before the psychic trauma. The scientist believed that neurotic states, despite their psychogenic conditionality, in the majority of cases developed in psychopathic persons.

Summing up the analysis of different (etiological and predisposing) factors in the origination of neurotic disorders, it is necessary to emphasize a variety of their possible combinations in different clinical forms of neuroses. Thus, the main sign of neurasthenia (irritable weakness) is formed when doing a large scope of work within some very brief space of time in combination with an excessive affective load stimulating volitional strain. Some overloading in urgent work, overcoming of fatigue, forced sleeplessness result in nervous exhaustion. A major part in the formation of hysterical symptoms is played by peculiarities of the personality, particularly its increased suggestibility. It is not in rare cases that hysterical disorders are the protective reaction of the personality to the effect of some psychogenic situation intolerable for this person. Resulting from this influence are various autonomosomatic disturbances (conversive symptoms). The patients try to conceal or delay an outward manifestation of the emotional charge, but the latter finds its way out in autonomosomatic disorders. According to I.P. Pavlov's theory, appearance of obsessions is caused by a focus of congestive excitement without any area of negative induction (unlike in **delusions**), it explaining criticism towards these disorders from the side of the patient and his desire to get rid of them.

*Differential diagnosis.* Neurotic and neurosis-like syndromes occur in many diseases. Often they are the first signs of organic, symptomatic and even endogenous psychoses, it creating significant diagnostic difficulties. When differentiating neuroses and psychoses, one should take into account that, unlike psychoses, neuroses are characterized by realization of the illness, a critical assessment of morbid sufferings with a feeling of their estrangement, absence of hallucinations, delusions, disturbances of the consciousness. The feeling of reality in neuroses is preserved. Unlike psychoses, neuroses do not result in any serious breach of the social norms of behaviour. The clinical picture of neurosis-like syndromes of the organic, somatogenic or endogenous genesis is polymorphous and characterized by presence of signs of the basic disease.

Significant difficulties appear in cases of differentiation of protracted phobic and obsessive states in obsessive-compulsive neuroses and schizophrenia. While phobia in neuroses are monomorphic, in cases of schizophrenia they are multiform and changeable. Rather often socio- and

mysophobiae are joined by delusions of reference, damage, poisoning. It is not typical for neurotic phobia to extend the fear to everything in the surroundings. The contents of phobiae in schizophrenia may be whimsical, abstract, sometimes absurd. Psychopathological symptoms in schizophrenia originate without any outward cause, autochthonously, often suddenly, while in neuroses the manifestation of the illness and their intensity are related to the psychotraumatizing situation. The emotional reaction to obsessions in patients with neuroses and schizophrenia differs too. While in neurotics the affective colouring of morbid feelings is intensive, such patients try to overcome the illness and willingly undergo their treatment, emotions in schizophrenics are often levelled, they regard their obsessions quietly and reasonably, adapt to them.

The initial disorders developing prior to appearance of some clear neurotic symptoms are various in neuroses and other morbid states with neurosis-like symptoms. Patients with exogenies and psychogenies always reveal some relation of these disorders to outward hazards, while in schizophrenia such a relation cannot be found. Appearance of psychic neurosis-like symptoms in exogenies is preceded by hyperesthesia to external stimulants, sleep disturbances, emotional lability, autonomic unsteadiness, the patients not considering them as a manifestation of the illness. Long before neurosis-like manifestations, schizophrenics often reveal a peculiar phenomenon of derealization and depersonalization.

The neurotic depression should be differentiated from cyclothymia. In the latter case, aggravation of the depressive state increases manifestation of the sympathetic syndrome (Protopopov's triad), while in neurotic depression this regulation is not observed. Moreover, neurotic depression is not characterized by a clear daily fluctuation of the state typical for endogenous depression. Unlike psychopathy cases, patients with the neurotic development regard their characterological disorders as estranged and morbid, they are unstable and manifest themselves only in certain situations.

*Prognosis.* The course of neuroses, which are functional psychogenic diseases, is usually favourable. The effect of the therapy of neurotic disorders is high, it is possible to achieve a significant improvement and actual recovery in 60-80 % of the cases. In anxious-phobic disorders, some half of the patients reveal relapses of the illness within the first three years following the treatment. A more favourable outcome is often observed in patients at the age of 30-40 years, as well as in females and married patients.

Some cases demonstrate the neurotic development of the personality. An insufficient level of the personality maturation, some somatic burden, a long-term unsolved psychotraumatizing situation and accentuation of the character are risk factors in this case. Appearance of polymorphism of neurotic disorders significantly hampers therapy and rehabilitation of the

patients. This polymorphism in an abnormal personality is explained by its response to the state of one's own health and insolvency rather than only to the psychic trauma and its consequences.

*The treatment of patients with neurotic disorders* should be combined: psychotherapy, general health improving therapy, use of psychoactive drugs, physiotherapy, remedial gymnastics. The part of each method in the therapy of **different** manifestations will be unequal, but in order to achieve success and prevent a protracted course it is necessary to use all the components. The overwhelming majority of the cases are treated as outpatients at psychoneurological dispensaries, rooms for neuroses, psychotherapeutic and psychohygienic rooms of polyclinics in the general medical network. Outpatient aid turns out to be effective in **mild** neurotic disorders: subclinical panic attacks, monosymptomatic obsessions, transitory hysterical, asthenoautonomic, agrypnic disturbances. But some cases, i.e. patients with acute anxious phobiae (manifestative panic attacks, generalized anxiety, panphobiae, hysterophobic and dissociative states) require inpatient treatment which is given at specialized departments for patients with neuroses.

The psychogenic character of the abnormality necessitates psychotherapy for all the patients with neurotic disorders which is differentially applied depending upon the symptoms and directions of the patient. Both group and individual methods of psychotherapy are used. If the clinical picture is characterized by prevalence of phobic disorders, the effect will be achieved by supportive therapy directed at improving the psychological state of the patient. In order to remove phobiae, the patient is taught to resist the fear-arousing object, using behaviour psychotherapy, **different** kinds of relaxation, including hypnopsychotherapy.

A positive effect in many neurotic disorders is produced by rational psychotherapy which envisages explanation of the cause and essence of the illness, making the patient change his mind and reorientate him for adequate understanding of his morbid symptoms, as well as reconstruction of his attitude towards the psychotraumatizing situation.

Such forms of behaviour therapy as the method of exposition and prevention of the response, envisaging a purposeful and consecutive contact of the patient with the situations, which he tries to avoid, and a deliberate delay of the resultant pathological response are effective in obsessive-compulsive disorders.

The treatment of conversive hysterical manifestations involves hypnopsychotherapy with whose help such hysterical reactions as amnesia and fugue are controlled. In the majority of cases it is recommended to combine different psychotherapeutic effects: suggestive and cognitive, individual and group, behaviour psychotherapy.

In the process of rehabilitation it is recommended to employ the method of neurolinguistic programming which makes it possible to place any unfavourable fact in a better light and use it as a source of positive resources. This method may change the patient's attitude towards himself and his surroundings. The general health improving therapy of neurotic disorders is directed at activation of metabolism, restoration of disrupted somatic functions. With this purpose, vitamins, angioprotectors (antioxidants), calcium antagonists and appetizers for cachexia are administered. Psychopharmacotherapy is conducted with regard for the character of morbid symptoms, and though drug preparations of many psychopharmacological classes (tranquillizers, antidepressants, neuroleptics, nootropes) are used for treating neurotic disorders, the most frequent of them are tranquillizers.

The therapy of obsessive-compulsive disorders is first of all conducted with serotonergic antidepressants, the first place among them belonging to tricyclic derivatives (Anafranil); together with them selective inhibitors of serotonin uptake are widely used: fluoxetine (Prozac), sertraline (Zoloft), fluvoxamine (Faverin). The latter is the most effective for panic attacks, Zoloft for contrast obsessions, and Aurorix (selective inhibitor of MAO uptake) for social phobias.

Tranquillizers, especially benzodiazepine derivatives, produce their effect against anxiety and obsession, have a wide spectrum of anxiolytic activity and low death rate in overdoses.

Benzodiazepines are used for anxious-phobic, obsessive-compulsive (acute and long-term) states in combination with somatoautonomic disturbances. Panic attacks are controlled with alprazolam (Xanax) and clonazepam (Rivotril), as well as intravenous drop-by-drop administration of diazepam (Valeum, Seduxen, Sibazon), chlordiazepine (Librium, Helenium). Taking into account a possibility of developing signs of dependence, benzodiazepine derivatives are administered in the form of short-term courses.

In the treatment of neuroses, the following tranquillizers are most frequently used:

Drug	Daily dose, mg	Way of administration
Alprazolam (Cassadan, Xanax, Chelex)	1 - 2	Oral
Bromazepam (Lexilium, Lexotan)	4 - 8	Oral
Diazepam (Valeum, Relanium, Seduxen, Sibazon)	15 - 45 20	Oral Intravenous
Clobazam (Frizium, Urbanil)	20 - 40	Oral
Clonazepam (Antilepsil, Rivotril)	4 - 6 1	Oral Intravenous

Clorazepate (Tranxen)	20	Oral
Lorazepam (Antivan, Merlit, Temessta, Trapex)	6 - 9 2	Oral Intravenous
Medazepam (Mezapam, Nobrium, Rudotel)	30 - 40	Oral
Midazolam (Dormicum, Flormidal)	7.5 - 15	Oral
Nitrazepam (Nitrosan, Radedorm, Eunoktin)	5 - 10	Oral
Oxazepam (Nozepam, Tazepam, Seresta)	30 - 50	Oral
Temazepam (Signopam)	40 - 50	Oral
Tophizopam (Grandaxine)	150	Oral
Triazolam (Chalcion)	0.25	Oral
Phenazepam	2 - 3	Oral
Flurazepam (Dolmadorm)	30	Oral
Flunitrazepam (Rohipnol)	2	Oral
Chlordiazepoxide (Librium, Helenium)	30 - 50 100	Oral Intravenous

Neuroleptics are seldom used for treating neurotic states. In episodic short-term hysterical reactions it is recommended to prescribe short courses of tranquillizers at small doses. Protracted hysterophobic states are controlled by a combination of tranquillizers with neuroleptics (Neuleptil, eglonil, chlorprothixene). In the outpatient treatment of neurasthenia it is necessary to administer so-called "daytime" tranquillizers whose sedative and myorelaxing effects are insignificantly expressed: meprobamate, Atarax, Grandaxine, rhudotel, hydazepam. If the clinical picture of neurasthenia is characterized by prevalence of asthenic symptoms, tranquillizers are to be combined with nootrops (piracetam, aminalon) and stimulants (sidnocarb, meridin) at small doses.

Persistent sleep disturbances require administration of drugs with a hypnotic effect. These are benzodiazepine derivatives (triazolam – chalcion, Midazolam – Dormicum, flunitrazepam – Rohipnol, flurazepam – dalmadorm), cyclopyrrone derivatives (zopiclon – Imovane), imidazopyridine derivatives (zolpidem – Stilnox, ivadal).

Tricyclic antidepressants are the most effective for neurotic depression.

*Treatment of patients with PTSD.* Within the initial period, when some required and specialized aid is given to the patients who have survived catastrophes and natural calamities, psychopharmacological therapy should be administered too. The most suitable for such cases are small doses of tranquillizers or antidepressants aimed at normalization of sleep and reduction of the mental stress.

In chronic PTSD, the following groups of drugs are recommended:

- anxiolytics: clonazepam, propranolol, clonidine;

- antidepressants: amitriptyline, imipramine, phenelzine, fluoxetine, sertraline;
- mood stabilizers: lithium salts;
- anticonvulsants: Depakene, valproic acid.

Very important is psychocorrecting aid within the subacute and remote periods. At certain stages of PTSD the patients usually do not take medical advice, as they do not regard their state as morbid and are afraid that attendance of psychiatric establishments may affect their social status. Psychological correction, at the same time, is extremely important for these patients. They should be convinced of the necessity to receive the therapy. The patient should be taught to regard his disorders as a normal response to the psychotraumatizing situation. The patient should not avoid anything connected with the psychic trauma (in particular, recollections of it), it is necessary to help him process it rationally and overcome emotionally. This work requires great tact and patience of the psychotherapist, it should be conducted with regard for cultural and national peculiarities of the people who have survived a catastrophe. Rendering of psychological aid should last from a few months to 1-2 years.

### **Somatoform disorders**

Among clinical manifestations in patients with neuroses, who take advice of internists, somatized symptoms prevail. The opportune diagnosis of mental disorders with “somatic” masks is of great importance because some 20 % of all the health protection means in the general somatic practice are spent for treating cases of somatoform disorders. But only 19 % of the needy patients are referred to consult a psychiatrist or psychotherapist, an average delay with such a referral being about 8-9 years.

Cases of somatoform disorders make up to 25 % in the whole number of patients of the general somatic practice in all the countries, but there are no exact data about the morbidity rate in the population.

The somatized disorder is markedly more common for females, whose morbidity is 1-2 %. The hypochondriacal disorder among patients of the general somatic practice makes up from 3 to 14 %, no sex-specific differences and family cases being observed. The chronic somatoform painful disorder is also more common for females versus males with the ratio of 2:1.

*Etiology and pathogenesis.* The heading of the “somatoform disorder” actually includes neurotic somatized borderline mental disorders whose etiology and pathogenesis have been analysed from the viewpoint of the Ukrainian psychiatry. Thus, a leading part in the etiopathogenesis of

somatoform disorders, like in neuroses, is played by psychogenic factors (**intrapersonal** and microsocial conflicts), but patients with somatoform disorders, as a rule, are reluctant to discuss their psychological problems. Side by side with this such patients are supposed to have some neuropsychological basis, genetic predisposition. According to some authors, “somatization” of mental disorders is facilitated by alexithymia (a person’s inability to express his emotional feelings, difficulties in the verbal and symbolic expression of emotions). Features of alexithymia are also typical for patients suffering from “classical” psychosomatic diseases. Alexithymia is characterized by present difficulties in the recognition and description of one’s own feelings, a reduced capacity for symbolizing and dreaming, more concentration on outward events than innermost feelings.

*Classification of clinical manifestations.* Mental diseases mostly manifesting themselves by various “pseudosomatic” disorders were traditionally described in the Ukrainian psychiatry within the frameworks of neurasthenia, hysteria and hypochondria, somatoautonomic symptoms being undoubtedly considered as one of the compulsory signs of any neurotic disorders.

Recently, the structure of nonpsychotic mental diseases has been characterized by a sharp rise in the share of disorders with prevalence of somatic complaints, mostly with a somatic expression of mental disorders. Introduction of the diagnostic category of “somatoform disorders” in ICD-10 corresponds to these tendencies.

Somatoform disorders in ICD-10 are described as a group of psychopathological disturbances whose main sign consists in the relapsing development of physical symptoms along with constant demands for medical examinations in spite of confirmed negative results and doctors’ assertions about absence of any physical basis for the symptoms.

**Somatoform disorders include the following subgroups:**

- somatized disorder – F45.0;
- undifferentiated somatoform disorder – F45.1;
- hypochondriacal disorder – F45.2;
- somatoform autonomic dysfunction – F45.3;
- chronic somatoform painful disorder – F45.4.

*Clinical picture. Somatized disorder.* Its clinical picture consists of numerous stable and modifying somatic symptoms, which subjectively exist at least two years, but with absence of any somatic diseases which could explain these symptoms. The symptoms may relate to any part of the body or system, most often they are gastrointestinal (pain, nausea, belching, vomiting, diarrhoea, regurgitation, meteorism), cutaneous (itching, burning, tenderness, numbness, pricking), cardiovascular (pains, dyspnoea), urogenital (dysuria, pains in the genital organs, discharges). The patients’ attention is always fixed

on these symptoms and they would take medical advice. A frequent comorbidity with anxiety, depression and abuse of psychoactive drugs is observed.

*Hypochondriacal disorder.* This manifests itself by fixed ideas (not delusions) about presence of one or several more severe somatic diseases, therewith normal routine sensations being interpreted as abnormal and morbid. The patients would constantly make somatic complaints, their attention being usually focused on the pain in either one or two organs or systems of the body. The patient may name a supposed somatic disease, this opinion may change from one disease to another. As a rule, the above ideas are preserved despite the fact that no somatic explanation adequate to the present complaints has been revealed. Unlike cases of the somatized disorder, for these patients the disease itself and its consequences are more important than separate symptoms, and they take medical advice mostly with the purpose of diagnosis.

*Somatoform autonomic dysfunction.* The patient's complaints are constantly related to one of the systems which is controlled by autonomic regulation (cardiovascular, respiratory or digestive). The symptoms do not point out any physical disturbance of the organ or system involved, but they either reflect objective signs of autonomic excitement (palpitation, dyspnoea, hiccough, etc.) or are subjective and nonspecific (transient pains, burning, heaviness, bursting open, etc.). Depending upon the organ and system, which are regarded by the patient as the source of his symptoms, the following separate disorders in this group are isolated and correspondingly encoded with the fifth sign:

- the heart and cardiovascular system (F45.30): cardiac neurosis, Da Costa's syndrome (neurocirculatory asthenia), neurocirculatory dystonia;
- the upper portion of the gastrointestinal tract (F45.31): gastric neurosis, psychogenic aerophobia, hiccough, dyspepsia, pylorospasm;
- the lower portion of the gastrointestinal tract (F45.32): psychogenic meteorism, irritable intestine syndrome, gas diarrhoea syndrome;
- the respiratory system (F45.33): psychogenic forms of cough and dyspnoea;
- the urogenital system (F45.34): psychogenic dysuria, a higher urinary frequency.

*Chronic somatoform painful disorder.* The patients complain of a constant severe pain which cannot be completely explained by some physiological process or somatic disorder. It develops against a background of a psychoemotional conflict, and there is a significant secondary advantage of the symptom: greater care and support from the part of the patient's relatives

and doctors. Pains of the psychogenic origin in other mental disorders (e.g., in depression) and those which develop according to known pathophysiological mechanisms (a pain of muscle tension, migraine) are excluded.

The onset of the somatoform disorder is oftener observed at a young age. *The chronic somatoform painful disorder* more frequently begins at the age over 45. The course of somatoform disorders is, as a rule, chronic and fluctuating.

The treatment is started only after an absolute exclusion of an organic cause of the suffering. All the stages of treating the somatoform disorder require a thorough dynamic control of the somatic state, because a probability of developing somatic diseases in patients with somatoform disorders is the same as in the population. About 2/3 of the cases with somatoform disorders can be given treatment in the **general somatic network** (as outpatients of a local polyclinic or inpatients of multi-type hospitals). Psychoactive drugs in these cases are administered by a general practitioner with a consultative participation of a psychiatrist. As a rule, each third case with somatoform disorders requires specialized psychiatric aid (a psychotherapist's room, a psychoneurological dispensary, a hospital for neuroses, a sanatory department of a mental hospital). The programme of treatment should be individual with an optimum combination of psychopharmacotherapy, psychotherapy and social support. The therapy of somatoform disorders always uses psychoactive drugs of different types (tranquillizers, antidepressants, neuroleptics, carbamazepine), as well as somatotropic drug preparations (B adrenoblockers, calcium channel blockers, hypotensive drugs). Tranquillizers are widely employed both for monotherapy and in combination with other psychoactive means (short-term courses due to a risk of developing dependency). For the therapy of chronic pain syndromes, antidepressants are indicated, as they produce both the antidepressive and primary analgetic effects. Serotonergic drugs are preferable owing to their more favourable type of side effects (**Citalopram**, Sertraline, Paroxetine, Lerivon).

Psychotherapy is always indicated for patients with all clinical forms of somatoform disorders. Depending upon the peculiarities in the patient's personality, acuteness of the symptoms and presence of the actual psychotraumatizing situation, the forms and methods of psychotherapy are chosen: hypnosuggestive, psychodynamic, family, cognitive or behaviour.

### **Psychosomatic diseases**

Cases with these diseases make up a significant part of patients of the somatic network. Their treatment should take into account an important part

of psychological and psychopathological factors. Data about the morbidity rate of psychosomatic disorders on the whole show that their rate falls within 15-50 %.

*Psychosomatic diseases* are somatic ones, psychological factors playing the main part in their origination and course. The appearance of psychosomatoses is caused by affective (mental) stress (conflicts, dissatisfaction, anger, fear, anxiety, etc.), provided there are some personality peculiarities. Psychic factors play their part in other diseases too: migraines, endocrine disorders, malignant neoplasms. Nevertheless, it is necessary to differentiate the psychosomatic disorders, whose origination depends upon psychic factors and whose prevention should be directed first of all at the elimination and correction of the mental stress (psychotherapy and psychopharmacotherapy), from other diseases where psychic and behaviour factors produce an important effect on their dynamics, changing nonspecific resistance of the organism, but at the same time not being the initial cause of their development. For instance, it is known that the effect of mental stress may reduce immune responsiveness, thereby increasing a probability of diseases, including infectious ones.

The psychogenic component plays a great part in the origination and development of many organic diseases: hypertensive disease, peptic gastric and duodenal ulcers, myocardial infarction, migraine, bronchial asthma, ulcerative colitis, neurodermatitis. They are called “major” psychosomatic diseases, therewith emphasizing severity of the illness and the leading part of the psychogenic factor in their origination. The psychosomatic diseases proper are characterized by the following peculiarities: 1) mental stress is decisive in provoking; 2) after its manifestation the disease takes a chronic or relapsing course; 3) its onset occurs at any age (but oftener in older juveniles).

*Psychosomatic diseases* result from some stress caused by long-term acting and insuperable psychic traumas, an inner conflict between the person's motives with the same intensity but different directions. Some types of motivational conflicts are supposed to be specific for certain forms of psychosomatic diseases. Thus, hypertensive disease is explained by presence of some conflict between a high social control of the behaviour and the person's unrealized need of power. This unrealized need causes aggressiveness which cannot be expressed by the person owing to his social directions. Unlike cases of neuroses, which are based on an intrapsychic conflict too, in psychosomatic diseases there is a double exclusion: not only of a motive, unacceptable for the consciousness, but also of neurotic anxiety and the neurotic behaviour at large.

*An unresolved conflict of motives* (like a persisting stress) finally gives rise to the reaction of capitulation, **giving the search manner up**, thereby creating the most general prerequisite for the development of psychosomatic

diseases in the form of masked depression. Involvement of some or other organs and systems is also caused by genetic factors or peculiarities in the ontogenetic development.

Historically, classical pictures of seven diseases are regarded as psychosomatic, namely: 1) essential hypertension; 2) peptic ulcer; 3) bronchial asthma; 4) neurodermatitides; 5) thyrotoxicosis; 6) ulcerative colitis; 7) rheumatoid arthritis.

*Personality peculiarities of the psychosomatic patient.* Typical for all psychosomatic persons, but only with different degrees, are the following common streaks: one's pride wounding, and therefore an oversensitive self-respect, egocentrism, narrowed interests, a limited and distorted hierarchy of values, goals and requirements; it is expressed by inadequate claims which compose the individual's life plan. Exaggerated manliness, hysteroid manifestations and animosity are common. The patients' statements are often trite, they twaddle, are unable to develop their thoughts and comprehend a figurative meaning of statements. The psychosomatic subject is separated from its **unconscious** and closely related to the surroundings. The psychosomatic reaction is regarded as a regression of "ego" to a primitive defence level with tendencies in the form of somatization. The psychosomatic structure of the personality is more described by the notion of "alexithymia".

These patients are characterized by the following features: 1) A peculiar restriction of their capacity to dream. 2) A typical inability to express their feelings. 3) A high adaptability to friendly terms, their relations with some concrete partner are characterized by a peculiar "emptiness of relations", they remain at the level of a concrete "subject" use of objects. 4) An inability to establish real relations with some object and to transfer them. A total identification with the object takes place; the psychosomatic patient exists, figuratively speaking, with help of another person. Hence it becomes clear why a loss of this "key figure" is so often revealed as a provoking situation in the onset of the disease.

The search for psychological peculiarities, which are responsible for development of psychosomatic diseases, by now have led to description of such characterological streaks whose different combinations are found out in patients with different diseases. These are reticence, reserve, uneasiness, sensitivity, etc. Some peculiarities of patients with certain psychosomatic disorders are listed below.

*Essential hypertension.* The main peculiarities of the personality, disposed to forming essential hypertension, are considered to be an intrapersonal conflict, some interpersonal tension between aggressive impulses on the one hand and the feeling of dependence on the other one. The origination of hypertension is caused by the wish to openly express animosity with a simultaneous need for some passive and adapted behaviour. This

conflict can be characterized as a conflict between such contradictory personality aspirations as a simultaneous desire to be straightforward, sincere and frank in communication, and to be polite, courteous and avoid conflicts. Under stress conditions such a person is inclined to restrain his own short-temper and suppress the wish to reply to his offender. The suppression of negative emotions in a person within the period of stress accompanied by a natural rise of his blood pressure is able to aggravate his general state and even contribute to the development of an insult.

An examination of the mental state accompanied by a daily monitoring of blood pressure in patients with essential hypertension revealed that at the early stage of the illness a rise of blood pressure is followed by a decrease in the level of their anxiety. Thus, a compensatory role of an increase of blood pressure owing to some long-lasting mental stress was proved.

In the initial stage of essential hypertension, the majority of patients adequately assess their state of health, correctly perceive their doctor's recommendations and administrations. Some patients with anxious-suspicious streaks regard an increase of blood pressure as a tragedy, catastrophe. The mood in such patients is low, their attention is fixed on their feelings, the sphere of interests becomes narrower and is limited by their illness. In another group of patients the diagnosis of essential hypertension would not cause any response, they would ignore the illness and reject treatment. Such an attitude towards their disease is mostly observed in people abusing liquor.

It should be noticed that no parallelism between the blood pressure (BP) level and a probability of developing mental disorders is revealed.

The examination of the mental state accompanied by a daily monitoring of BP in patients with essential hypertension revealed BP daily monitoring indices valuable for prognosing mental disorders in this illness. These are a high variability of BP within 24 hours and a disturbance in the circadian rhythm of BP fluctuations: a higher or no physiological nighttime lowering of BP level. The patient with essential hypertension should be always explained the cause of his state and told that his nervous system disturbances are of a functional type, temporary and the disrupted function will be restored following the corresponding systematic treatment.

*Coronary disease.* For many years it was considered that mental stress predisposed coronary disease. The literature described a "coronary personality". It is difficult to check ideas of this kind, as only prospective studies make it possible to separate the psychological factors, having relation to the origination of a heart disease, from the psychological consequences caused by the influence of the illness itself. During the examinations conducted in 1980s the attention was concentrated on several groups of possible risk factors, which included chronic emotional disorders, social-economic problems, overstrain, as well as long-lasting aggressors and

behaviour pattern of A type, the latter being characterized by such main streaks as animosity, an extreme yearning for competition, ambition, a constant feeling of lack of time and fixation on restrictions and prohibitions. The primary and secondary prevention of hypertension envisages elimination of such risk factors as smoking, improper diet, insufficient physical loads.

*Angina pectoris*. Its attacks are often provoked by such emotions as anxiety, anger and excitement. The feelings experienced during an attack are sometimes extremely terrible, and it is not in rare cases that with time the patient becomes superfluously careful despite all his doctors' assertions and against their every effort to make him return to his routine active way of life. Angina pectoris may be accompanied by some untypical chest pain and dyspnoea caused by anxiety or hyperventilation. In many cases there is some lack of correspondence between the patient's real ability to endure physical loads revealed with help of objective examinations and his complaints about chest pain and activity restriction. Usually a good effect in overcoming these problems is produced by conservative treatment in combination with regular physical loads corresponding to the patient's state. In some cases, behaviour therapy given according to an individually elaborated programme helps patients to find self-reliance again.

*Cardiophobia* is one of the psychoautonomic syndromes often observed in medical practice. The discomfort and unusual sensations in the left hemithorax which first appear under the conditions of or even without the psychotraumatizing situation after a long-term asthenization, cause some rising anxiety and watchfulness of the patients, their fixation on the heart activity, making them more confident of presence of some serious heart disease and increasing their fear of death. Some indefinite uneasiness, at first, and an increase of affective tension, anxiety, suspiciousness, fears, constitutional and acquired personality peculiarities become the basis for developing an acute cardiophobic attack. The intolerable vital fear felt by the patients owing to cardiovascular disturbances cannot be compared with usual human sensations and feelings either by their intensity or character. The feeling of an imminent death becomes the only existing reality for the patient. And the obvious fact, that dozens of the similar heart attacks suffered by him before did not result in either infarction or cardiac insufficiency, is of no importance for the patient. Since it has been known long ago that it is terrible to be dying rather than to die, the fate of the patients who "die" many times is really tragical. Particularly important here become rational psychotherapy and suggestion. In some cases, even the patient's life depends upon their correct application.

*Dyspnoea*, caused by many respiratory and cardiac disturbances, may often increase under the effect of psychological factors, and in some cases

dyspnoea has some purely psychological origin: its typical example is hyperventilation connected with an anxious disorder.

*Asthma* is supposed to be caused by unresolved emotional conflicts related to subordination, but there has been no satisfactory evidence in favour of this idea yet. Cases of bronchial asthma reveal some contradictions between “the wish for tenderness” and “the fear of tenderness”. Such a conflict is described as “to possess - to give” conflict. The people suffering from bronchial asthma often have hysterical or hypochondriacal streaks of the character, but at the same time they are not able “to let anger out in the air”, it provoking suffocation attacks. Besides, asthmatics reveal such a feature as hypersensitivity, especially to smells.

Convincing facts show that such emotions as anger, fear and excitement can provoke and intensify some attacks in asthma patients. The literature has reports that children suffering from severe asthma in families with chronic psychological and family problems die more often than other children with severe asthma. The rate of mental diseases in children ill with asthma is slightly higher than in the whole children’s population. Nevertheless, if such children develop psychological problems their treatment, as a rule, becomes significantly more difficult.

Some attempts were made to treat asthma with help of psychotherapy and behaviour therapy, but there are no convincing data which would demonstrate that these methods are more effective than good advice and support. Individual and family therapies are most effective in treating cases of asthma in children when psychological factors are very important.

*Peptic ulcer.* The patients with peptic ulcer of the stomach and duodenum typically have some characterological peculiarities. They are often people with wild emotional reactions, categorical judgements, straightforward assessment of their associates’ acts. Another category of the patients is not inclined to any outward manifestations of emotions. Rather often the patients are sullen, mistrustful and dissatisfied with everything. Some authors relate peptic ulcer to a need for defence and intercession which is unacceptable for self-perception.

Strong long-term affects, such negative emotions as constant fear, overwhelming grief, some strong fright with an overstrain and exhaustion of the cortical activity may result in a prolonged spasm of blood vessels in the wall of the stomach; in combination with a reduced resistance of its mucous membrane to the effect of hyperacid gastric juice it gives rise to the origination of an ulcer. A further development of peptic ulcer depends on both the persisting effect of the above factors and appearance of pain impulses from interoceptors of the organ involved. Psychotherapy is of great importance for the course of the illness and efficacy of its treatment.

*Colitis.* Ulcerative colitis has been found to develop after suffering “a loss of the object” and “catastrophes of suffering”. The patients always reveal a lowered self-estimation, an excessive sensitivity to their own failures and a strong yearning for dependence and guardianship. The illness is often regarded as an equivalent to sorrow.

*Neurodermatitis.* Neurodermatitides of the psychosomatic genesis include eczema and psoriasis. The patients are frequently characterized by passiveness, self-affirmation does not come easy to them.

*Diseases of the locomotor system.* A “hardened and exaggerated position” of the patient, demonstration of a high level of self-control are considered to be specific for patients with rheumatoid arthritis. Typically, they also demonstrate a tendency towards self-sacrifice and exaggerated readiness to help their associates with “an aggressive tint of the help”.

*Pathogenesis.* Very important for understanding the mechanisms of psychosomatic disorders are theories suggested by I.P. Pavlov and his disciples (K.M. Bykov). According to the teaching about conditioned reflexes, psychosomatic processes are complex structured reflexes based on the principle of way beating. Also very interesting are works by P.K. Anokhin and N.P. Bekhtereva about flexible functional systems of the organism formed in pathologies. Some authors state that in the process of the human vital activity at different levels of the integral regulation system some weakened or pathological links develop which under certain conditions are united into a single pathological mechanism causing the disease symptom complex. A whole number of researches have revealed that negative emotions of absolutely different types (despair, fear, anxiety, melancholia) are accompanied by visceral shifts of almost the same kind. Excitability of the sympathoadrenal system rises and, consequently, catecholamine secretion increases, it causing tachycardia, a higher blood pressure and a rush of blood to muscles.

The affect, mostly manifesting itself in the form of melancholia, constant anxiety, a neuro-autonomo-endocrine motor reaction and a typical feeling of fear, is a link between the psychological and somatic sphere. Defensive physiological mechanisms reduce these manifestations, but do not remove them completely. As a result, a significant affect persists and produces its pathogenic effect. This process can be regarded as inhibition, i.e. when psychomotor and verbal expressions of anxiety or hostile feelings are blocked in such a way that the stimuli coming from the CNS are led to somatic structures via the autonomic nervous system and thereby result in pathological changes in different organ systems. In the presence of some pathoplastic feeling which is not blocked by the psychological defence, but becomes somatized and involves its related somatic system, the functional stage of the impairment grows into destructive-morphological changes in the somatic

system with generalization of the psychosomatic illness. Thus, the psychic factor acts as an impairing one. Psychosomatic diseases include such health disorders whose etiopathogenesis consists in the real somatization of feelings, i.e. somatization without any psychological defence, when somatics is affected while defending psyche.

The centre of gravity in case of a psychosomatic feeling is always located in the organ which is the most vulnerable and important for the vital activity of the organism from the viewpoint of the individual. "The choice of the organ" practically demonstrates some preferential direction of the protective-adaptive mechanisms which cause a known impairing effect when disintegration increases in stress situations.

*Treatment.* The tactics of treating psychosomatic diseases envisages both the leading part of specialists-somatologists and corresponding methods of psychotherapy. Psychotherapy plays an important role in preventing the development of these illnesses, and also at all stages of their treatment and rehabilitation. General practitioners and family physicians must master themselves and train their patients in skills of self-control, autogenic training aimed at mobilization or relaxation in stress situations. Opportune revealing of personality predisposition and employment of long-term personality-oriented psychotherapy with help of a specialist-psychotherapist play a very important part in preventing psychosomatic diseases. Symptomatic psychotherapy given simultaneously with drug treatment helps to significantly reduce uneasiness, distract the patient's attention from hypochondriacal apprehensions, impart the personality sense to the process of treatment. If some unresolved intrapsychic conflicts exist, psychotherapy is used as a pathogenetic method of treatment. When choosing the therapeutic method, one should consider the clinical characteristic of psychosomatic disorders. Psychoactive drugs are first of all indicated if the clinical picture is characterized by prevalence of anxious-phobic disorders, hypochondriacal phobias. The choice of psychoactive medicines depends to a large extent upon the expressiveness of psychopathological manifestations. As a rule, in cases of psychopathological incompleteness of clinical disturbances (subsyndromic states), their unsteadiness and episodic manifestation it is enough to administer medicinal preparations of the tranquillizer type. Along with them it is possible to use the drugs which are traditionally regarded as somatotropic but produce a slightly expressed psychoactive effect (drugs of the beta-blocker group producing the anxiolytic effect, calcium channel blockers possessing normothymotic properties).

In psychopathologically completed forms, the choice of psychoactive medicines depends upon the syndrome structure. It is necessary to employ such drugs which in the largest measure satisfy the requirements set for the medicinal preparations used in the general medical network. These are: the

minimum expressiveness of unfavourable neurotropic and somatotropic effects which could disrupt functions of the internal organs and give rise to aggravation of somatic pathology; limited signs of behaviour toxicity; a low probability of unfavourable interactions with somatotropic drugs; safety of overdosages; a simple use (a possibility to administer some fixed dose of a medicine or a minimum need for its titration).

Of neuroleptics, such drug preparations include some derivatives of phenothiazine (**alimemazine-teralen**, perphenazine-**etaperazine**, thioridazine-**sonapax**) and thioxanthene (chlorprothixene), as well as benzamides (sulpiride-**eglonil**) and some other atypical neuroleptics (**risperidon-rispolept**), provided they are taken at small doses. Some of the above neuroleptics are used in the system of therapy for a somatic pathology. Sulpiride (**eglonil**) is used for gastrointestinal pathologies (peptic ulcer of the stomach and duodenum, regional enteritis and “operated stomach” disease) and skin diseases; perphenazine (**etaperazine**) possesses antiemetic properties; **alimemazine-teralen** produces an expressed hypotensive effect.

Antidepressants of the latest generations, which combine a mild **thymoanaleptic** effect with good tolerability, are recommended to use for a psychosomatic pathology. They include selective inhibitors of serotonin uptake (SISU): fluoxetine-Prozac, sertraline-Zoloft, fluvoxamine-**Faverin**, **cytalopram-cypramil**; selective stimulators of serotonin uptake (SSSU): **thianeptil-coaxil**; some representatives of selective inhibitors of uptake of noradrenaline (SINU): mianserin-Lerivon; reversible inhibitors of monoamine oxidase type A (RIMAO-A): **perlindol-pyrazidol**, **moclobemid-aurorix**. Most of the representatives of the class of tranquillizers belong to psychoactive drugs, which owing to a large break between their therapeutic and lethal doses, absence of any unfavourable effects on the activity of the main functional systems of the organism and interaction with somatotropic medicines can be and are successfully used for therapy of psychosomatic disorders. Undesirable effects of tranquillizers (most often, these are behaviour toxicity phenomena: sleepiness at daytime, disturbances of attention, etc.) are easily eliminated (redistribution or reduction of the daily dose of the drug). Medicines of this class reveal positive somatotropic effects. Some of benzodiazepine derivatives reduce the risk of developing severe ventricular arrhythmiae and ventricular fibrillation in both acute ischaemia and myocardial reperfusion. Many tranquillizers, including hydroxyzine (Atarax), possess an expressed antiemetic effect, which spreads even on severe dyspeptic phenomena caused by radiation therapy or chemotherapy. Benzodiazepine derivatives reduce gastric secretion, and also decrease the levels of pepsin and hydrochloric acid in the stomach juice owing to both the direct anticholinergic and central sedative and **autonomostabilizing** effects. Administration of tranquillizers is indicated in combination with somatotropic

drugs for treating psychosomatic states (psychogenically provoked attacks of angina pectoris and bronchial asthma) and urgent states often accompanied by vital fear, anxiety, panic attacks (myocardial infarction, asthmatic status, hypertensive crisis, etc.). Like tranquillizers, drug preparations of the class of nootropics belong to preferable ones when treating psychosomatic disorders. Nootropics do not exert any negative influence on the functions of the internal organs, do not reveal any signs of behaviour toxicity, do not interact with somatotrophic medicines, are safe in cases of overdosage, their use may be accompanied only by an insignificant decrease of the convulsive readiness threshold and by transitory sleep disturbances. Nootropics demonstrate a number of positive neurotropic and somatotrophic effects; they are employed in resuscitation practice, in acute cerebral pathology (insults, comatose states), when treating migraine and other allergic syndromes, they are effective for controlling a number of side effects of **psychoactive drug therapy** and complications which develop in the process of provision of electroconvulsive therapy. Nootropics are indicated in nosogenic reactions passing with prevalence of asthenic disturbances. **Nootropil (pyracetam)**, **picamylon**, **cerebrolysine**, **encephabol**, thyroliberin and some other drugs of this group are most widely used.

The general state of patients with a psychosomatic pathology becomes much better after controlling their sleep disturbances. Both symptomatic sleeplessness, provoked by manifestations of some somatic disease (angina pectoris or bronchial asthma attacks keeping awake, dysuria, meteorism, pains), and insomnia, caused by some anxiety increasing by the evening (the fear of a repeated night attack, death in sleep) are possible. It is advisable, if possible, to eliminate those morbid manifestations which prevent falling asleep and provoke frequent awakenings, to withdraw evening taking of somatotrophic drugs, whose use may result in insomnia (ephedrine-containing bronchodilators, diuretics, stimulants), as well as of beta-adrenoblockers, which sometimes provoke dreams and nightmares. The drug treatment of insomnia is most often made with benzodiazepine derivatives (nitrazepam, **phenazepam**, flunitrazepam, bromazepam, alprazolam, etc.). In recent decades, hypnotics of other chemical groups have appeared: a **cyclopyrron** derivative **zopiclon** (Imovane); a new medicine of the **imidazopyridon** group, zolpidem (**Ivadal**), which practically does not cause addiction and morning aftereffects. The medical aid in psychosomatic disorders is given within the framework of the so-called interacting psychiatry, which presupposes a close cooperation of the consulting psychiatrist and the general practitioner. The former takes part in diagnosing mental disorders, solves complex differential-diagnostic problems and, together with the attending doctor, devises the tactics of treatment; but if some repeated consultations are required in future, he exercises control over the therapy. Some cases may necessitate dynamic

observation, when the psychiatrist treats the patient together with the general practitioner using both **psychoactive drug therapy** and psychotherapy. The psychiatrist, who works in general hospitals, should not substitute for a doctor of another type and become the attending doctor. Such a substituting model is not economical and not practical, as it would require an irrational increase in the number of psychiatrists participating in the process of therapy. Patients with psychosomatic disorders are most frequently treated under conditions of a somatic hospital. In severe mental disorders it is expedient to make observation and treatment either at specialized psychosomatic departments as structural units of a multi-type hospital, or (if the somatic state makes it possible) at a mental hospital. Specialized aid to patients with psychosomatic disorders, who do not need any in-patient treatment, is to be given at a local polyclinic. The psychiatrist, working at the polyclinic, acts as both a consultant (the constant observation and therapy are made by general practitioners) and an attending doctor, who provides the whole scope of necessary aid, including biological one and psychotherapy.

### **Psychogenic (situational) psychoses**

*Psychogenic psychoses* are mental disorders at the psychotic level which develop after the effect of severe psychic traumas exceeding adaptive-compensatory abilities of the personality, when the patients lose their ability to critically assess their associates and themselves. Typical for them is the reversible character of the disorders.

The data about the incidence rate of situational psychoses by the results of **various** researches are dissimilar. They develop twice more frequently in women than in men. The share of situational psychoses in psychogenies is 20-23 %. The incidence rate of situational psychoses in some countries reaches to 1 %, this index increasing up to 10-25 % in the situations of catastrophes and natural calamities.

### **Classification of (situational) psychoses**

1. Affective-shock reactions.
2. Hysterical psychoses.
3. Reactive depressions.
4. Reactive paranoids.
5. Reactive paranoic states.

*Affective-shock reactions (acute reactions to stress)* are acute psychotic states developing in extreme situations endangering the person's life and well-being, situations of catastrophes and natural calamities (accidents, fires, terrorist acts, floods, earthquakes, shipwrecks, etc.), which cause sufferings, death and wounds in a great number of people. The morbid states develop acutely, the patients being unable to rationalize everything that takes place in time and manifesting "biological" forms of defence which are not adequate to the situation.

*The hyperkinetic form (or psychogenic excitement)*: the affective-shock reaction is characterized by fear, anxiety, some chaotic purposeless excitement. The patients would lose their orientation in their surroundings, cry, rush about, impulsively run somewhere, rather often to the most dangerous place (fugue-like reactions). Their face expresses feelings of fear and horror. The mental disorders are accompanied by autonomic ones: tachycardia, paleness or hyperaemia of skin integuments, sweating. Sometimes several people fall into such a state simultaneously, it causing panic. After a return from this morbid state, amnesia is observed.

*The hypokinetic form* of an affective-shock reaction (the "imaginary death" reaction) manifests itself by inhibition up to absolute stupor which has suddenly developed after the psychic trauma. The patients would be stupefied in the posture in which they were caught by the psychic trauma. They are not able to move from their place, stir their **hands**, go to a safe place. The ability to talk is lost (mutism). Their eyes are filled with fear, sometimes they are directed to space, the patients are indifferent to what is taking place around them, they lose orientation in their surroundings. Having come to their senses, they do not remember what has happened to them. Reactive excitation lasts 15-20 minutes, the duration of stupor is from a few hours to 1-2 days. Within their postpsychotic period, patients of the both groups usually reveal expressed asthenia, which lasts for several days.

*Hysterical psychoses* are a group of states with various clinical manifestations, whose development is caused by specific hysterical mechanisms manifesting themselves through a peculiar structure of psychopathological syndromes, their specific dynamics and types of going out. Typical for hysterical psychoses is a great dependence of their development and clinical picture upon emotional feelings (a peculiar "escape into the illness"), as well as suggestibility, autosuggestibility, a disturbance of consciousness, a wide circle of functional somatoneurological disorders. The symptoms in patients with hysterical psychoses are characterized by vividness and outward expressiveness.

Usually, hysterical psychoses are absolutely reversible, but cases of a large depth and duration of feelings may form postreactive changes in the psyche, which manifest themselves through either a tendency to fixed forms of

reactions to psychogenic hazards or the hysterical psychopathic development of the personality. In compliance with psychodynamic theories, hysterical psychoses are regarded as a “reaction of ousting” the psychic trauma.

Hysterical (dissociative) psychoses manifest themselves by the following clinical forms: *hysterical twilight cloudiness of consciousness, pseudodementia, Ganser’s syndrome, puerilism, the syndrome of delirium-like fantasies, the syndrome of personality regression (“running wild”), hysterical stupor.*

*Hysterical twilight cloudiness of consciousness* is characterized by some mild disturbance of consciousness, narrowing of its scope. Its clinical picture is similar to that of acute affective-shock reactions, but unlike the latter, there is no absolute disengagement of consciousness, the patients’ orientation in their surroundings is not full, only some fragments of the reality reach to the consciousness and later only fragmentary recollections of them are preserved. The clinical picture is notable for its mixed character, the patients are anxious, but at the same time there is much ostentatiousness in their behaviour, the hysterical excitement is accompanied by laughing at one moment and sobbing at another. Vivid abundant visual hallucinations are common. Morbid feelings in some patients may be opposite by their contents to the psychotraumatizing situation. The reduction of psychotic symptoms is gradual. The psychosis lasts up to 2 weeks.

*Ganser’s syndrome* is one of the variants of hysterical twilight cloudiness of consciousness. It is observed in the forensic medical practice in the accused who are taken into custody and wait for a court decision. Incorrect answers to questions and “miss-talking” prevail in the clinical picture.

*Pseudodementia* manifests itself by narrowed consciousness and a sudden development of the state which resembles a mental deficiency. The patients would not understand simple questions, are unable to make simple actions, but at the same time may give correct answers to more complicated questions and correctly make more complicated actions. They are not able to correctly determine where they are, to remember their age, surname, they would say that they have got 3 legs, 5 eyes, 4 arms, etc.; some patients would put footwear on their hands, try to put their legs into shirt sleeves. Nevertheless, the contents of the answers and actions, as a rule, is connected with the contents of the psychic trauma.

In some patients, pseudodementia is accompanied by psychomotor excitement with restlessness, clowning, grimacing, and euphoria which changes into fear and anxiety. In other cases, inhibition prevails; the patients would sit in some sorrowful posture, weep noiselessly, look around with fear, answering questions only by “I don’t know”, “I don’t remember”. The duration of pseudodementia is usually from 2 weeks to 2-3 months, recollections about the illness are either fragmentary or absolutely absent.

Puerilism (from Latin “puer” = “a child, baby”) is regarded by many authors as a form of pseudodementia. Against some consciousness change the patients begin to behave like a child. Their speech contains a lot of childish intonations, they would lisp, crawl, would not pronounce separate words, they are on informal terms with their associates, call them “aunts” and “uncles”. They would be capricious, pout their lips, show interest in bright objects and toys. They would ask to take them “in arms”, put “in bed”, play with dolls, toy lorries and cars, walk with small steps.

These patients’ behaviour is notable for its dissociative character: along with childish streaks their behaviour preserves habits of an adult (to light matches and cigarettes and to smoke).

*Delirium-like ideas (fantasies)* appear result from psychic traumas. The patients would state unstable, unsystematized ideas with various contents: of grandeur, wealth, high origin, reforming, sometimes persecution and self-condemnation. As a rule, these ideas are not stable, their contents would change in connections with the associates’ questions or situation. The patients would affirm that they allegedly hold some high post, are preparing for space flights, have made a very important discovery, are going to marry a famous actress, write scientific works. At the same time, there is no firm conviction in the patients statements, their behaviour is notable for its theatricality. A psychic trauma sounds in *delirium-like fantasies* indirectly and in a veiled form. It is not in rare cases that the patients statements are contradictory, with intertwining of everyday impressions into their contents. Typical is a lack of correspondence between the contents of *delirium-like fantasies* and the emotional background, which is often anxious-depressive. Later no recollection about the stated ideas is preserved. This condition may change into pseudodementia, puerilism, and eventually grow into hysterical stupor.

*The psyche regression syndrome (“running wild”)* is one of the least frequent forms of hysterical psychoses. Against a background of the behaviour change, complex psychic functions are disrupted. The patients’ behaviour resembles that of animals. They are excited, feel fear, lose elementary skills of self-service; they would not *hold* their clothes, they would crawl, bark, growl, they never use spoons and forks, but tear food to pieces with their hands or lick it off from a plate. Usually such a state acute develops after extremely severe psychic traumas.

*Hysterical stupor*: against a background of hysterically narrowed consciousness some psychomotor inhibition, mutism and refusals to eat develop. The patients would feel despair, spite and suffering which are seen from an expression on their faces. The body muscles are sharply tense, an attempt to change their posture results in resistance from the patients. The ability to perceive the surroundings is not absolutely lost. Any mention of the psychic trauma causes suffering with estrangement on the patient’s face, as

well as autonomic functions: tachycardia, sweating, reddening of the skin. Rather often stupor is preceded by other hysterical psychoses: pseudodementia, puerilism. Stupor may last for several months, and going out of this state is either immediate, at a favourable resolution of the situation, or gradual, if the psychic trauma is not desactualized to the end.

*Psychic epidemics* are a so-called collective psychosis which develops in a group of people and is caused by mental disorders in any member of the group. Such psychic epidemics were quite common in the Middle Ages at nunneries and asylas, they manifested themselves through different symptoms: fits, paralyses, hallucinations, hysterical dances involving hundreds and thousands of people. There are reports about hysterical epidemics in the forms of hysterics, expectation of pestilence, and “*ikotka*”. The recent time is also characterized by observation of such psychic epidemics as passions for UFOlogy, occultism, various destructive religious sects, a belief that it is possible to heal “all the diseases” for one session, “removal of bewitching”, “*charming*”, etc. Unfortunately, the contagious mechanisms of developing hysteria epidemics are nowadays mediated by different mass media (newspapers, magazines, films, TV broadcasts, Internet).

*Reactive (psychogenic) depressions* are the most common form of reactive psychoses; it is observed in 40 % of cases of all psychogenic psychoses. Both the psychic trauma and constitutional peculiarities of the personality play their part in the appearance of this psychogenic form. By their duration and vividness of psychotic states, reactive depressions are divided into acute and protracted. Acute depressive states develop after long-term emotionally significant psychotraumatizing feelings or after a sudden effect of the psychic trauma which is particularly important for the patient. These states are more common in people with asthenic and psychasthenic streaks. At the height of acute depression the patients would feel fear, deep despair, express thoughts about death. The patients may make self-injuries, injure other people, commit suicides, sometimes extensive ones, in order to save their relatives from sufferings. These states are usually short-term and not always attract attention of psychiatrists.

Protracted reactive depressions are much more common, their symptoms become the most severe some time after the psychic trauma. These patients are depressed, melancholic, experience the feeling of hopelessness, their whole attention is concentrated on the misfortune which they have had. The subject of the psychic trauma becomes dominating in the patients’ consciousness.

Depressive psychoses of the reactive genesis are notable for their heterogeneity and clinical polymorphism. Depending upon prevailing psychopathological disorders, the following forms of reactive depressions are isolated: *melancholic, anxious, hysterical, hypochondriacal, asthenic*.

*The melancholic type* of reactive depression is usually characterized by prevalence of melancholia and blues. The patients would assess their past and future solely in black colours, sometimes they state ideas of self-condemnation, reproaching themselves that they have not given proper aid to their dying relative, have not alleviated his sufferings. A change in this melancholic mood during a day is little. No motor inhibition is usually observed, but strivings for activity are limited, suicidal intentions and acts in such patients are rare.

*The anxious variant* of reactive depression develops, as a rule, after psychic traumas endangering the patient's life or well-being, as well as in those people who are under arrest and wait for some decision concerning their fate. Anxiety is the leading syndrome in the clinical variant of this variant of depression, the patients would constantly think about what has happened, are anxious about their fate, the future of their relatives. Anxiety is accompanied by massive somatoautonomic disturbances, sometimes achieving the degree of agitation with motor excitement.

*The hysterical variant* of reactive depression is more common in personalities with hysterical streaks of the character. Expressiveness of the depressive affect in these patients is not significant, the patients would try to exaggerate their sufferings, to arouse sympathy from their associates. Their behaviour is characterized by prevalence of theatricality, artificiality, deliberateness and grotesqueness, pathetics and outward effects. The patients would state that their associates absolutely do not understand their tortures, are unable to feel their sufferings. Usually they do not state any ideas of self-condemnation, allegedly preferring to blame for their troubles those people whom they usually scold very much, stating that they have spoiled all their life. The psychic picture of depression is accompanied by expressed somatoautonomic disturbances, those of appetite and sleep. The patients often have nightmares. They would complain of headaches, the feeling of "a lump in the throat", many of them develop affectively coloured visual hallucinations: the deceased, coffins, some blood-stained people, gallows, etc., sometimes aphonia, astasia-abasia are observed, signs of puerilism and pseudodementia appear. In some cases hysterical depressions may be accompanied by demonstrative suicides which may result in death or some mutilation. With outward expression of depression the patients' desactualization may be insignificant, enabling them "to control themselves" on the jobs and successfully cope with their service duties. The course of this form, as a rule, is favourable, the subacute variant lasts for 3-5 months. Sometimes the going out of the illness is critical with a favourable resolution of the psychotraumatizing situation.

*The asthenic variant* of depression develops after some long-term emotional tension, poignant anxious vagueness. Along with melancholia, the

clinical picture always contains some expressed irritable weakness, hyperaesthesia, apathy, listlessness, the feeling of **spiritual** bankruptcy, one's own insolvency, painful loss of strength. The depressive syndrome is gradually formed against a background of psychic and somatic asthenia. General inhibition and inability to finish any begun action gradually increase. The patients' look is usually melancholic, the face is hypomimic, the winking is rare. Their answers to any questions asked to them would be in a whisper and consist of one syllable, they find it difficult to comprehend these questions. The patients often experience unpleasant body sensations, their sleep is superficial and does not give any rest. The patients' recovery begins with a better general physical state, but asthenia may still last for some long period of time.

*The hypochondriacal variant* of reactive depression develops in those people who are over-anxious about their health, egocentric, with higher attention to their health against a background of some really existing somatic disease or under the influence of other psychic traumas (arrest, death of a relative, forced parting, etc.). The onset of the illness is acute or subacute. The patients are sure that they have fallen ill with some incurable disease. They develop anxiety, sleep disturbances. Various autonomic disorders make the patients even more confident of the rightness of their suspicions. They would often take medical advice, but do not believe any reassuring words. Sometimes, along with anxiety, some fear and hypochondriacal delusions develop. The course of recovery is gradual.

*Iatrogenies*, which often appear immediately after some careless words or actions of medical workers, as well as illustrations in popular sanitary-educational literature, are one of the variants of depressive-hypochondriacal psychosis. The patients develop depressive-hypochondriacal feelings, and sometimes even hypochondriacal delusions.

*Reactive delusional psychoses* are a combined group of delusional psychoses which develop under the effect of psychic traumas and are a rather rare form of psychogenies whose formation, besides psychotraumatizing effects, also depends upon other factors: asthenia, overstrain, malnutrition, long-term insomnia, sensory and social isolation, etc. Some part here is also played by the patient's personality features in the form of accentuation of the paranoid, schizoid and hysterical types. Depending upon the duration and expressiveness of psychotic symptoms, acute, subacute and protracted psychogenic delusional psychoses are isolated.

Acute paranoids are characterized by affective saturation of delusions, fear, anxiety, embarrassment. The most common delusions are those of persecution, reference and control, their subjects reflecting the contents of the psychic trauma. This is a threat to life, apprehension of a savage reprisal, death in some cases, or a threat to honour and dignity of the patient or his

relatives in others. Acute paranoids develop following a short-term prodromal period with the feeling of anxiety, expectation of some imminent misfortune, phenomena of derealization, suddenly followed by a strong feeling of a mortal danger, the patients would think that their relatives have died, and they themselves are surrounded by enemies. Auditory hallucinations appear: “voices” of a threatening character. At the height of the psychosis, the patients’ behaviour depends upon the contents of their delirious feelings: they are excited, try to run, attack their enemies, jump out of a window and even commit suicide in order not to be caught alive by their persecutors.

Usually, the psychosis lasts for a few days, but later during 2-4 weeks the patients remain suspicious and afraid that their persecutors may appear.

Acute delusional psychoses sometimes develop in an unfavourable external situation which becomes psychogenic for the patient. Zhislin S.G. termed this group of psychoses as “**paranoids of external situation**”. They include *war-time paranoids* developing in people who have recently received a brain injury or wound in a situation of a constant jeopardy and danger to life: firing, bombing, thunder of explosions, crowds of people, etc. Against a background of some expressed anxiety there is development of delusions of persecution, reference and self-condemnation whose contents corresponds to the situation. These delusions are accompanied by strong fear, impulsive excitement. The patients would rush about, run somewhere without any purpose, call themselves traitors, deserters, spies, etc.

Also, “**paranoids of external situation**” include the states which appear during long-term removals with frequent transfers, overstrain, malnutrition, forced sleeplessness, apprehensions for the safety of one’s luggage. The conditions of a railway station or airport with a large number of people being in a hurry and saying something, fragments of talks and bells heard from everywhere create the atmosphere of a hurry, vagueness and anxiety. These psychoses were called by Zhislin S.G., who was the first to describe them, as “*railway paranoids*”. In these cases the patient begins to notice that his fellow-travellers’ behaviour is strange, they talk in a whisper, point at him with gestures or looks. The patient understands that side by side with him there are enemies, thugs intending to kill and rob him. The patients would become excited, sometimes jumping out from a moving carriage or throwing themselves under a train.

Delusions in foreign surroundings, migration psychosis, develop in situations when a person finds himself alone among the people speaking a language which is absolutely unfamiliar to him; he does not know at all how to find a way to his friends together with whom he came to this country. Appearance of these delusions is also facilitated by the patient’s appearance, which does not match that of the surrounding people. Such states were described in Ukrainian emigrants in Canada, where for some reasons they

found themselves alone in street, but they did not know the language and customs of the residents of the country. Close to this state are delusions of hypoacusis, when because of their deafness the patients are not able to correctly understand the speech of other people. It causes anxiety, fear, auditory hallucinations of some threatening contents, thereby confirming the patients' suspicions about a hostile attitude to them.

*Prison paranoids* are characterized by a more prolonged course and belong to subacute ones. Psychotraumatizing in this case is the fear of impending court decision, apprehension of punishment. Along with the ideas of persecution, the patients would state those of condemnation and control. They believe that all the people from their surroundings, all the mass media impute the most serious crimes to them, everybody around them hints that they have betrayed some state secret, they are traitors and will be executed. The patients "understand" that their thoughts are learnt by the people from their surroundings, judges watch them with help of hypnosis and special devices. Typical are real auditory hallucinations, the "voices" belong to their acquaintances, relatives, accomplices in a crime, judges and procurators, some of them condemning the patient, others acquitting him.

Usually, the course of psychosis is favourable, the symptoms developing in an opposite direction soon after the patients' hospitalization.

The group of subacute psychogenic paranoids also includes *induced paranoid* which results from personal contacts with a mental patient. Induced delusions usually appear in people with an increased suggestibility who are inclined to anxious depression. Induced paranoid is predisposed by mental underdevelopment, a low cultural level, peculiarities in upbringing, as well as a close affective relation of the induced person with the inducer. The former does not understand the morbid character of the inducer's delusional statements, takes them on trust, supports his plans of struggle. The contents of the delusions in the induced person (persecution, litigiousness, etc.) is similar to the inducer's psychosis, and sometimes absolutely copy them. Rather often the patient's mother may act as his inducer. Induced delusional psychoses are rapidly reduced after isolation of the recipient from his inducer.

*Paranoic reactive psychoses* are protracted delusional psychoses characterized by the paranoic structure of overvalued and delusional ideas within the framework of psychotraumatizing circumstances. Most frequently, they acquire the form of delusions of litigiousness, jealousy, invention, persecution, as well as hypochondriacal ones. The literature terms these states "mild paranoia", "abortive paranoia", "hypoparanoia". During the whole course of the illness, the delusions are limited, isolated and having no tendency to complication and generalization. The diseases are more common for people with paranoic streaks of the character, who are inclined to forming overvalued ideas. Such patients are suspicious, watchful and anxious. They

observe that their relatives, friends and acquaintances want to harm and slander them, steal their ideas and later claim them as their own. They would write numerous letters and complaints to different authorities, informing them about various manoeuvres aimed at revenge from the part of their enemies. The duration of protracted psychogenic paranoids is 2-5 years, sometimes up to 10 years.

*Protracted reactions of litigiousness* are one of the kinds of reactive paranoid psychoses. As a rule, delusions of litigiousness are caused by various job conflicts, division of property, expressed manifestations of social injustice. The patients would bring in long-lasting lawsuits, displaying uncommon persistence and stubbornness in their attempts to restore their rights and indemnify for their material damage. Typical for their letters and applications are sticking to details, pettiness, exaggeration of insignificant everyday troubles to the size of matters of the state importance. The querulant activity preserves for several years, and as the conflict situation is being resolved, it may subside, but sometimes its relapses are observed.

Under the conditions of sensory isolation, mentally healthy people may develop *deprivation hallucinosis* (hallucinations of **Bonnet's** type). Elementary auditory hallucinations, "influxes of pictures" with closed eyes may take place in the people who work long time in complete darkness, have persistent disturbances of vision or hearing. Hallucinatory episodes in the form of some moving figures, animals, plants or objects would last from a few seconds to several hours. Very often such disorders develop in experimentally created conditions of sensory isolation and hypokinesia, e.g., in pressure chambers.

*Age-specific peculiarities of psychogenic psychoses.* Affective-shock reactions in children and juveniles manifest themselves, as a rule, in the same variants as in adults. But autonomic disorders (bradycardia, acrocyanosis, hyperaemia and immobility, usually partial) in children are more expressed, the expressiveness of these disorders significantly depending upon the behaviour of adults.

An acute transitory twilight state of consciousness in the juvenile age manifests itself by panic running with purposeless actions followed by partial amnesia. Acute reactive stupor suddenly develops immobility and mutism with amnesia after going out of it. Rather often juveniles complain of headache, vertigo and faints. Affective-shock reactions at this age sometimes manifest themselves by "emotional stupor", when a juvenile makes adequate actions directed at real saving of his own life and the life of people nearby, but at the same time he does not have any feelings and later develops amnesia for any real events of this period.

Hysterical psychoses in children are rare, sometimes short-term states of pseudodementia or puerilism may occur: the children would babble like

infants, would not answer simple questions, substituting gestures for verbal answers, they are not able to correctly call parts of their body. Hysterical psychoses in juveniles are extremely rare, they may develop against a background of hysterical psychopathy in cases of instituting **criminal** proceedings against these people.

Psychotic reactive depressions in children do not develop at all, in juveniles they are rare, their picture is atypical. Depending upon peculiarities of the clinical course, their delinquent, hypochondriacal and asthenoapathetic variants are isolated. In the delinquent variant, behaviour is always affected, the juveniles become reticent, embittered, and miss classes. Despite the fact, that all the patient's acts have the mark of despair, they deny any depression. The hypochondriacal variant is characterized by complaints about bad general state, the juveniles would willingly take medical advice, they are hospitalized and treated. They would idle, refuse to attend school, get irritated if other people do not believe that they are ill. Juveniles would attribute their bad mood to their "serious disease". Easy fatigability, hampering studies, is the basic complaint of juveniles with the asthenoapathetic variant of reactive depression. They would become listless, inert, losing interest in communication with people of their age and any entertainment. The sleep does not remove tiredness, the appetite is lost. The patients would not complain of melancholia, but notice spleen and boredom, express dissatisfaction with themselves and suicidal thoughts.

Reactive delusional psychoses in juveniles are observed very seldom. They may develop only in long-term psychotraumatizing situations, accompanied by fear and anxiety. The formation and systemization of delusions in such cases results from an inducing effect of the parents.

Affective-shock reactions at the senile and old age never occur at all. Reactive depressions of this age have some peculiarities: some expressed anxiety, frequent ideas of self-condemnation, self-humiliation and damage, spontaneously appearing states of agitation. The most various hypochondriacal complaints are leading ones in the picture of reactive depressions at the old age. The onset of the illness may be slow, the clinical manifestations are notable for their fragmentary and monotonous features.

Reactive delusional psychoses at the senile and old age are significantly less common than depressions. Paranoiac delusional structures at this age prevail over paranoid ones. Reactive paranoids are accompanied by fear, anxiety, fragmentary verbal hallucinations, the contents of the delusions being often hypochondriacal. Delusional interpretation of the surroundings in elderly and old people at paranoiac states is often not noticed and is revealed only if the patients commit some socially dangerous actions. The prognosis for reactive psychoses of this age group depends upon premorbid peculiarities of the personality and the patients' somatic state.

*Differential diagnosis.* In the differentiation of psychogenic psychoses from similar clinical forms the leading part is played by the basic criteria which determine their nosological unity. These criteria were formulated as early as by K. Jaspers and came into the practice as “Jasper’s triad”. The first sign of this triad is the appearance of psychosis after a psychic trauma, the second one is the reflexion of the trauma contents in the patient’s feelings, the third one is the patients’ recovery always after the resolution of the psychotraumatizing situation. But in some cases the differentiation of psychogenic psychoses and other mental states runs into grave difficulties. It is necessary to consider peculiarities of psychopathological syndromes, ways of their formation and regression. Differential diagnosis with other diseases is made both at the height of psychosis and after going out of it. Most frequently one has to differentiate reactive psychoses from schizophrenia and manic-depressive psychosis, as well as with psychoses of the organic origin, as psychic traumas often precede manifestation of these diseases.

Psychogenic psychoses are notable for preservation and emotional liveliness of the patients, a close relation of the psychopathological symptoms to the psychotraumatizing situation, whose smallest fluctuations affect expressiveness of morbid manifestations. Typical for psychogenic delusions are their sharp, elementary and concrete contents. Unlike circulatory depression, reactive depression are not characterized by an absolute loss of interest in the surroundings, the prospects for future are closely connected with the real situation, melancholia is not some causeless **psychic pain**, but is motivated by the psychotraumatizing situation. Particular attention in the diagnosis of psychogenic psychoses is given to the patients’ state after their going out of them; the full recovery usually occurs after some short-term period of asthenia.

*Prognosis.* The functional character of the disorders, lying in the basis of psychogenies, determines their favourable prognosis. Removal or gradual overcoming of the psychotraumatizing situation results in recovery without any expressed postreactive changes. But people with psychopathic streaks, somatic aggravation, residual consequences of **exogenies** or some vascular disease may have intensification of their accentuated streaks of the personality, it hampering the patients’ social adaptation. Thus, hysterical psychoses are often followed by intensified hysterical streaks of the character, **excitability, a tendency** to explosive reactions. Hypothymia with a loss of cheerfulness and capacity for positive emotions may persist for a long period of time after reactive depressions. A very important sign of psychogenies is the fact that the patients’ behaviour after their going out of reactive psychosis remains correct and adequate to the situation, it is possible to contact with them, they do not break any relation with their associates and do not lose their former affections.

*Etiology and pathogenesis.* The psychic trauma, mediated by functional-dynamic cerebral mechanisms, is the main etiological factor of psychogenic psychoses, it determining peculiarities of the syndrome formation, types of the course and variants of the outcome of reactive psychoses in each particular case. Reactive psychosis is a complex and integral reaction of the brain and the organism as a whole to a psychogenic factor; it demonstrates a psychosomatic unity of the whole organism, its integral reaction to a psychic blow. The appearance of reactive psychoses is undoubtedly explained by both the factor of an available psychic trauma and its significance for the personality, the rate of influence, intensity, duration, recurrence. It turns out that the psychotraumatizing situation is first of all that one which requires some adaptation, **super-difficult** for this personality, and is accompanied by feelings of an irretrievable loss, a ruin of one's hopes. Individual psychic traumas prove to be significantly more pathogenic than those acting on a group of people. Very important is the rate of the effect produced by a psychotraumatizing factor. Suddenly acting psychic traumas always contribute to an acute onset, while if their effect lasts long, a psychosis develops slowly and sometimes is separated from the beginning of the trauma action by some latent period.

Urgent for the formation of some forms of psychogenic psychoses are so-called "situation factors". The significance of some constitutional predisposition to reactive psychoses is not so large as for neurotic psychogenic disorders. Personality peculiarities determine a more expressed pathogenicity of **different** factors. Thus, conflict situations, requiring self-control and coolness, may turn out to be psychotraumatizing for excitable psychopaths. Hysterical personalities produce a particularly morbid reaction to a loss of leadership in their collective body or to a restriction of their outer contacts.

The part played by genetic mechanisms in the formation of a high sensitivity to psychotraumatizing effects is confirmed by results of studies on twins, which showed concordance by reactive psychoses in monozygotic twins equal to 25 % and in dizygotic ones it was 3 %.

Numerous researches have proved the role of a "pathologically changed ground" in the pathogenesis of reactive psychoses. First of all, this is psychic asthenization owing to some somatic or mental overstrain. Asthenization is the background which contributes to the realization of a pathogenic effect of the psychic trauma.

The role of biological factors in the formation of reactive psychoses is also undoubtedly confirmed by their rate in the periods of age-specific (puberty, climacteric) crises, as well as during pregnancy and lactation.

Neurophysiological mechanisms of reactive psychoses are discussed within the framework of the stress syndrome concept. According to I.P.

Pavlov's doctrine, reactive states result from some overstrain of the processes of excitation and active inhibition under the effect of extremely strong or long-lasting stimulants, a high complex character of the tasks, "collision" of polar motivations. Here, reciprocal inhibitory interactions between the cortex and subcortical brain structures, as well as between the anterior (parasympathetic) and posterior (sympathetic) lobes of the hypothalamus are disturbed. The "excess" excitement of the corresponding lobes of the hypothalamus causes excretion of adrenaline by the adrenal glands, it resulting in the formation of the distress symptoms.

The neurochemical mechanisms of reactive states are connected with functioning of the serotonergic, norepinephrergic, dopaminergic, GABA-ergic and opioid neurochemical systems of the brain. According to current psychological concepts, the personalities having a great number of social roles are more resistant to stress effects.

*Treatment of patients with reactive psychoses.* The therapy of patients with psychogenic psychoses should be always complex, and along with using various medicines it is necessary to employ psychotherapy, work therapy and other methods of social therapy. The therapeutic tactics depends upon the acuteness and psychopathological structure of the syndrome, peculiarities of the personality, its social directions and the character of the psychic trauma.

In affective-shock reactions which developed in extreme conditions, first of all it is necessary to help out the patient from the area of danger, absolutely isolate him from massive psychotraumatizing effects. Other acute psychogenic reactions require urgent aid too. First of all, it is necessary to hold the patient and as soon as possible to inject special drugs for controlling the excitement and blocking the affect of anxiety and fear. With this purpose, intramuscular aminazine (chlorpromazine hydrochloride) or haloperidol are recommended. In cases of mildly expressed excitement, tranquillizers (diazepam, chlordiazepoxil) are administered intramuscularly too. In severe hysterical psychoses with hallucinations, delusional fantasies and stupor, it is purposeful to make intravenous infusions by drops of neuroleptics (haloperidol, trifluoperidol, alimemazine) combined with tranquillizers.

Reactive depressions are treated with thymoleptic drugs in combination with tranquillizers and neuroleptics. Tricyclic antidepressants are used: amitriptyline, imipramine, clomipramine. One should such tranquillizers as prefer diazepam, chlordiazepoxide, alprazolam and thioridazine, and such neuroleptics as sulpiride, alimemazine, chlorprothixene and thioridazine.

For mild depressions with phobias, hypochondriacal apprehensions and somatoform disorders, it is recommended to use selective antidepressants (maprotiline, pyrazidole, thianeptine, moclobemide, mianserin), as well as drugs of the serotonin group (fluoxetine, sertraline, paroxetine, fluvoxamine, cytalopram). These medicines are also indicated for asthenic depressions.

In reactive depressions, sleep is often affected, therefore it is recommended to administer such patients for night some drugs with the hypnotic effect: nitrazepam, flunitrazepam, phenazepam, zopiclon, zolpidem.

The immediate task in the therapy of patients with subacute and protracted delusional psychoses is to control aggression and litigious activity; with this purpose, neuroleptics of a wide spectrum of action (chlorpromazine, haloperidol, clozapine, trifluoperazine, risperidone) are used. In litigious ideas with psychopathic manifestations neuroleptics of a wide spectrum of action are combined with periciazine and tranquillizers. A combination of delusions with anxiety, depression is reduced under the effect of neuroleptics preferably of the antipsychotic action (chlorprothixene, flupentixol, pimozide, pipothiazine, perphenazine) combined with antidepressants or tranquillizers. Undoubtedly, in case of persistent postreactive asthenia, nootropics (pyracetam, aminolon) are indicated.

Psychotherapy takes an important place at all the stages of treating psychogenic psychoses, but it acquires the greatest significance after controlling acute psychotic symptoms. Psychotherapeutic effects are made in order to help the patient get rid of bad feelings, change his reaction to the present situation, overcome incorrect directions, create new psychological dominants. Different kinds of psychotherapy are used: rational, cognitive, suggestive, etc.

### **Anorexia nervosa and bulimia nervosa**

*Anorexia nervosa (F50.0)* is a disease expressed by a deliberate restriction in eating in order to lose flesh, secondarily developing somatoendocrine disorders and an increasing physical exhaustion. Anorexia nervosa is chiefly peculiar to juvenile and young girls, though sometimes it may be observed in males at the age of puberty or youth. It is expressed by an extremely strong urge towards losing flesh through some purposeful and long-lasting self-restriction in eating, sometimes accompanied by intensive physical exercises or taking large doses of purgatives. If the patients are not able to endure this starvation for a long period of time, they resort to such a method as causing artificial vomiting after each meal.

*Bulimia nervosa (F50.2)* is a disease which manifests itself through extreme insatiable appetite with eating too much food followed by artificial induction of vomiting.

*The morbidity rate* of anorexia nervosa has not been known exactly yet, but, according to the available data, the number of its cases observed is

constantly increasing: one case of the illness per 200 schoolgirls at the age up to 16 and one case per 100 schoolgirls over 16, **one case per 50 people**.

By the data of many researchers, anorexia nervosa is particularly common for female students of ballet schools and models, as well as for female students of theatre schools: one case per 14 students of ballet schools and models, one per 20 students of theatre schools. The illness mostly affects little girls, juveniles and young girls. According to the data of different authors, girls fall ill 5-25 times more frequently than boys, juveniles and youths. The etiology of anorexia nervosa with subsequent bulimia nervosa has not been sufficiently studied. According to numerous researchers, these diseases have some multi-dimensional character. Great significance is attached to the family situation (a dominating part played by the mother), premorbid peculiarities of the patients, presence of frequent diseases of the gastrointestinal tract in their case history, influence of microsocial factors. Also important are such streaks of the personality as **carefulness**, stubbornness, urge towards self-affirmation, activity, rather often combined with rigidity and indecision, extreme affection for the mother. Psychogenic factors and influence of the microsocial environment are significant too. A great part is played by a disharmoniously passing period of puberty. The pathogenesis is characterized by complex relationships of psychic and somatic factors. The developing cachexia and endocrine disorders worsen the mental state, and something like circulatory dependence forms between psychogenic and somatogenic pathogenetic mechanisms.

Anorexia nervosa is most often connected with another pathology of the age of puberty and youth: dysmorphophobia and dysmorphomania.

A morbid conviction in their own “extreme stoutness”, most frequently in the form of a fixed, overvalued or delusional idea, gradually leads the patients to the thought that it is necessary “to correct” this imaginary or extremely exaggerated physical defect. Owing to the disposition to dissimulation, which is very typical for such patients, with all their strength they would try to conceal from the surrounding people (first of all, their parents) not only the motives of their behaviour, but even the very realization of this “correction”, do their best to eat food separately from other members of the family, but if they fail with this, they would resort to various tricks and cunning: they may imperceptibly spit out the food (which has already been swallowed) and conceal it, try to feed with their portion a dog specially acquired for this purpose, imperceptibly put food from their plate to others, etc. At the same time, they would thoroughly study the nutritiousness of any foodstuff, diligently calculate calories, avoiding those kinds of food which might result in “putting on flesh” (they would not eat garnishes, **butter, oils**, starchy foods, etc.). Having achieved a significant loss of weight, usually they

are not satisfied even with the lowest body weight and go on restricting themselves in diet, also trying to regularly weigh themselves.

One of the typical peculiarities of these patients is, along with their constant self-restriction in eating, an urge to overfeed other members of the family, especially their younger brothers and sisters. At the same time, the patients would display an intense interest and capacities for cooking the most versatile dishes, sometimes with this purpose they even especially learn cooking of different countries. Being not satisfied only with self-restriction in diet, very actively the patients begin to do different physical exercises, sometimes according to a special system thought out by themselves. Besides, they would often take purgatives, sometimes with very large doses (in cases of long-term starvation, the taking of purgatives is also caused by constipations, which are rather persistent owing to intestinal atony).

The patients' urge towards achieving the desired result through a regular induction of artificial vomiting is one of clinical variations of anorexia nervosa. Being convinced in the necessity to get rid of "the extreme stoutness", but unable to bear starvation for long periods of time, after every meal these patients secure evacuation of the food, not only causing artificial vomiting, but sometimes even resorting to a gastric tube (in order to "absolutely purge the stomach"). With time, this group of patients develop bulimia, when they would take up a huge amount of food and induce vomiting after this, but only few of them succeed in achieving the desired result (to lose flesh). In some of these people, instead of a loss of their body weight, the latter is gradually increasing, and in its turn it is a ground to search for new means "to fight stoutness".

It should be noticed that while at the first, so-called dysmorphomaniac stage, the patients may have ideas of reference and depression, at the second one, within the period of an active "correction of the extreme stoutness", or the anorectic one, the ideas of reference absolutely disappear and depressive feelings become less expressed. Some 1/2-2 years after the onset of the illness, the third, cachectic stage begins, it is already characterized by expressed somatoendocrine disorders which were gradually increasing during the second stage. By this time, as a rule, the patients would lose from 20 % to 50 % of their former body weight and reveal all the signs of dystrophy. Along with disappearance of their subcutaneous fat, the most typical manifestation of changes from the part of their somatic state is amenorrhoea, which in some cases develops at once, but in others after the period of oligomenorrhoea. The patients' muscles become thinner, the skin is dry, cyanotic and desquamative, bedsores and trophic ulcers may develop. An increased brittleness of the nails, falling out of hair, caries and dedentition take place. Myocardial dystrophy, bradycardia and hypotonia, general enteroptosis, anacidic gastritis and intestinal atony are usually observed too. Typical for such cases are a low

blood sugar level, a change of the sugar curve, traces of protein in the urine, signs of anaemia in the blood picture.

It is not seldom that the patients' thorough dissimulation of their state results in making various diagnoses, appearance of secondary expressed somatoendocrine disorders most often giving the ground to suspect some endocrine pathology in them. It is for this reason that the clinical picture of anorexia nervosa must be well known for therapists, paediatricians and endocrinologists, rather than for psychiatrists only, and all cases of an increasing loss of body weight require the most detailed taking of the case history and examination of the patient.

*The differential diagnosis* of anorexia nervosa is rather difficult, as it may be an independent disease of a sphere of borderline nervous-mental disorders at the age of puberty, as well as one of the manifestations (most frequently, the earliest ones) of the schizophrenic process, which begins at the juvenile or young age, or such a particular form of a mental disorder as endoreactive anorexia of puberty (A.Ye. Lichko). As an isolated rudimentary manifestation, anorexia may occur (along with other typical neurotic or psychopathic signs) in many so-called classical forms of borderline nervous-mental diseases. Anorexia nervosa as a separate disease is characterized by its rather typical premorbid streaks of the personality (prevalence of hysterical or psychasthenic peculiarities within the premorbid period). Most of these patients are notable for intense eating in the childhood, but up to the juvenile age any mocking or criticism apropos of this usually do not grieve them. Offensive remarks at the juvenile age or troubles, related to a slightly increased body weight (e.g., a failure to be included in a desirable dance group, etc.) give rise to formation of a situationally caused conviction in one's own "disfiguring stoutness" or an "ugly" size of separate parts of the body (abdomen, legs, thighs, etc.). The syndrome in patients of this group is characterized by an overvalued character of dysmorphomaniac feelings, a moderate degree in the expressiveness of affective disorders, and rudimentary ideas of reference.

In some cases the urge towards losing flesh was caused by the desire "to resemble an ideal": famous literature heroines, film actresses, the mother who restricts herself in eating. A particular effect was produced on these patients by their microsocial environment, and on the whole their conviction in the necessity to correct their appearance was less firm than in patients with dysmorphomaniac feelings proper.

In schizophrenia, the syndrome of anorexia nervosa, very similar (especially at its initial stages) to that of the patients from the borderline group, is notable for a significant degree in the expressiveness of the ideas of reference and more marked blues, mostly in the form of some languid depression. Besides, rather often schizophrenics reveal polydysmorphomania.

A delusional conviction in their “ugly stoutness” in some patients is of a paradoxical character: it develops in cases of a body weight deficit (sometimes expressed). Schizophrenia is also testified to by accompanying depersonalization-derealization feelings, **annoying thoughts**, empty philosophizing. But it is not always that the above differences appear at once (particularly with a listless course of the process). In such cases for a certain period of time the differential diagnosis may be rather difficult.

Anorexia nervosa should be also differentiated from a natural desire to lose some spare body weight, when a restriction in the diet is reasonable, does reach to cachexia and is not based on a morbid notion about one’s own body image.

The choice of the methods of “correction” mostly depends upon the premorbid peculiarities in the personality. Juveniles with hysterical streaks of the character more frequently use such methods for losing flesh which are not so difficult to stand (artificial vomiting, purgatives, enema), while patients of the psychoasthenic type regard such methods as “**not aesthetic**” and chiefly resort to a constant significant self-restriction in the diet and intensive physical exercises.

If there are signs of dystrophy, the inpatient treatment is required. The outpatient one is possible only when secondary somatoendocrine disorders do not reach to an expressed extent and do not endanger the patients’ life. Irrespective of the nosological **character** of anorexia nervosa, first of all it is necessary to give some general health improving treatment directed at improving the somatic state (cardiovascular drugs with a simultaneous taking of a sufficient amount of water, vitamin therapy). A marked result is produced by use of such vitamin drug preparations as carnitine and **cobamamide**. From the very first days the patients should be administered a fractional diet with 6-7 meals a day, each of them being followed by a bed regimen for at least 2 hours. Later (with continuation of the fractional frequent diet) the therapy should be given differentially depending upon the nosological **character** of anorexia nervosa. In case of anorexia nervosa as a separate disease from the borderline disorders, particularly indicated is psychotherapy in different variants depending upon the patients’ premorbid peculiarities, as well as tranquilizers and neuroleptics with a mild spectrum of action at small doses.

Schizophrenics with the anorectic syndrome should undergo the treatment used in this disease. When administering doses of the drugs, it is necessary to take into account the patients’ body weight and the degree of expressiveness of secondary somatoendocrine disorders. The treatment, started at clinical conditions, should be continued out-patiently irrespective of the nosological **character** of anorexia nervosa.

*Rehabilitative measures* should be taken as soon as the patients are discharged. Most frequently (if the outpatient treatment is continued), the best

effect is produced by the earliest possible accustoming of the patients to labour activity, working out a direction for continuation of studies or acquiring new labour skills, etc., in them.

During the period of an expressed loss of their body weight the patients are practically disabled, though because of the activity, characteristic of them, they try to continue their studies or work, displaying here a marked reduction of productiveness. If the illness is inclined to a long-term and chronically relapsing course the patients reduce their professional activity, but it is far from being in all the cases that they need a disability status. Only those patients require a transfer to the disability status, who have a severe course of their illness together with sharply expressed psychic and somatoendocrine disorders, which do not demonstrate any regression.

## PERSONALITY DISORDERS

These include persistent character abnormalities manifesting themselves by a dysharmony in the emotional and effector-volitional spheres and mostly affective thinking, all of them hampering and in some cases preventing any social adaptation.

### Classification of personality disorders

- I. Character accentuations.
- II. Psychopathies.
- III. Psychogenic pathological development of personality.
- IV. Psychopathization of personality caused by various diseases.

### Character accentuations

*Character accentuations* are extreme variants of the norm, when some streaks of the character are extremely intensified with a resultant selective vulnerability to certain kinds of psychogenic effects. Each type of accentuation has only its own “weak place”, and if a psychogenic factor is addressed just to this “weak place”, the accentuated streak of the character may manifest itself as a pathological one with a temporary disorder in the behaviour and adaptation. Character accentuations are a predisposing factor for developing psychogenic disorders and diseases of the general somatic level, to some extent they may produce some effect on the course of a somatic disease, it increasing responsibility of a doctor with any specialization.

*The morbidity rate* of character accentuations in the general population is rather high. Attention should be paid to differences in these indices as observed by different authors. A.Ye. Lichko (1985) informs that in the juveniles at the age of 14-15 the accentuated make 52 %, while at the age of 16-17 this index is 62 %. Unlike psychopathies, character accentuations are variants of the norm and do not have even one sign of psychopathy.

There may be an evident accentuation, when a certain type of the character is notable for presence of expressed streaks, and a latent one, which under usual conditions does not reveal itself at all or is slightly expressed.

The major contribution to the study of character accentuations was made by a famous **Ukrainian** scientist A.Ye. Lichko and a German researcher K. Leonhard. They suggested classifications of the accentuation types. Both these classifications have some differences. A.Ye. Lichko classifies character accentuations in the following way.

*The hyperthymic type* manifests itself by an intensified sociability and a good mood which is harmoniously combined with an excellent general state

and a high life tonus. From their childhood such people are very lively, mischievous and more independent than it should be for their age. In their relations with adults and teachers they would not keep the feeling of distance. They are noisy in any collective body, make much fuss, prefer companies of people of their age, pretending to lead them. They stand firm discipline bad. Because of their fidgets and high distractibility they do not achieve much progress in studies. Their attitude to any rules, laws, moral and social directions is light-minded. They are inclined to alcoholization, delinquency, escapes, vagabondage.

*The cycloid type* may not manifest itself with anything in the childhood, or resemble the hyperthymic type. From the beginning of the period of puberty, most frequently at the age of 16-18, a subdepressive phase develops, which manifests itself by apathy, loss of strength, low spirits. In the emotional background, short temper prevails. Such people would take petty misfortunes and troubles to heart. Usually the phases do not last long, 1-2 weeks, and then change into a period of **enthusiasm** or a general state. In the period of **enthusiasm** these people try “to make up for what was lost”, turning into hyperthymic ones. They would long for a company, set up acquaintances, cannot bear loneliness. The periods of **enthusiasm** are less frequent than subdepressive phases. Usually such people attract attention of psychiatrists when they attempt suicide in the subdepressive phase or because of an affective reaction.

*The labile type.* These people do not differ from others of the same age in childhood, but are only very sickly. Some of them reveal a disposition to neurotic reactions. The main feature of the labile type consists in an extreme changeability of the mood apropos of almost nothing, accompanied by worsening of the general state and autonomic lability. In their attitude to their relatives they are able to have deep feelings, sincerity and affection. They take any emotional rejection from the part of their acquaintances to heart.

*The asthenoneurotic type* is a premorbid background for forming neurotic reactions and neuroses. The main features of this type of accentuation are easy fatiguability, shortness of temper, a disposition to hypochondria. The shortness of temper is clearly seen in the process of getting tired and may reach to affective splashes. The self-assessment usually reflects hypochondriacal moods, the central place in plans for future is taken by the care for one's own health.

*The sensitive type.* From their childhood, such people are timorous, do not like any noisy games, avoid risky pranks. They feel shyness and bashfulness in personal contacts with strangers. They study with diligence, are afraid of tests and examinations, rather often even their answers in class. Two main qualities of this type of accentuation are higher sensitiveness and self-respect; usually they develop at the age of 16-18, when a habitual school

stereotype changes into a labour one or a study at another educational establishment and a person has to make new contacts. The feeling of one's own inferiority is often "masked" by the reaction of hypercompensation: the timid and bashful are unduly familiar and arrogant, the diffident try to demonstrate their joviality and sociability, choosing extreme sports for overcoming fear. Such people are not inclined to alcoholization and delinquency; an attitude of their associates to them is their vulnerable place.

*The psychoasthenic type* does not manifest itself specifically in the childhood and youth. The main features are indecision, a disposition to philosophizing, self-analysis, over-anxiousness about one's health. Annoying fears and apprehensions easily develop and give rise to protective rituals. The physical development of psychasthenic juveniles is not sufficient. All known forms of behaviour disorders are not characteristic of them. Psychasthenic streaks of the character reach to their highest degree at the age of 20-40; neurosis of obsessions easily forms against this background.

*The schizoid type.* The schizoid streaks of the character are shown from the early childhood, such children would not get attracted by others of their age, they prefer to play alone, avoid noisy collective bodies. They are restrained in manifesting their feelings and it may be perceived as some emotional coldness. At the juvenile age the accentuation is intensified, the juveniles become even more reserved, live in their own world, at the same time suffering from their loneliness and inability to establish contacts. The schizoid streaks of the character do not entail any disturbances in the behaviour, alcoholic and narcotic drives, and do not result in social dysadaptation.

*The epileptoid type.* The main features of this type of accentuation are explosiveness and a disposition to dysphoria (fits of a melancholic-malicious mood). Stiffness, rigidity, inertness accompany all the psychic processes. As a rule, particular attention is paid to one's own health and well-being. Such people are inclined to demonstrative suicides, rancorous, revengeful and do not forgive any offences.

*The hysteroid type.* This streak is notable from young years. Such children would not bear when attention is paid to other children. Their essential need is to be in the centre of attention. Their clothes, hair style, make-up, behaviour, talks – everything comes to one purpose. Indifference from the part of their associates is unbearable for hysteroids. They would use falsity and slanders, commit improper and sometimes even asocial acts. At the age of puberty, the streaks of the character become intensified, with possible demonstrative suicidal attempts, escapes from the home, alcoholization and delinquency.

*The unstable type.* From their childhood, such people are disobedient, restless, cowardly and easily commanded by other children. They adopt rules

of behaviour with difficulty, it requiring a constant supervision over them. They do not reveal any craving for studies, but demonstrate an early interest in liquor, diversions, amusements and idleness. They are not able to have sincere feelings, their family's misfortunes and troubles meet indifference from their part. They perceive their relatives as a source of means for well-being and delight. The situation of neglect, which provides wide opportunities for idleness and inactivity, is a weak link of the unstable people.

*The conforming type.* Its main feature is the urge towards generally accepted norms in all spheres of the life. The environment is a dictator of behaviour for such people, and they are not able to resist it at all. Having found themselves in a bad environment, they would rapidly adopt its manners, customs and habits, even it contradicts their moral directions. "For company", the conforming juveniles would become inveterate drunkards, take part in multiple rapes, they are conservative and lack initiative. Under certain conditions, the conforming accentuation may act as a favourable ground for layers of other streaks.

Half of the cases of character accentuations is represented by mixed types. It is very important to determine a combination of these types of accentuations, because psychotherapeutic approaches to them should differ. Character accentuations most frequently manifest themselves within the period of the character making (at the juvenile age), and become smoother as the person is growing up. The accentuated streaks of the character are usually well compensated.

## **Psychopathies**

As an outstanding psychiatrist P.B. Gannushkin wrote, "psychopathy is an abnormality of the character, that determines the psychic image, making an imperious imprint on the whole emotional cast, it is not subjected to any sharp changes in the course of life and interferes with adaptation to the environment".

Nowadays the problem of personality disorders is rather urgent for physicians of the general somatic practice, psychiatrists in particular. An expressed emotional-volitional instability, dysharmony of psychic properties with inadequate reactions to external stimulants easily give rise to conflict situations and social dysadaptation. Such people are not able to adapt themselves to requirements of the society and at the same time interfere with the life of others. Besides, the psychopathic streaks of the character may initiate some somatic disease or introduce peculiarities into its course, thereby often hampering the diagnosis and treatment of a pathological process.

It is significantly difficult to reveal the real morbidity rate of psychopathy, since the majority of psychopathic patients do not get into the

visual field of psychiatrists. At the same time, the available literature data about the morbidity rate of psychopathies in the population differ by a large spread of values. On the whole, the data produced by different researchers show that both in the general population and the patients, treated at mental hospitals and registered at dispensaries, psychopathic personalities make about 5 % among men. In women, psychopathies are less common by a factor of 2-3.

*Classification of clinical manifestations.* All modern classifications of psychopathies are based on the syndromological principle, i.e. prevalence of some or other clinical manifestations whose leading disorder is pathological functioning of the emotional-volitional sphere. The most common forms are excitable and hysterical psychopathies, which make 3/4 of all psychopathic disorders.

Diagnostic criteria of psychopathy were based on the following signs: 1) *totality of the pathological streaks of the character*: they manifest themselves everywhere – both at home and on job, at work and at rest, under usual conditions and in emotional stresses; 2) *stability of the pathological streaks of the character*: they are preserved during the whole life, though at first are revealed at different ages, most frequently in juveniles, sometimes from the childhood, rarer when the person has become older; 3) *social dysadaptation* results just from the pathological streaks of the character and is not caused by an unfavourable environment. At present, ICD-10 isolates the following types of psychopathies.

*Emotionally unstable personality disorder (an emotionally labile type of psychopathy, explosive, excitable, epileptoid psychopathies)* includes a combined group with different disturbances in the emotional and effector-volitional sphere.

*Explosive (affective-labile) psychopathy* is characterized by expressed affective reactions, easy short temper at any (even the most insignificant) cause, explosiveness. Psychopathic people of this type are intolerant, do not bear any objections, absolutely do not take into account their associates' wishes and interests. In the life, these people are obstinate, strict and incapable of any long-term purposeful activity.

*Epileptoid psychopathy* is characterized by fit-like episodes of losing control over one's behaviour, a disposition to unrestrained affective outbursts with aggression and autoaggression. Sometimes an episode may be preceded by aura, followed by a melancholic-malicious mood some minutes later, when the patients are looking for a way to vent their anger accumulated. As a rule, such patients have great physical strength and are able to inflict severe bodily injuries. Being cruel, rancorous and touchy, they would often jeer at the weak who are not able to stand up for themselves. Rather frequently they are capable of making hasty and even dangerous actions. These people are small-

minded, straightforward, obstinate, disposed “to struggle for justice”, therewith championing their egoistic interests.

*Hysterical personality disorder (hysterical psychopathy)* is noticeable from the childhood and more common for women. The character is notable for ostentatiousness, theatrical behaviour, unwarranted emotionality. The facial expression, gestures, clothes, hair style – everything is aimed at attracting attention. Such people are easily suggested, their feelings are superficial and unstable, they rapidly cool down in their intentions, particularly if id does not promise immediately fame and delight from the part of their associates. They make conflicts in their collective bodies and families. The pivotal feature of this disorder is a constant desire to attract attention of other people by any means, to be in the centre of attention, to be talked about and admired. To achieve this purpose, all ways are good for the hysterics, they even resort to slanders, look for any audience, simulate suicidal attempts, demand sympathy and compassion. Their suggestibility, indeed, is rather selective: it is possible to suggest only such things which do not contradict egoistic interests. Such patients try to emphasize their natural gifts and have high claims. They can easily produce hysterical reactions in an unfavourable social situation.

*Dyssocial personality disorder (psychopathy of unstable type, antisocial personality disorder)*. Weakness of higher forms of volitional activity, defencelessness against external effects, suggestibility, and inconstancy accompanied by an inability to some purposeful activity are the main property of this type. Such patients are irresponsible, disregard social norms, rules and duties. Rapidly, often and without any hesitations they would change their decisions, place of work or life; they live from day to day and usually do not ponder over their future; they are unable to maintain firm relations with other people. Such patients easily affect, sometimes with cruelty; they do not have any feeling of being guilty and cannot get experience from the past. They are constantly short-tempered, disposed to blame others for everything and complain of misfortunes.

The main streaks of this type of psychopathic personality are emotional instability, flabbiness, weak will, a constant thirst for light diversions. Such patients are disorderly, inaccurate, lazy, disregard school and parents' demands. From the juvenile age, they easily join asocial companies, almost always begin taking liquor and narcotics. They are incapable of feelings, do not get attached to their relatives and friends, are never imbued with their feelings, try to escape from any difficulties and troubles. They are indifferent to their future, live in the present, lead a thoughtless way of life with irregular sexual relations, playing cards, hard drinking and senseless expenses; they come into conflicts with the law, at the same time being cowardly and with weak will. The situation of neglect and no strict control turns out to be

pernicious. Such people may remain the lines of drunkards, narcomaniacs and criminal elements.

*Anancastic (obsessive-compulsive) personality disorder (psychasthenic psychopathy).* The pivotal feature of this disorder is anxious mistrustfulness, accompanied by indecision and constant doubts. The pathological streaks are seen from the childhood: these people are shy, sensitive, timid, diffident, disposed to anxious apprehensions. Such children are afraid to be late for classes, to get a bad grade, to meet disapproval from the part of their associates. Their need to recheck what has already been done alternates with some preoccupation concerning details of trifles. Being authoritative, they demand subordination from their associates with whom they are rigid and unable to compromise; they are intolerant of anything what, in their opinion, may break the habitual tenor of life. They are conscientious and scrupulous, pedantic and obstinate, usually serious and absolutely without any sense of humour as an important adaptive mechanism. Simultaneously with anxiety and apprehensions for troubles, they believe in good and bad omens, invocations and rituals. Their pathological streaks make it possible for the psychasthenics to start families, hold their jobs for long periods of time, but the circle of their friends is narrow. With a regular tenor of life they manage to overcome their doubts, but any minute changes give rise to anxiety and nervousness, these patients begin to relate circumstances to a picture of various misfortunes. They would try to foresee any detail, to prevent cold or another severe somatic disease, to avoid overstrain.

*Anxious (“avoiding”) personality disorder (sensitive psychopathy).* High sensitivity and the feeling of one’s own inferiority are the main streaks of this personality disorder. A constant desire to please and be **accepted** by others is accompanied by the feeling of some internal tension and anxiety. Being diffident, these people see a lot of shortcomings in themselves, are afraid to be ridiculed and criticized. The circle of personal affections of such a patient is rather limited, and as a rule consists of those people to whom he has already got accustomed and whom he trusts. Any deviation in their associates’ behaviour is perceived as humiliating. The fear to be underestimated gives rise to a peculiar style in the behaviour: the person is unnatural and diffident, constrained in movements, superfluously modest, with a pleading tone of voice. Such patients never reach to career heights in professional aspects, but on the contrary try to be unnoticed, always ready to serve.

*Schizoid personality disorder (schizoid psychopathy).* The main personality streaks are as follows: reserve, drawing into oneself (autism), unsociability, emotional coldness and dryness with respect to one’s relatives. The streaks of schizoid psychopathy originate in childhood. Instead of a noisy children’s collective, such children prefer lonely quiet occupations, they do not long to be with children of their age, they do not display any emotional

affection towards their relatives and friends. Acceleration of such children's mental development is accompanied by a delay in the motor sphere: the motility of schizoids is insufficiently plastic and unnatural. Their facial expression are devoid of liveliness, the voice is poorly modulated, the speech is limited by a set of standard expressions, the movements are awkward and stiff. These patients often live in their unusual interests and passions which fill the inner life, almost always closed for others. Schizoids are people with extreme feelings: their outward emotional restraint looks like coldness, while inner feelings at this moment may be strong. Their passions are most frequently peculiar, sometimes bizarre. The appearance of a schizoid is specific: either some emphasized carelessness or refinement and aristocratism in clothes. Such patients either do not respond to any attempted criticism, correction of their improper behaviour or reject it with contempt.

*Dependent personality disorder, asthenic psychopathy.* The characteristic signs of this kind of psychopathy are an inability (which attracts attention) to endure everyday physical and mental loads, a higher exhaustibility, helplessness against problems, a low self-assessment, diffidence, timidity, anxiousness, shyness. The patients assess themselves as helpless. Typical for psychopathic people of this kind are general "nervous weakness", excessive sensitivity and impressionability. The inward life of an asthenic psychopath depends upon an intricate complex of feelings, prevailing of them are the feeling of one's own insolvency, lack of character, faint-heartedness. Such patients are anxious, almost always depressed, shirk forthcoming difficulties. Their everyday life is accompanied by easy fatigability; any work requiring physical or psychic tension rapidly causes absent-mindedness, reduced productivity and exhaustion, in its turn it results in headache, tearfulness, touchiness, sometimes reaching to the level of anger. Asthenic psychopaths are constantly anxious about their health. They are always subjectively ill with something and constantly produce complaints about either cardiovascular or gastrointestinal disorders. Even insignificant indispositions may unsettle them for a long period of time, make them give up doing anything and take medical advice.

*Paranoid personality disorder corresponds to the paranoid type of psychopathy.* It is characterized by constant suspiciousness and mistrustfulness towards the associates. These are people of a particular mentality: insincere, willful, capricious and short of temper. It is difficult to constantly contact with them, and it often results in conflicts in the family and collective bodies. The main streak of paranoiac psychopaths is their disposition to developing overvalued ideas. Ridden by this idea, which is supported by high emotionality, they would **subordinate** all their thoughts, urges, drives, wishes and acts to realization of this idea. Overvalued ideas are usually thoughts about one's own high significance for the society and history.

An attempt to reassure a paranoid psychopath does not produce a desirable result, but on the contrary consolidates his belief in his rightness and contributes to some purposeful activity for realizing the idea. The main background in the mood of a paranoid psychopath consists of tension and short temper, sticking to offences and maturing plans of revenge for the offences committed. A constant conflictness causes hospitalization.

Besides the above mentioned, there are also *mixed types of psychopathies*, when streaks of different types are represented relatively evenly and it is not possible to reveal the main type. It is worth noticing that absolutely “pure” types of psychopathies occur relatively seldom. The mixed types may be intermediate or amalgamated, when the endogenic nucleus of some personality kind is covered with a layer of streaks of another type of psychopathy as a result of a long-term unfavourable effect of environmental factors or incorrect upbringing.

*Organic psychopathies* include a personality pathology whose formation results from a perinatal and early postnatal impairment of the central nervous system. This impairment may be caused by various factors: a pathology of pregnancy (gestoses, hypoxia of the foetus), injuries, infections, intoxication, irradiation of the foetus, birth injuries, foetal asphyxia, brain injuries and neuroinfections suffered before the age of 3 years. The influence of a pathogenic factor affects morphological maturation of certain structures of the brain and their dysregulation. Pathological streaks of the character are formed on “the ground which has already been changed”. The mortality rate of organic psychopathies is rather high, by literature data it reaches to 29 % of the total number of psychopathies. The clinical picture of organic psychopathies outwardly resembles manifestations of psychopathies of another genesis, but the available “organic background” brings in some peculiarities. Besides, as a rule, neurological microsymptoms are observed. The reversibility of organic psychopathies is low, only 15 % of adults prove to be socially adapted.

*Psychogenic pathological personality formation* develops in children and juveniles under the influence of unfavourable microsocial-psychological factors, which may include a psychotraumatizing situation and incorrect upbringing. As it is known, the biological basis of the personality is formed by temperament which reflects the dynamics of psychic processes. The type of the higher nervous activity is the personality’s physiological basis. Formation of “the acquired psychopathy” is a long-term process of the development of pathological streaks in the character of children and juveniles under the influence of unfavourable social conditions and incorrect upbringing. Important is the fact that a pathological development of the personality may also appear when there is no biologically caused psychopathic basis (a so-called pathocharacterological development).

Four main types of psychogenic pathological personality formations are isolated: 1) *pathocharacterological development*; 2) *postreactive pathological formation of the personality*; 3) *neurotic development*; 4) **deficiency** type of *pathological formation of the personality*.

In practice, the most common type is affective-excitabile variant of the pathocharacterological development. It is formed in children and juveniles from defective families (alcoholized parents, when a situation of neglect prevails in the family) and those with some chronic conflict situation. Such juveniles are characterized by lack of restraint, affective excitability at an inadequately low stimulus, spite, anger. All these things may be accompanied by aggressive actions. Such juveniles are extremely capable of coming into conflicts.

Significantly rarer are *the inhibitable, hysteroid and unstable variants* of the pathocharacterological personality development, which by their clinical manifestations resemble types of psychopathies having the same names.

*The postreactive pathological formation of the personality* results from a psychogenic pathology, e.g., reactive depression, when a juvenile develops a feeling of being guilty, an understated self-assessment and diffidence. The latter ones become steadily expressed and form a basis for pathological streaks of the character. In practice, the postreactive formation of the personality is seldom observed.

*The neurotic development of the personality* forms against a background of some protracted neurosis, its onset being in childhood. The most “favourite” clinical forms of neuroses for this personality development are stammering, neurasthenia, obsessive-compulsive neurosis and anorexia nervosa. Premorbid peculiarities such as the type of higher nervous activity do not play the last part in this formation. Depending upon the clinical form of neurosis, the affective-excitabile, asthenic, obsessive-phobic and hysterical variants of the neurotic personality development are formed.

*The deficiency type of pathological formation of the personality* develops in children with physical defects of sense organs (blind, deaf), with some maxillofacial pathology (cleft palate, cleft lip), with a pathology of the locomotor system (infantile cerebral paralysis, kyphoses, scolioses, tuberculous impairment of bones and joints), with a chronic pathology of organs and systems (bronchial asthma, congenital heart defects, psoriasis, a chronic bronchopulmonary pathology, haemophilia, etc.). A particular part in the pathological formation of the personality of this type is played by the child’s realization of his defect, it being accompanied by low spirits, drawing into the world of his own feelings, touchiness, sensitiveness. The family situation forming around the defective child contributes to the formation of parasitical directions. Psychopathization of the personality develops in

different organic, endogenic diseases, abuse of psychoactive drugs; its peculiarities are described in relevant chapters.

*Course.* Psychopathies never appear suddenly, their onset is gradual in childhood, as a rule. Personality disorders are notable for their stability: the formed pathological streaks are preserved during the whole life of the psychopath and do not undergo any qualitative changes. Nevertheless, the degree of their expressiveness within different periods of the life and in different situations is not the same. The neuroendocrine changes taking place in the periods of crises produce a significant effect on the course of psychopathies, the pathological streaks of the character becoming more expressed in boys at the period of puberty and in women at the climacteric. Some psychopathic people demonstrate weakening of their pathological signs with age (in some cases of organic psychopathies, which began in childhood, the neuroendocrine reconstruction at the period of puberty results in disappearance of clinical manifestations).

The involutorial period is characterized by intensification of the pathological streaks of the character, particularly in women. At the senile age, psychopathic streaks of the character smooth down owing to physical senility.

The outcome and social adaptation of the personality in psychopathies depends to a large extent upon environmental factors and the degree of expressiveness of the pathological streaks of the character. In “profound psychopathies”, the compensatory abilities are insignificant and some social adaptation is observed only in 1/3 of cases. Other patients develop the state of decompensation, when a clear picture of the pathological streaks of the character is steadily preserved, thereby hindering social adaptation. Partial decompensation is the state when expressiveness of the pathological streaks of the character is preserved, but together with some degree of social adaptation. **Complete** compensation is the state based on a combined relationship of compensatory mechanisms of the personality with a favourable influence of the environment, this relationship contributing to a steady smooth-down of the pathological streaks of the character and development of a valuable social adaptation.

“Organic” psychopathies are an unfavourable variant of a personality pathology and, despite the treatment provided, it is extremely difficult to achieve the state of compensation. The outcome of any psychogenic pathological personality development depends to a large extent upon the social medium and organization of the family’s everyday life. Under favourable conditions, the variant of a right personality formation is not excluded.

*Etiology and pathogenesis.* Formation of the personality disorders results from a number of causes. The main contribution (up to 60 % of abnormality cases) to this formation is made by the constitutional-genetic

factor. Abnormal streaks of the personality are known to be inherited by the recessive sign; as it is supposed, from the mother to the son and from the father to the daughter. These are so-called “nuclear” or “constitutional” psychopathies. In organic psychopathies, the etiological part is played by organic cerebral dysfunctions resulting from a combined effect of some perinatal and early postnatal pathology together with unfavourable factors of the environment.

“Borderline” psychopathies are caused by environmental factors: upbringing in an abnormal family, presence of some chronic psychotraumatizing situation, particularly if the latter is directed to the character accentuation as the place of the least resistance.

*The pathogenesis* of psychopathies is complex and by now has not been sufficiently studied yet. But it is known that some part in the etiopathogenesis of the personality disorders is played by biochemical processes. Some authors relate the presence of impulsiveness to a higher level of sex hormones and a reduction in some serotonin metabolites, while a higher level of monoamine oxidase correlates with the general reduction in the level of the patients’ social activity.

*Treatment and rehabilitation.* The treatment of psychopathies should proceed from the principle of the complex character and consist of drug influences, social and pedagogical measures. Use of drug preparations is necessary at the period of decompensations and in “profound psychopathies”. When administering medicines, one should be guided by a division of personality abnormalities into psychopathies of the excitable and inhibitable types. In cases of exacerbation of the former psychopathies, manifested by maliciousness, aggressiveness, explosiveness, disinhibited drives, neuroleptics are to be administered: Neuleptil (a “behaviour corrector”), some cases require aminazine and **sonapax**. Decompensations of the paranoiac type of psychopathy, with formation of stable delusional ideas and absence of criticism, require administration of antipsychotic drugs, such as trifluoperazine, haloperidol, **tisercine**. Carbamazepine is administered for dysphoriae. For patients with pathological personality streaks of the inhibitable type, it is better to prescribe tranquillizers directed at reducing their anxiety, loss of actualization of hypochondriacal feelings, morbid doubts. **Phenazepam**, **Sibazon**, **tazepam**, **hydazepam**, helenium may be drugs of choice. For decompensation of psychopathies with prevailing asthenic disorders, nootropic drugs (**nootropil**, **pyriditol**) and psychostimulants are administered. Antidepressants (amitriptyline, **Azaphen**, **pyrazidol**) are indicated for patients with a disposition to dysthymia. In some cases, effective is sulphosine therapy combined with small doses of insulin.

Psychotherapy takes the leading place in the treatment of pathological personalities. Its different kinds are used: rational psychotherapy with

explanatory talks about characterological peculiarities of the psychopath, his excessive demands made to his associates. Variants of hypnotherapy and autogenic training are possible. A particular part in the medical-rehabilitative measures is played by the organization of the social environment: a correct work orientation, cultivation of moral-ethic and socially approved standards of behaviour.

### **Psychosexual disorders**

This is a group of disorders which includes several kinds of sexual behaviour disorders differing by their etiopathogenesis and clinical manifestations. They are as follows:

I. Disturbances in the rates and terms of psychosexual development (delays in psychosexual development, precocious psychosexual development).

II. Deviations in psychosexual development.

*Disturbances in the rates and terms of psychosexual development. Precocious psychosexual development.* The sexual drive significantly passes ahead of other manifestations of sexuality and by the age of 10 years it may reach to the level of sexual fantasies. The secondary sexual characters have been formed by this age too. Such children display an early interest in the sexual life, rather often they would hunt out juveniles, and sometimes adults, who willingly make intimate contacts. Early masturbation before the age of puberty may be one of the manifestations of precocious psychosexual development.

*Delayed psychosexual development.* This kind of the disturbances manifests itself by a delay in the terms of the child's sexuality formation versus his age. It may be caused by somatic disorders: severe endocrine disorders, psychogenic factors – in the pathocharacterological formation of the personality and psychopathies (particularly those of the inhibitable type), as well as sociogenic factors, which result from an influence of the microsocial medium, incorrect sexual upbringing by the parents and teachers. Such people start their sexual life later, and smoothly endure its absence.

*Deviations in psychosexual development (sexual perversions),* also called *sex perversions*, are a pathological direction of the sexual drive and a distortion in the forms of its realization.

*True perversions* are separated, where the sexual drive is realized only in a perverted way, substituting for a normal sexual life. In false perversions, satisfaction of the sexual drive in a perverted way is accomplished because of some objective obstacles for a normal sexual life (isolation in homosexual collective bodies, etc).

Besides, there are sexual perversions when the object of the sexual drive is disturbed or substituted. They include: *homosexuality, paedophilia,*

*gerontophilia, zoophilia, necrophilia, fetishism, exhibitionism, as well as sadism and masochism.*

*Homosexuality* is the sexual drive towards persons of the same sex. In women it is termed lesbianism.

*Paedophilia* is the sexual drive towards children.

*Gerontophilia* is the sexual drive towards elderly and old people. It occurs seldom.

*Zoophilia* is the sexual drive towards animals. It is more frequently observed at the period of puberty in men who are in a close contact with animals.

*Necrophilia* is the sexual drive towards corpses. It occurs seldom, mostly in a severe psychic pathology.

*Fetishism* is the sexual drive towards certain objects or body parts (clothes, underwear, legs, etc.).

*Exhibitionism* is the desire to expose one's genitals. It is mostly observed in males.

*Sadism* is satisfaction of the sexual desire while torturing the sexual partner.

*Masochism* is satisfaction of the sexual desire when being tortured by the sexual partner.

*Etiology and pathogenesis.* A certain part in the etiology and pathogenesis of sexual disorders is played by neuroendocrine disorders, constitutional-genetic, psychogenic factors and conditions of the environment.

*Treatment.* The medical-corrective measures for psychosexual disorders may include different kinds of psychotherapy with explanatory talks, sanitation of the environment, and drug treatment in some cases.

## HYPERKINETIC DISORDERS

These are mostly disturbances in the effector-volitional sphere manifesting themselves through expressed motor activity, inattention and reduction of volitional qualities.

Within the last decade these disorders were more and more mentioned by doctors, teachers and social workers, since the social significance of this pathology is very great. The main problem of these children consists in their excessive motor activity which is perceived by the majority of their associates as hooliganism. It is extremely important for paediatricians and specialists in juvenile disease to professionally assess these deviations and begin medical-corrective measures in time.

Literature data about the morbidity rate of hyperkinetic disorders greatly vary from 1-6 % of children before the age of puberty to 4-12 % of young pupils. The disorder is significantly more common for boys, a lot of them being adopted.

*Classification of clinical manifestations.* By now, no classification of hyperkinetic disorders has been devised, since their clinical manifestations are of the same type, similar and united into one syndrome by the same pathogenesis. On the whole, the symptoms are characterized by some restless activity, impulsiveness, which sometimes achieves destructive aggressiveness, and absent-mindedness. The onset of a hyperkinetic disorder is during early development. Rather often the mothers of sick children retrospectively notice hypermotility of their foetus. At the age of infancy, such children are restless, hyperdynamic, their sleep is short-time and poor, their threshold of excitement to sensor stimulants is low. Finally, the hyperkinetic disorder syndrome becomes evident by the age of 6-7 years, when the child already has to meet certain demands of behaviour stereotypes (to sit till the end of a class, to fulfill a task, to keep silence). Typical for a hyperkinetic disorder are impulsiveness and rashness, but the acts are made unpremeditatedly, the patients are not able to prognosticate final results. The sense of carefulness is absent even in dangerous situations. One of this impulsiveness manifestations is aggressiveness, manifesting itself in 75 % of sick children.

A deficit of attention displays itself through high distractibility, unsteadiness, impatience, inability to finish a task. The children are not able to keep their seat, they would jump up, pay no attention to remarks made by adults, run, jump irrespective of the situation, aggressively investigate their surroundings, easily meet with accidents.

*Course.* One of diagnostic criteria of a hyperkinetic disorder is its early onset (before the age of 5 years). The symptoms are more evident in pupils, and, unlike in boys, hyperdynamia in girls is less expressed, but anxiety and

mood disturbances prevail. Clinical manifestations may disappear in the beginning of the period of puberty.

*Age-specific peculiarities.* In juveniles, the motor disinhibition decreases, but the hyperkinetic disorder is covered with layers of bad behaviour and difficulties in studies. Adults are characterized by an asocial mode of life, alcoholization, abuse of narcotic drugs.

Having begun in childhood, hyperkinetic disorders are preserved by the juvenile age in 50 %, and by adult age in 30 %; they are characterized by an unfavourable course and an antisocial direction of the personality.

*Etiology and pathogenesis.* Infections and intoxications at the perinatal period and injuries in the young childhood are etiological factors of hyperkinetic disorders. No genetic predisposition to these disorders cannot be excluded. Their pathogenesis is based on neurocirculatory and neuroendocrine disorders, which result from affecting factors and contribute to abnormal maturation of certain cerebral structures causing their dysregulation.

*Treatment.* The therapy of hyperkinetic disorders should proceed from the principles of the treatment duration, complex character, individuality, including drug treatment, psychotherapy and social-pedagogical methods. It is possible to use such drugs of choice as psychostimulants, mainly amphetamines: dexamphetamine, Ritalin (methylphenidate), pemoline (Cylert). These medicines improve concentration, reduce motor activity and impulsiveness. Besides, for some cases, antidepressants (melipramine, fluoxetine) and antiparoxysmal drugs (carbamazepine) are indicated, sometimes neuroleptics (Neuleptil, sonapax) are prescribed.

Psychotherapy should be provided both individually (separately with the child and the parents) and in the family, with use of methods of psychological-pedagogical correction.

## SOCIAL BEHAVIOUR DISORDERS

*Mortality rate.* Antisocial behaviour is observed in 5-15 % of children and juveniles.

The role of genetic factors is confirmed by the fact that this form of mental disorders has a multiple etiology, but the **concordance** in monozygotic twins is significantly higher than in dizygotic ones. Some aggressive-destructive behaviour is often observed in juveniles with neuroendocrine disorders, other predisposing factors also consisting of an insufficient material well-being of the family, defects in upbringing, an aggressive and cruel attitude from the part of the parents, the child's low mentality. Social behaviour disorders develop more frequently, if there is a combination of several unfavourable factors.

*Clinical peculiarities.* Children and juveniles with asocial behaviour are disposed to perceive their associates as evil-wishers. They would lag behind in school, begin to take psychoactive drugs early, many such people are not able to establish firm friendly relations with others of their age. They do not try to conceal their asocial acts, do not strive for taking some advantage from them. These children and juveniles are characterized by a high egocentrism, usually they do not thank for a good attitude. Their aggressiveness is directed at people of their age, rather often at those who are weaker of them. During their talks with a doctor or teacher they would display a hostile mood, rudely denying any negative information about them. A group of juveniles with preserved social relations is notable for weakness and unsteadiness of the will, they would blindly imitate their associates' behaviour. In their early childhood, such children usually treat their mother warmly. Their antisocial behaviour does not manifest itself at home, but it in a company of children of their age who look for some primitive pleasures and diversions. These children and juveniles would often argue with adults, disregard their advice, tell lies, break their promises; rather often they initiate fights with use of weapons, demonstrate physical cruelty towards their associates, steal precious things, often miss classes in school, escape from their home, torture animals.

*The course* of these disorders is unfavourable; with time, offences become more serious, some juveniles form dyssocial psychopathy with a reduced social adaptation. Positive effects are produced by marriages with socialized partners, the parents' support and even a short-term stay at reformatories, it causing fear of subsequent punishment.

In some juveniles their social behaviour disorder is limited by the family's borders, in others it is accompanied by social relations, or these relations are absent.

Children and juveniles without social relations are not able to establish firm relationships with people of their age, they are episodically on friendly terms with those who are much older or younger of them. They try to play a part of a “cool person”, because their real self-assessment is low. Any punishment, received by them for their behaviour, does not correct the latter.

Children with preserved social relations early reveal their social conformity, blindly copy the behaviour of other people, as their will is weak and unsteady. Their antisocial behaviour usually manifests itself outside their home in a company of asocial juveniles.

*The treatment* of juveniles and children with a social behaviour disorder should be provided under conditions of a forced restriction of opportunities for any antisocial behaviour. Behaviour, cognitive therapy are to be given, as well as individual psychodynamic psychotherapy and family therapy.

*Oppositional-provocative behaviour (F91.3)*. Two-thirds of cases of taking medical advice of a paediatric psychiatrist are caused by some oppositional-provocative behaviour observed in preschool children and young pupils. Such children are aggressive towards their parents and teachers, disobedient, as if not hearing any remarks and accosting to them. Their behaviour often provokes the parents for threats or excessive encouragement. Such children are slovenly, **absent-minded**, forgetful; they would often argue with adults, persisting in their opinion, but the oppositional behaviour may alternate with episodes of submissiveness and obedience. Their progress in school is bad because of insufficient diligence and low self-assessment, usually they have not got any friends. Rather often such children develop various affective disorders, a disposition to abusing psychoactive substances.

A leading part in the treatment of such patients is played by individual and family psychotherapy.

*Differential diagnosis*. Episodes of antisocial behaviour may be observed at different stages of practically any disease at a children's neuropsychiatric clinic. Therefore differential diagnosis is usually made by the method of exclusion. Sometimes the diagnosis of a social behaviour disorder is used as an intermediate one up to revealing the real causes of the deviant behaviour. In an oppositional-provocative disorder of the social behaviour, no violations of the associates' basic rights, as well as norms and rules, adequate to the age, are usually observed. The antisocial behaviour, possible in maniac states, is restricted by the affective episode limits and is not a steady stereotype.

*Treatment*. The plurality of etiopathogenetic factors and psychological mechanisms of the disorder makes a general thesis about an individual therapeutic strategy here particularly significant. Important for any therapeutic case is to provide outer limits which would compulsorily restrict any antisocial behaviour reaction for the period of the treatment. Behaviour

techniques are used to weaken inadequate behaviour reactions, learnt by the child in the process of his individual development, and to support his socialized behaviour. Increasingly popular becomes cognitive therapy for correcting a low self-assessment and **dysadaptive** social stereotypes, as well as for mastering the control over impulsiveness. Usually these are programmes of a gradual approach to complex situations of interpersonal relationships with use of a role play and an inner dialogue for self-assessing.

Individual psychodynamic psychotherapy gives good results in some cases. But usually it is impossible to form firm relations with the patient, which are necessary for successful long-term **profound** psychotherapy, therefore better results are produced by individual approaches, based on nondirective and psychodynamically oriented consulting.

For a long period of time, reformatories of industrially developed countries have been using group forms of therapy with a wide spectrum, making an accent from individual conflicts to behaviour modifications. Any confrontation with reality-distorting mechanisms of psychological defence is much easier perceived by the patient from other members of the group, than from his physician. The use of such groups presupposes a loss of the patient's communication in his usual antisocial medium.

Family therapy, with a possible wide spread inside its limits from a correction of the integral family structure to changes of its typical reactions to the patient's behaviour, is indicated, taking into consideration a significant part played by family factors in the genesis of this disorder. The most important things in reactions to the patient's behaviour are to be trained in negotiating with him and to make an optimum encouragement-punishment system.

Psychopharmaceutical therapy does not produce uniform results, what may be caused by the etiological polymorphism of the disorder. Good abilities of haloperidol, lithium and beta blockers in reducing aggressiveness and explosiveness of patients with behaviour disorders have been demonstrated. In cases of resistance to these drugs, success is achieved with propranolol. A combination with a hyperkinetic disorder is indication for administering stimulants and bupropion. Positive effects were observed with use of tricyclic antidepressants, since behaviour disorders are often accompanied by some manifestative or masked depression.

## OLIGOPHRENIAE

*Oligophrenia* is dementia which is congenital or acquired at early stages and manifesting itself by general psychic underdevelopment and intellectual defect. Oligophrenia belongs to a personality pathology, is notable for a stability of the state and no progradency of its course. Oligophrenia is considered as a **dysontogeny** and regarded as an abnormality manifesting itself by underdevelopment of the personality and the organism at large.

At present, the aspects of the diagnosis and medical-corrective measures for oligophrenia are rather crucial from both the medical and social viewpoints. Taking into consideration the multiple etiological origin of the mental deficiency and the character of the factors involved, it becomes possible to carry out different variants of preventive measures. Besides, rehabilitation is one of promising directions of the modern medicine, requiring a high and versatile qualification of medical specialists.

Recent decades have revealed a tendency to an increasing index of oligophrenia morbidity rate. It may be caused by a better level of revealing people with a mental deficiency, as well as by achievements of the modern medicine directed at a higher survival rate of children with various abnormalities, and first of all in the central nervous system. Oligophrenia is much better revealed starting from the age of 7-8 years (beginning of school studies), and at the period of calling up for military service (17-18 years). According to the WHO's data, the morbidity rate of oligophrenia all over the world is from 1 % to 3 %, it being 1.5 times higher among males versus females.

The morbidity rate of clinical forms of oligophrenia among people with a mental deficiency is as follows: 75 % for debility, 20 % for imbecility and 5 % for idiopathy. As it is seen from the above data, the dominating group consists of people with a mild degree of mental deficiency, which does not hinder a satisfactory, or sometimes even complete social adaptation.

*Classification of clinical manifestations.* The classification of oligophreniae entails some difficulties owing to a variety of its etiological factors and clinical forms. Even by now, no single classification has been made yet. But the most common thing is to separate oligophreniae by the degree of the intellectual defect, since it is principally important for solving the problem of teaching oligophrenia patients and their social adaptation. According to this classification, there are three degrees of mental deficiency: a) debility (corresponds to a mild degree of mental deficiency in ICD-10); b) imbecility (corresponds to a moderate degree of mental deficiency in ICD-10); c) idiocy (corresponds to a severe degree of mental deficiency in ICD-10).

Besides, there is *a classification of oligophreniae, based on the etiological principle.*

1. Hereditary predisposed metabolic disturbances and chromosomal diseases.
2. Various infections and intoxications, affecting within the period of intrauterine development and the first year of life.
3. Irradiation of pregnant women.
4. Immunological incompatibility of tissues of the mother and foetus.
5. Various malnutritions of the developing organism. Particularly important here is oxygen deprivation of the developing brain.
6. Incomplete pregnancies, mechanical injuries during delivery; to a less degree – caused by contusions of the pregnant women and within the first year of the baby's life.
7. Influence of negative social-cultural factors.

Sukhareva G.Ye. (1965) differentiates oligophreniae by the temporal factor of the effect of some noxious agent. In this connection, all clinical forms of oligophreniae are divided into 3 groups.

1. Oligophreniae of the endogenic origin (result from involvement of the parents' generative cells). They are subdivided into:

a) Down's **syndrome** (and other oligophreniae caused by chromosomal aberrations);

b) true microcephaly;

c) enzymopathic forms of oligophrenia with different hereditary disturbances of metabolism (of proteins, carbohydrates and fats);

d) clinical forms of oligophrenia, characterized by a combination of mental deficiency with a dysplasia of the bone system and skin (dysostotic, xerodermal oligophreniae).

2. Embryopathies and foetopathies:

a) oligophrenia, caused by rubella at the period of pregnancy;

b) oligophrenia, caused by other viral infections (cytomegaly, influenza, parotitis, hepatitis);

c) oligophrenia, caused by toxoplasmosis, listeriosis;

d) oligophrenia, caused by congenital syphilis;

e) oligophrenia, caused by hormonal disturbances in the mother;

f) oligophrenia, caused by rhesus-incompatibility between the mother and the foetus.

3. Oligophreniae, caused by a pathology during the delivery and postnatal period:

a) oligophrenia resulting from asphyxia and a birth injury;

b) oligophrenia, caused by a brain injury at the young age (before 3 years);

c) oligophrenia, caused by some neuroinfection at early childhood (meningitis, encephalitis, arachnoiditis).

Besides the above mentioned, still there are also undifferentiated forms of oligophreniae, whose etiological factors have not been studied by now yet.

*Clinical manifestations.* The clinical picture of oligophrenia is rather heterogeneous owing to a variety of its clinical forms. The main peculiarity of oligophrenia consists in its diffuse “total” underdevelopment, when the whole psyche of the human being is affected: his cognitive activity, emotional-volitional sphere, thinking, memory, attention, speech, motility. A primary defect in the development of more differentiated and ontogenetically younger functions (thinking and speech) with a relative preservation of more ancient functions and instincts is another peculiarity of oligophreniae.

Also, oligophrenia have somatic signs, most frequently manifesting themselves by developmental defects. Widely common are sense organ defects (of vision and hearing), abnormalities in the maxillofacial region (cleft palate and cleft lip), internal organs (the heart and major vessels, gastrointestinal tract, urogenital system, respiratory organs), developmental defects of the locomotor system (contractures and dislocations of joints), vertebral pathologies, syndactylies, oligo- and polydactylies, etc. No specific neurological picture in oligophrenia is observed, but, as a rule, there are signs of diffuse symptoms: changes from the part of reflexes, hypotony, blepharoptosis, strabismus, slight pareses, etc.

Intelligence quotient (IQ), which is determined with help of **Wexler's** experimental-psychological technique and expressed by a quantitative coefficient, is one of the main criteria for diagnosing oligophrenia. By the degree of expressiveness of an intellectual defect, three grades of mental deficiency are separated.

*Debility* is a mild degree of mental deficiency with IQ of 51-70. It is characterized by insufficiently developed abstract-logic thinking, an inability to separate the main from the minor; with good mechanical memory the thinking remains concrete, but the creative thinking is absent at all. The speech is poor, primitive, stereotyped; the morons may master humanitarian subjects at school, but demonstrate their complete insolvency in studying exact sciences. They are able to study only by the syllabus of an auxiliary school, master simple labour skills, orientate themselves well in everyday problems. They may make families, keep house, and have complete social adaptation.

*Imbecility* is a moderate degree of mental deficiency with IQ of 21-50. The thinking of imbeciles is concrete and stiff, the speech is poor and inarticulate, the vocabulary stock is limited by 20-30 household words. The perception, memory and attention are essentially underdeveloped. Imbeciles are not able to study and master the syllabus of an auxiliary school, but master

skills of service and simple physical actions, they may learn to write and count to 10; they are not independent in behaviour at all and need guardianship. Like morons, imbeciles are easily suggestible, may come under the influence of some criminal companies and even become accomplices in crimes.

*Idiocy* is a profound degree of psychic underdevelopment with IQ not more than 20. The thinking and speech are absent. Such patients produce only some inarticulate sounds, which, as a rule, are caused by instinctive reactions (hunger). The emotions are lower, primitive and entail satisfaction or dissatisfaction of instincts; eating of inedible things is observed. Idiots would not react to their relatives, do not recognize their mother, are not able to serve themselves and control their physiological functions. They absolutely need care, guardianship and supervision. The psychological defect, as a rule, is combined with an expressed systemic pathology and severe neurological symptoms (pareses, palsies), therefore they hardly live up to the age of 16-20 years.

*Differentiated forms of oligophrenia* include nosologically independent diseases, where an intellectual defect is one of the most severe symptoms. There are 3 groups of such disorders: 1) endogenously caused forms of oligophrenia; 2) exogenously caused forms of oligophrenia; 3) mixed endogenously-exogenously caused forms of oligophrenia.

*Exogenously caused forms of oligophrenia* are hereditary forms, when an intellectual defect is caused by chromosomal aberrations and metabolic defects.

*Down's syndrome* results from a trisomy of the 21<sup>st</sup> pair of chromosomes, its morbidity rate among newborns is 1 per 700-1,000 cases, a risk of giving birth to a child with Down's *syndrome* significantly increases in those women who bear late (after the age of 40 years). An expressed intellectual defect, more frequently to the extent of imbecility or idiocy, significantly rarer to the extent of debility, is one of the main clinical manifestations of this *syndrome*. Typical is the complex of physical abnormalities, which makes the patients resembling one another: a small nose with a wide flattened bridge, an oblique shape of the eyes, small, deformed and *low* helices, a high "Gothic" palate, a "geographic" tongue. Developmental defects in the cardiovascular system and other organs are often revealed. They are unable to study, need care and guardianship.

*Turner's syndrome* occurs in females, its morbidity rate is 0.3 per 1,000 newborn girls. Its clinical manifestations are seen at birth. The patients have a small weight and body length, a short and wide neck with a low growth of hair, a peculiar shape of the eyes, an epicanthus, a "*sphinx's* face". Skeletal deformities and internal organ abnormalities are observed. The intellectual defect is not sharply expressed, there is a level of some borderline mental deficiency or a mild degree of debility, seldom to the degree of imbecility.

*Klinefelter's syndrome* is observed in males with an additional X chromosome. The patients have a peculiar type of habitus: a large stature, narrow shoulders, a flat thorax, long extremities, weak muscles, underdevelopment of sex organs with resultant infertility. The intellectual defect is more often at the degree of debility.

*X trisomy* is observed in girls and women. Dysplastic signs, a retardation of physical development and a mild mental deficiency are observed. The fact that among X trisomy patients there are a lot of schizophrenics is worth of attention.

*Phenylketonuria*: the infants are born healthy, but owing to a deficit of the enzyme, which turns an amino acid phenylalanine into tyrosine, by the age of 3-6 months the infant develops a specific musty smell of urine, plumpness, listlessness, sleepiness, some delay in the psychomotor development; the intellectual defect may reach to the level of imbecility or idiocy.

*Homocystinuria* results from metabolic disturbances of methionine. Clinically it resembles Marfan's syndrome (a dysplastic form of the trunk), the intellectual defect is on the level of debility or mild imbecility.

*Hurler's syndrome (gargoylism)* belongs to mucopolysaccharidoses. The patients' appearance is peculiar: their body length is significantly less of the age norm, the head is relatively large, the neck is actually absent, the features are grotesque, the bridge of the nose is sunken, the lips and tongue are thick, the nostrils are turned out, the ears are low. An intellectual defect forms gradually, reaching to an absolute degradation by the age of 10-12 years and ends with a lethal outcome.

*Exogenously caused forms of oligophrenia*. The syndrome of alcoholic foetus appears if a pregnant woman abuses liquor. It manifests itself by a retardation in the physical development, an intellectual defect, more often of a mild degree.

*Rubeolar oligophrenia* is an embryopathy caused by an effect of the rubella virus during the first trimester of pregnancy. An expressed intellectual defect is accompanied by severe developmental defects: of the organs of vision and hearing, locomotor system, heart.

*Oligophrenia in congenital syphilis*: an intellectual defect is accompanied by neurologic symptoms and various developmental abnormalities (Hutchinson's triad).

*Oligophrenia, caused by toxoplasmosis*, is characterized by mental deficiency with developmental defects of vision, convulsive seizures, hydrocephaly, microcephaly, spastic pareses and palsies.

*Oligophrenia, caused by listeriosis*, results from having intrauterine meningoencephalitis of this kind. An expressed intellectual defect is accompanied by psychoorganic disorders.

*Oligophrenia, caused by erythroblastosis foetalis*, develops because of rhesus-incompatibility between the mother and the foetus: the rhesus-negative mother and the rhesus-positive foetus. The resultant haemolysis affects the cerebral cortex and basal ganglia of the cerebral hemispheres. The clinical picture is characterized by various degree of mental deficiency, defects of hearing, pareses, palsies, extrapyramidal disorders.

*Oligophrenia, caused by pathologic labour (asphyxia, birth injury)*, results from cerebral hypoxia or intracranial haemorrhages. Along with a differently expressed intellectual defect (from debility to idiocy) there are various neurological symptoms (unexpressed forms of infantile cerebral paralysis, convulsive seizures, disturbances of innervation) and psychoorganic manifestations (motor disinhibition, cerebroasthenic phenomena, explosiveness).

*Oligophrenia, caused by postnatal factors*. The pathogenic factor may be represented by neuroviral infections, brain injuries, intoxications suffered within the first 3 years of life. As a rule, no congenital abnormalities and dysplasiae are observed, the intellectual defect chiefly depends upon the degree of expressiveness and localization of an organic lesion of the brain and may vary from a mild grade of debility to idiocy. Various neurological disorders and disturbances at the psychoorganic level are observed.

*Mixed endogenously-exogenously caused forms of oligophrenia* develop as a result of some interaction of a genotypic failure and hazardous environmental factors.

*Microcephaly* is one of the most common forms among oligophrenics, who suffer from severe forms of mental deficiency (imbecility and idiocy).

*True microcephaly* is a hereditary predisposed form, mostly characterized by some mental underdevelopment without any neurological symptoms. The size of the cerebral skull is significantly smaller, the forehead is flattened, the helices are enlarged, the nose is prolonged.

*Secondary microcephaly* clinically differs from the true form by absence of an expressed difference in the size of the facial and cerebral skull, presence of neurological symptoms and convulsive seizures. It is characterized by the most severe grade of mental deficiency.

*Hypothyroid oligophrenia (cretinism)* results from hypoplasia or an absolute absence of the thyroid gland. An intellectual defect develops at the postnatal period; with an opportune diagnosis and replacement therapy it may be prevented. Untreated hypothyroidism gives rise to the most severe grade of mental deficiency. The patient's appearance is peculiar: his large tongue does not have enough place in the mouth, the bridge of the nose is sunken, the face is yellowish-sallow, the skin is dry, the hair is fragile.

*Cranioostenosis* is a premature closure of cranial bones in newborns with disturbances in the growth and development of the brain, accompanied by an

involvement of the central nervous system and formation of an intellectual defect.

*Course.* Till now, the main criteria of oligophrenia are as follows: 1) totality of mental underdevelopment with prevalence of weak abstract-logic thinking and lower expressiveness in disturbances of the intellect prerequisites and a relatively less severe underdevelopment of the emotional sphere; 2) nonprogradiency of the intellectual deficiency, as well as nonprogradiency of the pathological process which caused this underdevelopment.

But current achievements of medicine demonstrate correctness of these criteria only for certain forms, but not all the states, which are now regarded as oligophrenia. The study of etiology and pathogenetic mechanisms of certain forms of mental deficiency creates some possibilities for preventing the development of an intellectual defect or its progression. Such forms of oligophrenia as phenylketonuria, homocystinuria, gargoylism, other forms of mucopolysaccharidoses may serve as an example. The same thing concerns a number of exogenously caused forms of oligophrenia (pathologic labour, postnatal hazards).

Not a bit part in the positive dynamics of some forms of oligophrenia (as a rule, debility) is played by the proper upbringing and teaching of oligophrenics. Such a maximally organized approach contributes, though slowly, to an increase of their intellectual functions, motility of psychic processes, acquiring some stock of knowledge, development of the oral speech, reduction of locomotor insufficiency. Such people become able to work, and some of them acquire an absolute social adaptation. But the positive dynamics of oligophreniae may be broken by decompensation states, a leading part in their development being played by additional exogenous hazards (infections, intoxications, injuries, emotional overstrains, excessive demands) and periods of crises (oftener that of puberty, sometimes parapuberty). Decompensations are accompanied by worsening intellectual functions, appearance of cerebrasthenic, autonomovascular and convulsive manifestations, psychopathy-like forms of behaviour.

Besides, psychopathic decompensations also exist, they usually develop at the period of puberty and are termed as oligophrenic psychoses. They chiefly manifest themselves by affective disorders (depression with anxiety and fear, dysphoriae), twilight states of consciousness, rudimentary hallucinatory and delusional feelings, catatony-like states.

*Age-specific peculiarities.* The main signs of some psychic underdevelopment usually become evident from the moment of the baby's birth or during its first year of life. As it was mentioned above, the crises of puberty and parapuberty may cause negative dynamics and decompensation states in the course of certain forms of oligophrenia. Besides, it should be noticed, that the lifetime of patients with severe forms of oligophreniae

significantly depends upon the severity of developmental abnormalities of their internal organs. Patients with idiocy may live up to 20 years, those with imbecility up to 40 years.

The outcome of oligophrenia directly depends upon its clinical form and the level of an intellectual defect. In mild forms of debility it is possible to observe “evolutive” dynamics and absolute social adaptation; severe forms of oligophrenia (imbecility and idiocy) have an unfavourable prognosis and outcome.

*Etiology and pathogenesis.* At present, we know about 400 pathogenic factors, which, producing their effect at different stages, are able to affect the process of embryogenesis. On the whole, all the etiological factors, capable of causing psychic underdevelopment, may be conventionally divided into 3 groups: 1) oligophreniae caused by factors of the endogenous origin, i.e. hereditary, as predisposed by a pathology of the parents’ sex cells, e.g. Down’s syndrome, Klinefelter’s syndrome, Turner’s syndrome, microcephaly, enzymopathies, etc.; 2) oligophrenia caused by a pathogenic influence during embryo- and foetogenesis, i.e. embryo- and foetopathies (caused by infectious, viral, somatic diseases, hormonal disorders, intoxications, erythroblastosis foetalis, gestoses of pregnancy, etc.); 3) oligophreniae caused by pathologic labour and diseases of early childhood (up to the age of 3 years), i.e. asphyxia, birth injury, neuroviral infections, brain injuries, intoxications, states of clinical death.

A leading part in the pathogenesis of oligophreniae is played by a so-called chronogenic factor, i.e. the period of ontogenesis, during which a developing brain was affected. Different noxious factors, acting at the same period of ontogenesis, may cause similar disorders in the brain, while the same pathological factor, acting at different periods of ontogenesis, causes different consequences and different clinical manifestations. It is due to the fact, that during ontogenesis two mutually related processes take place: formation of tissues (histogenesis) and formation of structures (morphogenesis). The appearing biochemical imbalance disrupts correct functioning of cellular metabolism.

*The treatment* of oligophreniae should be complex, including medicamental, psychologopedagogical measures and those of upbringing. It is very important to start treatment in time. The drug therapy of oligophrenia is of a symptomatic character. Nootropic medicines (pantogam, nootropil, aminalon, cerebrolysin) are used for improving metabolic processes in the brain, as well as dehydrating drugs (magnesium sulphate, euphylline, glycerin, acetazolamide) and those with a resolving effect (potassium iodide, lidasa, vitreous body). If there are paroxysmal disorders, anticonvulsants are administered; oligophreniae, complicated by a psychopathy-like or neurosis-like syndrome, require using neuroleptic drugs (aminazine, Neuleptil,

sonapax) in the first case, as well as tranquilizers and antidepressants (tazepam, phenazepam, hydazepam, amitriptyline, pyrazidol) in the second one. In phenylketonuria, a special diet which excludes any foodstuffs containing phenylalanine, is administered. For hypothyroid oligophrenia, substitution therapy with thyroid hormones is indicated.

Very important in oligophrenia are measures of upbringing and correction. Special schools, directed at professional orientation and labour adaptation of people with a mild degree of mental deficiency, serve this purpose. Patients with imbecility and idiocy need care and guardianship.

**Borderline forms of intellectual deficiency** (a delayed rate of psychic development). This group of disorders include the states manifesting themselves by a mild degree of intellectual deficiency and taking an intermediate place between the intellectual norm and oligophrenia. The intellectual quotient (IQ) in these forms of disorders is 71-80. This is a rather versatile and heterogeneous group of disorders by both the etiological sign together with pathogenetic mechanisms and clinical manifestations together with an outcome. This is one of the commonest forms of psychic pathology in children. The urgency of these disorders nowadays is rather high, since their social significance is high. An opportune diagnosis and medical-corrective measures contribute to disappearance of clinical manifestations and create conditions for an absolute social adaptation of such people.

The epidemiology of borderline mental deficiency has not been established yet. It is caused by the fact that there are no clear clinical criteria for diagnosing this pathology. The intellectual quotient, as it is known, cannot fully reflect the level of psychic underdevelopment, especially as a significant part here is played by the social criterion. Borderline mental deficiency in children becomes noticeable at the age of 6 years, within the period of their preparation for school, and is finally revealed in young pupils. The statistic data concerning the morbidity rate of borderline mental deficiency are rather contradictory and have a broad range: from 2 % to 12 %.

*Classification of clinical manifestations.* According to the systematization, based on the pathogenetic principle, all forms of borderline mental deficiency are divided into 4 groups:

- 1) dysontogenetic forms, where the deficiency is caused by the mechanisms of some delay or distortion in the child's psychic development;
- 2) encephalopathic forms based on an organic lesion of cerebral mechanisms at early stages of ontogenesis;
- 3) intellectual deficiency related to defects of analysers and sense organs (action of sensory deprivation);
- 4) intellectual deficiency related to defects of upbringing and information deficit from the early childhood.

*Psychophysical infantilism* is one of the forms of borderline mental deficiency. There may be harmonious, disharmonious and organic psychic infantilism. In the first variant, the emotional-volitional and personality immaturity are harmoniously combined with physical underdevelopment.

*Disharmonious infantilism* is characterized by either a normal or accelerated physical development against a background of the emotional-volitional and personality immaturity.

*Organic infantilism* results from some noxious effect produced on the brain at the perinatal period. The clinical-psychopathological picture of psychic infantilism is amplified by cerebrasthenic disorders (easy fatiguability, shortness of temper, exhaustibility of attention, autonomic dysregulation) and psychoorganic ones.

*The retardation of psychic development caused by social deprivation* forms in children because of some limitation of social contacts, in deformed and low-cultured families with absence of guardianship and upbringing. The stock of knowledge and notions about the environment in such children is lower of their age standard.

*The retardation of psychic development caused by sensory deprivation* develops in children having some pathology of their sense organs, i.e. those of hearing and vision. Realizing their insolvency, such patients are disposed to neurotic and pathocharacterological reactions.

An early diagnosis of borderline mental deficiency and its opportune medical-pedagogical correction contribute to reducing the symptoms of psychic underdevelopment; as a result, the intellectual level reaches to the lower border of the norm.

At the same time, crises at the periods of before and during the puberty may complicate an available pathology with neurotic and pathocharacterological disorders.

The outcome of borderline mental deficiency chiefly depends upon the etiological factor and presence or absence of medical-pedagogical corrective measures. Under favourable conditions it is possible to observe some acceleration in the development of psychic function development in people with delays in their psychic development.

*Etiology and pathogenesis.* The etiology of borderline mental deficiency is various just as the etiology of oligophrenia. Along with noxious factors, producing their effect within the perinatal and early postnatal periods, sociocultural factors are important too. The pathogenesis of borderline mental deficiency is based on the dysontogenesis and chronogenic factor, with a resultant immaturity of different areas of the brain, their dysregulation and functional insufficiency.

*The treatment* of children with borderline mental deficiency should include drug preparations directed at improving haemodynamics and

biochemical processes in the brain, as well as corrective measures of the pedagogical level. Children with different clinical forms require an individual approach and special programmes for studying. Upbringing influences and sanitation of the social sphere of a sick child are important too.

## INFANTILE AUTISM

In ICD-10, infantile autism belongs to section “General developmental disorders”, F84. This is a disorder in psychic development, characterized by an autistic form of contacts with the associates, speech and motility disturbances, stereotyped activity and behaviour with a resultant violation of social interactions. The morbidity rate of infantile autism is 4-5 cases per 10,000 children, in boys it being 3-4 times more common than in girls.

The children, incapable of any speech and affective contacts with their associates, were first described in 1943 by an American psychiatrist Kanner; later the syndrome of an early infantile autism was termed as Kanner’s syndrome.

The onset of the illness occurs before the age of 3 years. In infantile autism, the development of all psychic functions (cognitive, affective, motor, sensory, attention, memory, speech, thinking) is involved.

A behavioural disorder is the main one in infantile autism. The child avoids contacts with children of his age, elder people and relatives. He shuts himself off from the real world, is not able to distinguish animate and inanimate objects. His personal contacts with the parents is devoid of any emotional colour, he does not imitate his associates’ behaviour. The children are not afraid to remain by themselves, they would not follow their parents when they begin to walk. Emotional reactions in such children are different: in some of them the mood is even, others are listless, some others are indifferent, rather often dysphoric reactions occur. The children would negatively react to any attempts to change their habitual life stereotype: to change their clothes, food, place of the walk.

The game activity of such children often comes to some monotonous throwing of objects. They either stick to the same games for long periods of time or are rapidly satiated with them. Instead of playing, they would crawl, walk, jump up, sometimes displaying a particular interest to some objects (pieces of iron, toy lorries and cars, ribbons, etc.). The children make monotonous movements: they would swing, jump, repeat the same sounds, show liking for the same objects, manipulations or passions. Their motility is awkward, with rather frequent athetosis-like movements in fingers and tiptoeing. But at the same time, development of complex and fine movements. Outwardly, the children look estranged, their eyes are as if directed to emptiness, they do not look their associates in the face. The speech of patients with infantile autism is poorly developed, first of all its communicative function, rather often they would not talk at all.

About 50 % of the patients remain mute for the whole life. If, nevertheless, the speech develops, it is not used for personal contacts. The

child may recite the same verses, but would not seek the parents' help even when it is necessary. There is no expression and uninterrupted rhythm of the speech, gesticulation. The words are pronounced either correctly or indistinctly, either in a whisper or loudly. Echolaliae are common. Personal pronouns are not used for long periods of time. The first words appear by the age of 12-18 months, the first phrases by 24-36 months. But the children would not ask questions and may not reply to any talk addressed to them. Even having a good vocabulary, the children would utter stock phrases, expressing their requests with impersonal orders, such as "to give food", "to cover". The speech has a lot of neologisms. The children are not capable of having dialogues; they would speak to somebody, but not with him.

Children with early autism develop abstract forms of cognition, but they are combined with primitive forms and using chiefly tactile, olfactory and taste analysers. Reactions to visual and auditory stimulants in infants may be absent, it giving a ground for suspecting deafness and blindness in them.

The **clinical picture** of infantile autism reaches to its most expressed development by the age of 3-5 years, with a particular combination of complex and primitive reactions in each functional system. By 5-6 years, some manifestations of the illness may smooth down. But the intellectual level does not reach to its average level. In half of the children their IQ is below 50, and only in 1/3 it is over 70. Rather often children with the syndrome of autism are treated as oligophrenics or schizophrenics. But the absence of expressed positive symptoms and progradency, a partial compensation by the age of 6 years makes it possible to regard Kanner's syndrome as a developmental disorder of the type of asynchronous dysontogenesis. Besides, schizophrenia is characterized by a later onset and hereditary predisposition to it, rather than to autism.

Patients with autism have a wider range of IQ and reliably lower indices of the comprehension test than those with schizophrenia. Unlike the latter, infantile autism is not characterized by a total decrease of intellect. The patients may memorize much information, make complex calculations, they preserve musical, mechanical and mathematical abilities.

Becoming adults, 2/3 patients with infantile autism are not able to live independently and have no skills for unaided self-servicing. In mild cases it is possible to achieve some primitive professional adaptation.

There is no generally accepted theory of the etiology and pathogenesis of infantile autism. There is more reliable evidence in favour of the theory of psychogenesis and the biological one. According to the theory of psychogenesis, children with early autism did not receive any motherly warmth, care and positive emotional atmosphere.

Biological theories attribute this illness to biological factors, an affected development of the brain, chromosomal abnormalities, an organic lesion of

the CNS. The following data serve in favour of a specific role of genetic factors: the concordance in monozygotic twins is 36 %, the morbidity rate of infantile autism among siblings is 50 times higher than in the general population.

*The treatment* is mainly symptomatic. Much attention is attached to behaviour therapy, which stimulates the speech and social development. Neuroleptics, tranquilizers, antidepressants and sedatives are administered for an expressed aggressiveness, autoaggressiveness, hyperactivity and dysphoriae. Very important is psychotherapy, directed at the child himself and his relatives.

## TREATMENT OF MENTAL DISEASES

The treatment of mental diseases is divided into kinds according to the object pursued and methods used. Like in other medical fields, depending upon its purpose, the following types therapy are isolated: *etiological*, *pathogenetic*, *symptomatic*, *general health-improving*, etc. Disintoxication in intoxication psychoses is an example of etiological therapy in psychiatry. Shock therapy in some forms of schizophrenia may serve as an example of pathogenetic therapy, i.e. the one directed at interfering in the mechanism of the illness development and interrupting its course. Symptomatic treatment is used for removing some **distressing** or dangerous manifestations of an illness. For instance, in order to rapidly remove acute anxiety, anticonvulsants (**tizercine**, **Seduxen**, **phenazepam**, etc.) are employed.

It is customary in psychiatry to designate specific kinds of therapy depending upon their certain tasks.

**Controlling** therapy is directed at a rapid removal of severe acute manifestations of mental disorders (excitement, hallucinosis, etc.). Usual for such cases is parenteral administration of relatively large doses of psychoactive drugs, neuroleptics in particular. As soon as the acute manifestations are removed, the doses are reduced, the drugs are taken orally, and other medicines are used with a slower but more selective effect for certain disorders. Interruption of alcoholic delirium (“delirium tremens”) with intravenous infusions of **Sibazone** (**Relanium**) serves as an example of controlling therapy.

*Maintenance therapy* is employed when an effect (from actual recovery to some improvement) has been achieved, but an absolute discontinuation of the treatment threatens with a relapse or aggravation of the state. Usually, reduced doses of effective drug preparations are used or potent medicines are substituted for with milder ones. A sudden discontinuation of maintenance therapy is often accompanied by the “withdrawal reaction”, the “withdrawal syndrome”, manifesting itself by both an aggravation of the mental state and autonomic disorders. Following discontinuation of maintenance therapy, relapses often occur not immediately, but 2-3 weeks later. Maintenance therapy is given during many months and years. In order to save the patient from a necessity to take medicines several times a day and to be sure that it regularly comes to the organism, long-acting drugs (“depot preparations”) are used. Intramuscular injections of such medicines are given once during 1-3 weeks (Moditen-depot, **IMAP**, etc.). Also, there are long-delayed oral drugs (pimozide, etc.). It is enough to take them once a day, as their absorption is slow. A shortcoming of long-acting drugs, particularly for intramuscular administration, consists in an impossibility, if necessary, to rapidly

discontinue the treatment, as well as a necessity to continue oral taking of correctors.

*Corrective therapy*, or employment of special medicines, is directed at removal of distressing side effects of psychoactive drugs (mainly in the form of extrapyramidal disorders). Most of these drug preparations, especially haloperidol, trisedil, majepil, cause parkinsonism-like disorders: tremor of muscles, constraint, etc., as well as fits of cramps in some muscles (those of the eyeballs, tongue, neck, etc.). To remove these disorders, a systemic oral taking of antiparkinsonian drugs is administered, most often this is cyclodone (Artane, Romparkin, Parkopan).

*Preventive, or anti-relapse, therapy* is essentially a variety of the maintenance one, but it is given against a background of recovery or good remission. A break in the therapy does not always entail an immediate relapse. As an example, it is possible to mention treatment with lithium salts for manic-depressive psychosis; their regular use prevents development of the next phase.

*The struggle with therapeutic resistance*, i.e. tolerance to a drug, addiction, which oftener develops in cases of chronic mental disorders and long-term treatment with psychoactive medicines, includes different special ways intended for augmenting effects of drugs or increasing the organism's sensitivity to them. These ways include aforethought breaks in the treatment with the resultant "withdrawal syndrome", electroshock therapy, etc.

In compliance with the methods employed, the treatment of mental disorders is divided into *drug therapy*, *psychotherapy*, as well as *social therapy* and *rehabilitation* as a system of measures for restoration (full or partial) of the patient's social status. The treatment of every patients is usually complex, including methods of all the kinds of therapy, prevention of complications and increase of the organism's defensive strength.

*Drug therapy* includes use of all the medicines, psychoactive ones being among them, as well as hormones, enzymatic drug preparations, vitamins and other biologically active substances.

*Treatment with psychoactive medicines*. At present, this group of drugs is the main method in the therapy of mental disorders. The group is usually divided into *neuroleptics*, *tranquillizers*, *antidepressants*, *thymostabilizers*, *psychostimulants* and *nootrops*. *Psychodysleptics* (*psychotomimetics*, *hallucinogens* and "psychodelic" drugs) belong to psychoactive medicines too, but they are not used for treatment in our country.

*Neuroleptics*. These psychoactive drugs are most frequently administered for treating psychoses, but their small doses are used in nonpsychotic (neurotic, psychopathic) disorders. Neuroleptics suppress the patient's excited mental activity and produce the antipsychotic (removal of delusions and hallucinations), antiaggressive (weakening of psychomotor

activity), psychosedative (impoverishment of emotions and feelings) and anxiolytic (removal of pathologic anxiety) effects, whose mechanisms are connected with suppression of adren- and dopaminergic receptors in the central interneuronal synapses. An influence on these systems also explains a number of other effects peculiar to neuroleptics (anticonvulsant, myorelaxant, potentiating, hypothermal, hypotensive, antiemetic, etc.), including side ones (extrapyramidal disorders).

The group of neuroleptics consists of:

I. Phenthiazine derivatives.

A. Aliphatic line (aminazine, propazine, methotrimeprazine).

B. Piperazine line (zuclopentixol, flupentixol, meterazine, perphenazine, frenolon, trifluoperazine, quetiapine, fluphenazine, fluphenazine-decanoate).

C. Piperidine line (periciazine, thioridazine).

II. Thioxanthene derivatives (chlorprothixene).

III. Butyrophen derivatives (droperidol, haloperidol, trifluoperidol).

IV. Diphenylbutylpiperidine derivatives (flushperilen, pimozide).

V. Dibenzodiazepine derivatives (azaleptine, olanzapine).

VI. Indole derivatives (carbidine).

VII. Substituted benzamides (sulpiride, thiapride).

VIII. Derivatives of pyrimidine and imidazolidinon (risperidone, sertindole).

By the character of their effect on psychotic symptoms, 3 main groups of neuroleptics are isolated: 1) neuroleptics with primary sedative effect (aminazine, tizercine, Truxal); 2) neuroleptics with general antipsychotic effect (aminazine, trifluoperazine, haloperidol); 3) neuroleptics with antipsychotic effect accompanied by stimulating component (meterazine, perphenazine, frenolon, sonapax, Neuleptil, chlorprothixene, eglonil).

Depending upon the expressiveness of extrapyramidal disorders, all neuroleptics are subdivided into "typical" (I, II, III) and "atypical" (IV, V, VI, VII, VIII) ones. With usual clinical dosages, "atypical" antipsychotic drugs do not cause any extrapyramidal side effects. Characteristic of "atypical" neuroleptics (azaleptin, olanzapine, rispolept) is a less expressed relation to dopamine D2 receptors, it is their blocking that results in extrapyramidal effects. They have a more expressed relation to D1 receptors, it ensuring control over productive symptoms, and to serotonin 5HT2 receptors, binding with whom may provide efficacy with respect to negative symptoms in schizophrenia.

Aminazine (Chlorpromazine) is the first psychoactive drug, with which psychopharmacology started to develop. Its antipsychotic and potent psychosedative effects were discovered by French psychiatrists J. Deley and P. Deniker in 1952. Before that time chlorpromazine was used in veterinary medicine as an anthelmintic. In order to remove psychomotor excitement, it is

administered intramuscularly. It may cause collapse-like states. Its long-term use contributes to the development of depressions, parkinsonism-like disorders, thromboembolism. Jaundice and agranulocytosis are rare. Contraindications include diseases of the liver, kidneys, heart and haemopoietic organs, a disposition to the formation of thrombi. Aminazine may give rise to allergic reactions, and not only in the treated people, but even in the staff who gave injections.

*Trifluoperazine (Stelazine)* is administered orally, acts gradually (it is to little effect in acute psychotic disorders), is indicated for some long-term and maintenance treatment, particularly in delusional disorders. Its small doses are characterized by an activating effect in apathy and anergy, but at first they may increase anxiety, delusions and hallucinations. Extrapyramidal disorders (tremor of muscles, constraint, etc.) often develop as side effects. For this reason, treatment with trifluoperazine is usually accompanied by administration of benzhexol hydrochloride.

*Haloperidol* is indicated for both acute and chronic mental disorders; it produces both antipsychotic and potent sedative effects. It serves for controlling different kinds of excitement (maniac, catatonic, delusional, etc.). In these cases it is injected intramuscularly or by drops intravenously. It is more effective in hallucinoses, than trifluoperazine. Chronic disorders are treated with drops and tablets. Haloperidol causes expressed extrapyramidal disorders. Fits of convulsive cramps of the tongue, neck, eyes and face may occur. Only small doses (up to 1-2 mg/day) can be used without benzhexol hydrochloride. Haloperidol is contraindicated in organic lesions of the brain, when parkinsonism-like disorders are particularly frequent and severe, and even resist any correction with benzhexol hydrochloride. In cases of solar irradiation, dermatitides may develop.

*Trifluoperidol (Trisedil, Triperidol)* is similar by its action to haloperidol, but is more potent. It is particularly indicated for stable auditory hallucinosis. It causes expressed extrapyramidal disorders. Correction with benzhexol hydrochloride is required. The drug is contraindicated in organic lesions of the brain.

*Thioproperazine (Majeptil)*, being one of the most potent antipsychotic neuroleptics, produces a potent parkinsonism-like action. Sometimes it causes motor disinhibition, voracity, an intensified sexual desire. Majeptil is usually chosen in such cases when other psychoactive drugs fail to produce an effect. It is not recommended for being used in organic lesions of the brain.

*Fluphenazine (Moditen)* is the most common as a long-acting drug (fluphenazine-decanoate, Moditen-depot) for maintenance treatment. It has both an antipsychotic and “behaviour-normalizing” effect in psychopathy-like disorders. Intramuscular injections are given once every 2-3 weeks. Rather

often they have to be combined with a regular oral taking of benzhexol hydrochloride.

**Frenolon** is known as a neuroleptic with an activating effect, therefore it is indicated for the apathoabulic syndrome. Its effect begins manifesting itself only after several days of the treatment. Of extrapyramidal disorders, tachykinesia (restlessness, a necessity for continuous moving) is most often caused; it is removed by taking benzhexol hydrochloride.

**Azaleptin (Clozapine)** produces an expressed antipsychotic effect, but, unlike other neuroleptics, it does not cause any extrapyramidal disorders and general depression. It is used for hallucinatory-delusional and affective-delusional disorders, particularly in chronic cases. The treatment may be complicated by deliria (they are usually preceded by bright colour dreams), sharp tachycardia and a higher body temperature. Collapses and agranulocytosis seldom occur.

**Pimozide (an oral antipsychotic)** is oftener used for maintenance therapy. Its convenience lies in the fact that it should be taken only once a day. It is a relatively weak antipsychotic medicine, but may cause extrapyramidal disorders, tachycardia and sleeplessness (it is to be taken only in the morning).

**Fluspirilene (IMAP – intramuscular antipsychotic)** is a long-acting drug. Its injections are usually given once a week. It is convenient for maintenance therapy.

**Penfluridol (Semap)** is similar to pimozide by its action and way of administration. It is usually used for maintenance therapy.

**Methotrimeprazine (Tizercine)** produces a potent antianxiety effect and is notable for a soporific action. It is often administered only for nights as a subsidiary medicine. It can cause a sharp drop of blood pressure and collapse-like states.

**Chlorprothixene** removes anxiety, fear, restlessness, but, unlike **tizercine**, does not cause any severe listlessness and sleepiness, therefore it can be resorted to even at daytime.

**Periciazine (Neuleptil)** has acquired a reputation of a “behaviour corrector”. It is widely used in paediatric and juvenile psychiatry for psychopathic disorders: it removes aggressiveness, restlessness, disinhibition (including sexual one), affective outbursts. Correction with benzhexol hydrochloride is required only when large doses are taken.

**Thioridazine (Sonapax, Melleril)** is mainly used for nonpsychotic disorders: a higher affectivity, short temper, neurotic anxiety. It suppresses sexual activity and delays the approach of an orgasm.

**Clopixol (Zuclopentixol)** produces expressed antipsychotic, specific inhibitory and nonspecific sedative effects. Its specific inhibitory action is particularly important when treating patients with agitation, restlessness, hostility or aggressiveness. Clopixol can also produce a transitory, dose-

dependent nonspecific sedative effect, whose rapid development in the beginning of therapy (before the antipsychotic action begins) is advantageous for treating acute psychoses.

**Fluanxol** (*Flupentixol*) is notable for different pharmacological effects of its small, average and large doses. It is supposed that, along with a prevailing mechanism of pharmacological action, typical for neuroleptics from the group of thioxanthene derivatives, there is some relation between flupentixol and serotonin 5HT<sub>2</sub> receptors. It explains the antiautistic and activating effect characteristic of small and average doses of the drug. At the doses of 0.3-0.5 mg/day flupentixol produces antidepressant, anxiolytic and activating effects. It is used for mild and moderate depressions with anxiety or asthenia and apathy, as well as in neurotic anxious, asthenic and psychosomatic disorders. The antipsychotic action of flupentixol manifests itself in cases of administration a daily dose over 3 mg, and its expressiveness increases with enlargement of the dose. It is indicated for schizophrenia and other chronic psychoses with hallucinatory-paranoid symptoms, also accompanied by apathy, anergy and autism. The drug produces disinhibitory effect, facilitates activation of the patients who shut themselves off and are passive, increasing their communicability and social adaptation. High doses of flupentixol have a sedative effect.

*Olanzapine* (*Zyprexa*) displays a higher extent of binding to serotonin 5HT<sub>2</sub> receptors versus D<sub>2</sub> ones. It is administered for treating acute forms of schizophrenia and other psychoses with clearly expressed productive symptoms (delusions, hallucinations, disturbances of thinking, hostility and suspiciousness) and/or negative symptoms (a dull affect, emotional and social **estrangement**, poor speech activity), as well as for maintenance treatment. Olanzapine also alleviates secondary affective symptoms caused by schizophrenia. It is purposeful to provide long-term treatment for those patients who are sensitive to therapy at its initial stage, olanzapine producing a statistically reliable decrease in the manifestation of both negative and positive symptoms of the illness.

**Rispolept** (*Risperidone*) belongs to “atypical” neuroleptics, whose mechanism of therapeutic action is based on a balanced central antagonism of the drug to serotonin and dopamine. In this connection, the therapeutic action of this medicine involves the productive symptoms, as well as negative and affective symptoms of schizophrenia. It is indicated for treating acute attacks of schizophrenia, schizoaffective psychosis, other psychotic disorders with productive symptoms, for maintenance antirelapse therapy in schizophrenia. An early beginning of **rispolept** therapy makes it possible to achieve preservation of cognitive functions with the minimum stigmatization of the patients. **Rispolept** is also indicated for correcting behaviour disorders and treating psychotic symptoms in patients with dementiae.

**Tranquillizers.** This group of drugs is used for removing anxiety, restlessness, affective strain, and in order to normalize psychopathy-like behaviour. Such an action is called anxiolytic (removal of restlessness resulting from some objective cause) and sedative. They do not produce any antipsychotic effect. No extrapyramidal disorders occur. The mechanism of the action is related to excitation of benzodiazepine receptors in the limbic system and reticular formation, which in its turn activates GABA receptors and increases an income of chlorine ions with a resultant hyperpolarization of the membranes and inhibition of the neuronal activity. It also produces sedative, soporific, anticonvulsant effects, potentiating and myorelaxation. The side effect are represented by suppression of attention (for this reason, tranquillizers are not used in the process of such work activity which requires preservation of attention and coordination of movements), addiction and even development of drug dependence (stimulation of serotonin receptors results in a reduced activity of the neurons which synthesize serotonin).

Tranquillizers are divided into the following groups of drugs: 1) agonists of benzodiazepine receptors (diazepam, phenazepam, etc.); 2) agonists of serotonin receptors (buspirone, campirone, etc.); 3) substances with different types of effect (benactyzine, etc.).

**Sibazon** (*Seduxen*, *Relanium*, *Diazepam*, *Valium*), if infused intravenously, controls deliria, acute anxiety, convulsive seizures and dysphoriae (attacks of some malicious-melancholic mood with a disposition to aggression). It is orally used for neurotic anxiety, nonpsychotic depression, annoying thoughts. Its long-term taking may develop addiction and weakness for it. Large doses are abused for causing euphoria. If combined with liquor, it sharply intensifies intoxication.

**Phenazepam** is an original Ukrainian drug preparation. It suppresses excitement and the feeling of fear, even in situations of a real danger, but it causes listlessness, a delay of reactions, and sleepiness. It is indicated for nonpsychotic anxiety and annoying thoughts, as well as for depersonalization and derealization.

**Chlozepid** (*Helenium*) is now less common than other tranquillizers. It is administered in neurotic disorders: annoying thoughts, anxiety, hypochondria. Its side effects include listlessness and (sometimes) cerebellar ataxia.

**Nozepam** (*Tazepam*) is the mildest tranquillizer. It causes neither listlessness, nor sleepiness, but delays reactions (it should not be taken when driving). It is indicated for outpatient treatment of neurotic and neurosis-like disorders. It does not cause addiction even after a long-term use.

**Alprazolam** (*Cassadan*, *Xanax*) is a mild tranquillizer with antidepressive activity. The medicine produces antianxiety, moderate soporific, antiphobic, autonomostabilizing and anticonvulsive effects. A rapid

anxiolytic effect of alprazolam may be accompanied by an euphoric action, thereby predisposing a nonmedicinal use of the drug. Alprazolam is used in the treatment of different anxiety syndromes: it effectively controls generalized anxious disorders, agoraphobic states, including those which manifest themselves with panic attacks.

*Tranxen (Clorazepam, Tranxilium)* produces a clear anxiolytic and moderate soporific effects with a mild expressiveness of the myorelaxant and sedative effects. It has a wide range of indications in psychiatry: psychopathies and neuroses with manifestations of anxiety, anxious depression, tics, for preventing delirium in cases of liquor withdrawal.

*Hydazepam* is characterized by a moderate anticonvulsant action, mild myorelaxant and sedative ones. This is a tranquillizer with an activating effect, autonomostabilizing and soporific properties. It is indicated for neurotic and neurosis-like disorders with easy fatiguability, short temper, depression and sleep disturbances. Owing to its mild action, it may be used for treating patients with an organic lesion of the CNS of various genesis, elderly and weakened patients.

*Hydroxyzine (Atarx)* is an anxiolytic with antihistamine, spasmolytic and weak antiemetic effects. It is used in neuroses, whose course is characterized by motor excitement and the feeling of fear in elderly patients, in manifestations of the abstinence syndrome in patients with chronic alcoholism, in childhood neuroses with an expressed psychomotor excitement, in pruritic dermatoses, allergic rhinitis. It is used within the postoperative period as an antiemetic and sedative drug.

*Mebicar* produces a good antineuritic effect, a mild hypotensive one, as well as analgetic, antidepressive and activating ones. There is no significant sedative and myorelaxant action. It is indicated for neuroses with adynamia and asthenic syndrome. It belongs to a group of “daytime” tranquillizers. It is used as an agent reducing a drive to tobacco smoking (in combined therapy).

*Buspirone (Buspar)* manifests anxiolytic properties, but it does not produce any sedative and soporific effects; it actually does not cause any addiction, it being his advantage over benzodiazepine derivatives. The anxiolytic effect of buspirone develops slowly (during 5-15 days) and resembles that of diazepam by its clinical characteristics. Buspirone is comparable with typical benzodiazepine derivatives by the efficacy of its influence on a generalized anxious disorder, but it is unable to develop a rapid action. Buspirone has moderate thymoanaleptic properties (which may be caused by its serotonergic influence). A stable antianxiety effect of buspirone is preserved if the drug is taken continuously. Even after many years of receiving buspirone the cessation of its taking does not cause the withdrawal syndrome. The administration of buspirone is limited by absence

of any rapid development of the anxiolytic effect, therefore it is of little use for treating acute states and paroxysmal panic disorders.

**Antidepressants.** This is a group of psychoactive drugs which remove depression (morbid blues). They are most effective in endogenous depressions. Their effect against reactive depressions caused by psychic traumas is significantly weaker. Some antidepressants are more effective in depressions manifesting themselves by melancholia, others in anxious depressions. The mechanism of the antidepressive action of the drugs may be related to suppression of the reverse neuronal uptake of catecholamines or suppression of monoamine oxidase activity in the central interneuronal adrenergic synapses. These mechanisms form the basis of the current classification of antidepressants:

1. Drugs suppressing the neuronal uptake of monoamines.
  - 1.1. Nonselective effect (imipramine, amitriptyline).
  - 1.2. Selectively blocking the uptake of noradrenaline (maprotiline).
  - 1.3. Selectively blocking the uptake of serotonin (fluoxetine, sertraline, **cytaloopram**).
2. MAO inhibitors.
  - 2.1. Irreversible, nonselective effect, MAO-A and MAO-B (**nialamide, transamine**).
  - 2.2. Reversible, selective effect, MAO-A (**moclobemid**).

By the character of their action on psychotic symptoms, 3 groups of antidepressants are separated: 1) with a stimulatory effect (imipramine, **cefidine, petilin, nialamide, anafronil, transamine, indopan, bediul, iprazide, moclobemid, tetrindol, incasan**); 2) with a sedative effect (amitriptyline, **fluoracizine, herfonal, opipramol, damilen, azophen, trazodone, chloracizine**); 3) with a stabilized stimulatory and sedative effect (**pyrazidol, fluvocasamine, maprotiline**).

*Imipramine* (**Imizine, Melipramine, Tofranil, Anafranil**) is mostly indicated in severe melancholic depressions with the feeling of anguish, inhibition, low spirits. The treatment usually begins with the parenteral administration (intramuscularly, by drops intravenously). An improvement comes after 4-5 days, then a change is made for oral taking. Melipramine disturbs sleep, therefore it should not be given before the night. **Tizercine** is often added before the patient goes to sleep. Melipramine may intensify anxiety, activate delusions and hallucinations. So, if depression is accompanied by such disorders (e.g., in schizophrenia), sedative neuroleptics are added to melipramine. The side effects include tachycardia, urinary retention (it is contraindicated for adenoma of the prostate), dryness in the mouth, a disturbance of accommodation (difficult reading). In manic-depressive psychosis, melipramine may contribute to a change from the depressive phase to the maniac one.

*Amitriptyline* (*Tryptizol*) is mostly used for anxious depressions. Its antidepressive effect is combined with the sedative one; it does not exacerbate delusions and hallucinations. The side effects are the same as caused by melipramine.

*Pyrazidal* is a Ukrainian drug, rather similar by its effect to amitriptyline. It is considered that this medicine calms anxious patients and encourages depressed ones. It is well tolerated and usually does not cause any side effects.

*Sulpiride* (*Eglonil*) produces the best effect in mild depressions, mostly manifesting themselves by asthenia, apathy and anergy. No side effects are usually caused. Only a disturbance of the menstrual cycle is possible.

*Moclobemid* (*Aurorix*) is effective in mild depressive disorders and social phobias. Its efficacy rate in psychotic depressions is somewhat lower. Along with the antidepressive effect, the spectrum of the psychopharmacological action of this medicine clearly reveals the psychoactivating effect, it is more effective in depressions with a melancholic component.

*Anafranil* (*Clomipramine*, *Hydiphen*, *Clofranil*) is a potent antidepressant with a so-called bipolar component of action, i.e. its activating and anxiolytic effects are equally expressed. The drug does not have any significant sedative property, the feeling of tiredness, a dissociation between the increasing activity and still existing melancholy, it being dangerous because of suicidal consequences. It is indicated for neurotic and endogenous depressions, including their protracted forms. It is successfully used for treating annoying thoughts and panic attacks.

*Coaxil* (*Thianeptin*) produces expressed antidepressive and anxiolytic effects when treating nonpsychotic anxious-depressive disorders. The drug has neither stimulating nor sedative properties. Along with neurotic depressive and somatoform disorders, the indications of *coaxil* also include chronic alcoholism at the period of abstinence accompanied by anxiety and depression.

*Herphonal* (*Trimipramine*) produces equally good effects both on depressions with inhibition and those with excitement. Its use is indicated in depressive states with various nosology, it is effective for sleep disturbances, the feeling of fear and restlessness. Its use is recommended for chronic painful conditions in somatic practice.

*Mianserin* (*Lerivon*, *Miansan*) has rather expressed thymoanaleptical and sedative properties, it contributes to the development of the soporific effect. By the intensity of its antidepressive action it yields to tricyclic antidepressants, but is more active in depressions of the nonpsychotic level.

*Fluoxetine* (*Prozac*, *Prodep*, *Portal*, *Fludac*, *Framex*) belongs to those antidepressants which combine the thymoanaleptical and stimulatory effects.

Besides, it facilitates reduction of obsessive-compulsive disorders. It causes reduction of appetite and can be used for treating bulimia nervosa.

*Paroxetine* (*Paxil*, **Seroxat**) is used in depressions of different genesis, especially anxious depression because of its anxiolytic effect. Paroxetine produces the antidepressive effect with a mild tonic action.

*Sertraline* (*Zoloft*) is indicated for different forms of depression, including those which are accompanied by anxiety. It is used for treating obsessive-compulsive and panic disorders. Sertraline does not produce any expressed sedative or stimulatory effects.

**Cipramil** (*Citalopram*) is notable for a higher selectivity, if compared with other antidepressants of this group. It is recommended for depressions with different nosology and degrees of expressiveness, including somatic patients. The antidepressive effect of the medicine is accompanied by its good tolerance and safety when using together with somatotrophic drugs, cardiotoxicity is absent. **Cipramil** has the anxiolytic property, as well as the sedative and stimulatory effects which balance each other. It is recommended for use in somatized depressions, in combined treatment of alcoholism and narcomania.

*Remeron* (*Mirtazapine*) combines its powerful thymoanaleptical activity with an expressed anxiolytic effect, thereby making it possible to administer the medicine for a wide range of borderline and psychotic depressive disorders.

**Thymus stabilizers** are drug preparations capable of preventing repeated phases of affective disorders in manic-depressive and schizoaffective psychoses. The preventive treatment is given during many months and years. They are represented by lithium preparations.

*Lithium carbonate* controls manic phases and prevents subsequent depressive and manic ones. The dose is individually selected under the control of lithium level in the blood, which is maintained at the level of 0.6-1.6 mEq/l. The drug should not be administered during depressions, as the depressive phase may become protracted. Diarrhoea has been noticed as a side effect. Tremor of muscles and thirst are signs of overdose. Impairments of the kidneys and thyroid have been described as complications.

*Lithium oxibutyrat*e differs from its carbonate by a less toxicity and a higher activity. It is soluble in water; its intramuscular injections may be used for controlling manic states.

*Carbamazepine* (**Finlepsin**, *Tegretol*) belongs to antiepileptic drugs, but also has the property to prevent development of manic and depressive phases. It is indicated for dysphoriae (attacks of a malicious-melancholic mood) in epileptoid psychopathy and epilepsy. The medicine is well tolerated, side effects are rare.

**Psychostimulants** are drug preparations which improve mood, an ability for perceiving external stimulants, psychomotor activity. They reduce the feeling of fatigue, increase physical and mental capacity for work (particularly in cases of tiredness), temporarily reduce the need of sleep. These effects are based on a more intensive transmission of the process of excitation in the central interneuronal synapses, a higher adrenergic tone in the CNS and a stimulation of metabolic processes in nerve cells. These medicines are rather seldom used in the psychiatric practice. They are indicated for asthenic states. Psychostimulants are represented by the following medicines: 1) phenyl alkylamines – phenamine; 2) piperazine derivatives – methylphenidate hydrochloride; 3) sidnonimines – sidnocarb; 4) methylxanthines – caffeine; 5) benzimidazole derivatives – bemitil.

But such psychostimulants as phenamine (Amphetamine), methylphenidate hydrochloride (Centedrine, Methylphenidate) and caffeine easily cause addiction and weakness for them. Phenamine is included in the group of narcotic drugs.

Sidnocarb is a Ukrainian drug preparation, which does not cause either addiction or weakness for it. It is prescribed for protracted neurotic and somatogenic astheniae. It is to be taken in the morning and daytime, as it may disturb sleep. Its overdose causes sleeplessness, short temper and restlessness. It should not be administered in psychoses.

Sidnophen is a medicine, similar to Sidnocarb by its effect, but weaker of it as a stimulant. It is characterized by the antidepressive effect in asthenic depressions.

**Nootrops** are substances which activate higher integrative functions of the brain. The main manifestation of their activity consists in a favourable effect on disturbed training and memory, as well as a higher resistance of the CNS to hypoxia, it being achieved by activation of cerebral metabolic processes and circulation. The drugs have been created on the basis of substances of the biogenic origin (GABA, glutamic acid, vitamins) and are called remedies of the “metabolic” therapy.

### Classification of nootropics

1. GABA derivatives: pyracetam, phenibut, aminalon.
2. Combined: neoglutin, pyriditol, orocetam, pantigam, vitapyracen.
3. Brain vasodilators: stugeron, cavinton, sermion, vinpocetin.
4. Different: aminalon, gingoging, encephabol, tanacan.

They are used in psychiatry in order to improve the capacity for work, an ability to concentrate attention, as well as to make better functions of the brain, memory and general state.

Pyracetam (Nootropil) is a GABA derivative. It is recommended for asthenic, asthenodepressive and asthenopathic states. No side effects are

caused. An overdose may manifest itself with short temper and sleep disturbances. It is used as an additional remedy in neuroleptic treatment for removing listlessness and sleepiness (i.e. as a corrector), as well as in posttraumatic and vascular mental disorders.

**Aminalon** (*Gammalon, Ganeurin*) is gamma aminobutyric acid. It is most frequently used in vascular diseases of the brain accompanied by chronic cerebrovascular insufficiency. A good effect is produced in cerebroasthenic and encephalopathic states of different etiology. It improves memory and thinking, contributes to the restoration of speech and movements after disturbances of the cerebral circulation, produces a mild psychostimulating effect, improves the state of patients with asthenodepressive manifestations. **Aminalon** is used in paediatric practice for a retardation of the psychic development. It is administered orally (before meals) by 0.5 g, 3-4 times a day, the daily dose is 1.5-3 g. A course of the treatment lasts from 2-3 weeks to 2-6 months.

**Pyriditol** (*Encephabol*) is pyridoxine disulphide. It is used in combined therapy for asthenodepressive, asthenopathic and neurosis-like states of the exogenic-organic nature (in posttraumatic, postinfectious, vascular encephalopathy). In paediatric practice, it is used for a retardation of the psychic development, cerebroasthenia, oligophrenia. It is administered in courses by 2-3 months orally, 15-20 minutes after meals 2-3 times a day (at daytime); a single dose for adults is 0.1-0.3 g, their daily dose is 0.2-0.6 g; a single dose for children is 0.05-0.1 g, their daily dose is 0.05-0.3 g.

**Pantogam** is a calcium salt. The drug is effective in asthenic states of the organic and endogenic genesis, in neurosis-like (neurasthenic, dyssomniac, obsessive-phobic, hypochondriacal) disorders, it alleviates vasopathic and neuroautonomic manifestations. It is also used for treating epilepsy in a complex with anticonvulsant medicines. Administration of the drug for patients with extrapyramidal hyperkineses, caused by a long-term taking of neuroleptics, significantly reduces expressiveness of these complications. **Pantogam** is taken orally (15-20 minutes after meals) by a single dose of 0.25-0.5 g for children and 0.5-1.0 g for adults. The daily dose is 0.75-3.0 g for children and 1.5-3.0 g for adults.

**Acephen** (*Centraphenaxin, Lucidril*) is indicated for asthenic, asthenohypochondriacal states of the vascular genesis, endocrine disorders, organic lesions of the brain, neuroses. Acephen is used in the clinical treatment of nervous diseases for autonomic dysfunctions and disturbances in the cerebral circulation. It is administered orally by 0.1-0.3 g 3-5 times a day, subcutaneously, intramuscularly and intravenously.

**Phennibut** is a phenyl derivative of GABA. It is administered orally before meals by 0.3-0.5 g 3 times a day.

**Picamilon** is used in adults as a nootropic and vascular drug for mild and moderate disturbances of the cerebral circulation, autonomovascular dystonia, abstinence in alcoholic patients. In cases of vascular diseases, a single dose of the medicine is 0.02-0.05 g, 2-3 times a day. A course of the treatment lasts 1-2 months, it may be repeated 5-6 months later. For treating depressive states in elderly people, **Picamilon** is recommended by daily doses of 0.04-0.2 g during 1.5-3 months. At the period of abstinence in alcoholic patients the daily dose is 0.1-0.15 g for 6-7 days.

Nootrops include **cerebrolysin**, *glutaminic acid*, as well as those medicines which improve the cerebral circulation and psychic processes at the same time (**sermion**: tablets by 0.005 g and ampoules by 0.004 g for a parenteral administration, the daily dose is up to 25 mg; *cavinton*, *cinnarizine*, *trental*, etc.).

Below, doses of psychoactive drugs are recommended and their synonyms are given.

**Azaleptine** – see Clozapine.

**Aminazine**: intramuscularly from 2 to 5 ml of 0.25 % solution diluted with novocaine, 1-3 times a day. Oral 25 mg lozenges after meals, from 1 to 4 times by 1-6 lozenges (25-600 mg/day). Large doses are seldom used.

**Amitriptyline**: intramuscularly or intravenously by 2-4 ml of 1 % solution 2-4 times a day; oral 25 mg tablets by 1-3 pieces, 1-3 times a day (25-250 mg/day).

**Valium** – see **Seduxen**.

**Haloperidol**: intramuscularly by 0.5-1.0 ml of 0.5 % solution 2-3 times a day; oral tablets by 1.5 and 5 mg, or drops in the form of 0.2 % solution (10 drops contain 1 mg of haloperidol) at a dose of 1.5-15 mg, 1-3 times a day (the dose is to be selected gradually and individually).

**Diazepam** – see **Seduxen**.

**IMAP**: an intramuscular injection of 2-5 ml (4-10 mg), 1 time a week.

**Imizine** – see Melipramine.

**Imipramine** – see Melipramine.

**Carbamazepine**: oral 0.2-0.5 g tablets up to 2 pieces 1-2 times a day.

**Clozapine**: intramuscularly by 2-4 ml of 2.5 % solution 2-3 times a day (50-300 mg/day); orally (tablets by 25 and 100 mg) by 50-100 mg 2-3 times a day (all in all 50-300 mg/day).

**Clopixol**: Clopixol-**acuphaz** intramuscularly by 1-3 ml (50-150 mg); oral tablets by 2, 10, 25 mg, 6-75 mg/day or more (up to 200 mg); Clopixol depot by 200-400 mg (1-2 ml), 1-2 times a month.

**Methotrimeprazine** – see **Tizerpine**.

**Leponex** – see Clozapine.

**Librium** – see Helenium.

**Lyogen** – see Moditen.

*Lithium carbonate*: orally by 0.3 g tablets 1-3 times a day by 1-2 tablets (the dose is selected under the control of the blood lithium level within the range of 0.6-1.2 mM/l).

*Lithium oxibutyrate*: intramuscularly by 2-4 ml of 20 % solution 1-3 times a day; oral 0.5 g tablets 2-3 times a day by 1-2 tablets (the dose is selected like for lithium carbonate).

*Majeptil*: intramuscularly from 2.5 to 60 mg a day by 1-3 portions, gradually increasing the dose (an ampoule contains 10 mg = 1 ml of 1 % solution); an oral dose is gradually increased from 1 to 60 mg a day (tablets by 1 and 10 mg are taken from 1 to 4 times a day).

*Melipramine*: intramuscularly by 2 ml of 1.25 % solution 1-3 times a day; oral 25 mg tablets 2-3 times a day by 1-3 tablets.

*Melleril* – see *Sonapax*.

*Moditen*: intramuscularly from 0.5 to 2 ml of 0.25 % solution 1-2 times a day; oral 1, 2.5 and 5 mg tablets, beginning with 1-2 mg 2-3 times a day; the dose should not exceed 30 mg a day.

*Moditen depot*: intramuscularly from 0.5 to 2 ml of 0.25 % solution 1 time during 1-3 weeks, in a drop of 1 mg of *Neuleptil* after or during meals.

*Neuleptil*: orally in drops in the form of 4 % solution (in 1 g of *Neuleptil*) after or during meals and drinking by 3-15 drops 2-3 times a day.

*Nozepam*: orally by 10 mg tablets 2-3 times a day by 1-3 tablets.

*Nootropil*: orally by 0.4 g capsules 1-4 times a day; intramuscularly or intravenously by 0.5-1.0 g of the drug (an ampoule contains 5 ml of the solution = 1 g) 2-4 times a day.

*Olanzapine*: orally by 5, 7.5 and 10 mg tablets, 5-20 mg a day.

*Orap* – see *Pimozide*.

*Penfluridol* – see *Semap*.

*Periciazine* – see *Neuleptil*.

*Pimozide*: orally by 1 mg tablets; they are taken only in the morning, beginning with 1 tablet and increasing the dose up to 5 tablets.

*Pyrazidol*: orally by 25 and 50 mg tablets, beginning with 25 mg 2 times a day, the dose is increased up to 200-400 mg a day.

*Pyracetam* – see *Nootropil*.

*Relanium* – see *Seduxen*.

*Risperidone*: orally by 1, 2 mg tablets, 1-8 mg a day.

*Seduxen*: intramuscularly or slowly intravenously by 2-4 ml of 0.5 % solution 3-4 times a day; orally by 5 mg tablets 2-3 times a day by 1-3 tablets.

*Semap*: long-acting 20 mg tablets, taken by 1-3 pieces 1 time during 5-7 days.

*Sibazon* – see *Seduxen*.

*Sidnocarb*: orally by 5, 10 and 25 mg tablets in the morning and at daytime.

**Sidnophen**: orally by 5 mg tablets, 1-2 pieces in the morning and at daytime.

**Sonapax**: orally in the form of 10 and 25 mg lozenges, by 1-3 pieces 2-3 times a day.

*Stelazine* – see Trifluoperazine.

*Sulpiride* – see **Eglonil**.

**Tazepam** – see **Nozepam**.

*Tegretol* – see Carbamazepine.

**Tizerpine**: intramuscularly by 1-2 ml of 2.5 % solution; oral 25 mg tablets, usually taken before going to bed by 0.5-2 tablets.

*Thiopropazine* – see **Majeptil**.

*Thioridazine* – see **Sonapax**.

*Tofranil* – see Melipramine.

**Triperidol** – see **Trisedil**.

**Tryptizol** – see Amitriptyline.

**Trisedil**: intramuscularly by ampoules (1 ml contains 1 mg of the drug) for controlling excitements, from 1 to 5 ml; orally by 0.5 mg tablets and drops in the form of 0.1 % solution (1 drop contains 1 mg of **Trisedil**) 2-4 times a day at the dose from 0.25 to 2 mg, the daily dose is up to 6 mg.

*Trifluoperidol* – see **Trisedil**.

*Trifluoperazine*: orally by 1, 5 and 10 mg tablets, usually 2-3 times a day by 1-2 tablets (up to 60 mg a day); intramuscularly is seldom used by 1-2 ml of 0.2 % solution 2-4 times a day; the dose may be increased up to 10 mg.

**Phenazepam**: orally by 0.5 and 1 mg tablets 2-3 times a day by 1-2 tablets for outpatient treatment; the inpatient daily dose may be increased.

**Finlepsin** – see Carbamazepine.

**Frenolon**: orally by 5 mg tablets 2-3 times a day by 1-2 tablets; intramuscularly is seldom used (1 ampoule contains 5 mg).

**Fluanxol**: orally by 0.5, 1 and 5 mg tablets; small (0.5-3 mg) and moderate (4-15 mg) daily doses.

**Fluanxol depot**: intramuscularly 20-200 mg 1-2 times a month.

**Flushpyrilene** – see IMAP.

*Fluphenazine* – see Moditen.

**Chlozepil** – see Helenium.

*Chlorpromazine* – see Aminazine.

*Chlorprothixene*: orally by 15 and 50 mg tablets 2-4 times a day; the daily dose may be gradually increased up to 400 mg; intramuscularly by 1-3 ml of 2.5 % solution for controlling anxiety.

**Eglonil**: orally by 50 mg capsules by 1-4 pieces 2-4 times a day; its intramuscular use is rare (an ampoule contains 100 mg).

*Helenium*: orally by 5 mg tablets, 1-2 pieces 2-4 times a day.

*Shock treatment.* Before the appearance of psychoactive drugs, shock treatment was the basic method for many psychoses, schizophrenia in particular. At present, two kinds of shock treatment exist: electroshock and insulin shock.

*Electroshock treatment (EST)* was suggested in 1938 by an Italian psychiatrist **U. Cherletti** and a neurophysiologist **L.Bini**. Electrodes are applied to the patient's temples, and electric current with the voltage of 60-120 V runs through them during 0.2-0.4 sec. It develops a seizure similar to a grand mal. Such sessions are usually carried out every other day several times. The mechanism of the medical effect is not clear. This method proved to be effective in very severe depressions (when antidepressants fail to help), catatonic stupor and acute hypertoxic (febrile) schizophrenia. EST is also used as a way to overcome therapeutic resistance to psychoactive drugs in chronic mental disorders.

There are several modifications of EST. A session is carried on after *premedication with myorelaxants* (most frequently, diacetylcholine is used): a seizure passes without any convulsions, but with disengagement of consciousness. A respiratory arrest may occur, therefore an artificial respirator is required. The removal of convulsions make it possible to avoid complications in the form of fractures.

*Monopolar EST* is another modification: the current runs through one cerebral hemisphere, as one electrode is connected to a temple and the other above it, closer to the coronal suture. The convulsions may be significantly weaker, but the efficacy is lower too.

EST complications may be in the form of prolonged respiratory breath-holding after a seizure, a dislocation of the mandible and fractures, particularly fissures of the lower thoracic vertebrae. Sometimes it is possible to observe expressed retrograde and anterograde amnesia for a certain period of time.

EST is to be provided only by the patient's written consent; if he is not able to solve problems concerning his treatment, then his legal representatives' consent is required. A decision about giving EST is taken by a commission of doctors after a thorough somatic examination of the patient.

*Insulin shock treatment* consists in giving the patient on an empty stomach some individually selected dose of insulin which causes hypoglycaemic coma (or a subcoma state). This state is interrupted by an intravenous injection of glucose. The method was suggested in 1933 by an Austrian psychiatrist **M. Zuckel**. Insulin shocks are caused every day, during 10-30 days. A thorough preliminary somatic examination is required. Different complications are possible. The period of hypoglycaemia may develop fits of convulsions, a collapse-like state, cardiac arrhythmiae. Repeated hypoglycaemiae are possible, especially at night. Chronic infections

exacerbate. Sometimes there may be protracted comas, which are not interrupted by glucose.

At present, insulin shock treatment is seldom used. It is most indicated for paranoid schizophrenia which began not more than a year ago. The treatment is to be provided by the patient's or his legal representatives' written consent too.

*Other methods of therapy.* *Psychosurgery* still is a field of searching for new methods of treatment. In 1930s-1940s, lobotomy (leukotomy) was common, i.e. cutting of certain nerve routes with a resultant interruption of relations between the frontal lobes. Remote results proved to be unfavourable (severe organic dementia developed). This operation was prohibited in our country, in others they have just discontinued making it. Nowadays attempts are made to use stereotaxic methods. For instance, cingulotomy is suggested for severe persistent **annoying thoughts** which urge on suicide.

*Psychotherapy and social therapy.* *Psychotherapy* is treatment by means of influence of psychic factors: words, nonverbal conditional stimulants, situation, certain kinds of work, etc.

*Social therapy*, by its essence, is a part of psychotherapy which uses sociopsychological factors: influence of the social environment proper, various social (e.g., clubs of former patients) or collective activities. Psychotherapy is used in different fields of medicine. It is of particular importance in such diseases, where a leading part in their development is played by a psychic factor (neuroses and other reactive states, psychosomatic diseases), when the disease itself puts the patient in stress conditions (e.g., pre- and postoperative period) or becomes a severe psychic trauma (e.g., it results in disability). Psychotherapy is the main method of treatment for neuroses, but it is actually used almost in all mental disorders. Peculiarities of psychotherapy in different mental diseases are described in relevant chapters.

*Methods of psychotherapy.* All the methods of psychotherapy are usually divided into the following basic groups: *suggestive*, *behaviour*, *rational* and *psychoanalytical*. Besides, depending upon the people engaged into psychotherapeutic sessions, psychotherapy may be *individual*, *group* and *family*.

Suggestive methods use suggestion (from Latin *suggestio*) in different forms. The most well known suggestion is in the state of hypnotic sleep. The techniques of hypnotic suggestion are described in special manuals. This method may be used only by a physician who has received some special training in psychotherapy. The word of the suggesting person produces a more potent effect, because in the process of sleep it comes through the only awaking channel for receiving information from outside. But it is only some part of the patients who may submit to the influence of hypnosis. It produces a better effect on those people who suffer from hysterical neurosis and chronic

alcoholism. It is impossible to hypnotize the patient without his consent and wish, neither it is possible to force him in the state of hypnosis to make some acts which radically contradict his personality.

*Suggestion in the state of narcotic sleep (narcohypnosis)*, achieved by injections of small doses of hexenal or barbamil, facilitates submersion into the sleepy state and increases **hypnoability** of some patients.

*Suggestion in the state of wakening* is achieved by some peremptory, authoritative and confident statements made by the psychotherapist. His widely known reputation, fame of a “healer” increase the effect and broaden the circle of people submitting to his influence.

*Suggestive methods* are notable for the fact that in some patients, particularly those with hysterical straits of character, they may sometimes produce a rapid striking effect, but the latter is usually unstable. When the real cause of a disorder is not eradicated, a relapse is inevitable.

*Autogenic training (autosuggestion)* was suggested by a German psychotherapist **I. Schultz** in 1920. This is a suggestive method too, but it uses self-suggestion achieved by specially elaborated exercises. At first, the patient is trained to “feel” heaviness, warmth, cold in different parts of his body, then he repeats to himself different “verbal formulae”, convincing himself in achieving a required effect.

*Placebo therapy* consists in using placebo medicines which by their appearance, smell and taste do not differ from certain drugs (tranquillizers, soporifics, etc.), but really are absolutely indifferent substances. Also employed are the suggestive mechanism, if the patient was told about an expected effect, or the conditioned reflex one, if he has already experienced the effect of this drug before.

*Behaviour, conditioned reflex methods* are based on causing conditioned reflexes. For instance, a conditioned vomiting reflex is caused to the appearance, smell and taste of alcohol by a combination of a small dose of a liquor and emetics. Other ways of “teaching” are practised too. For example, the patient with annoying apprehensions is many times forced to imagine the situation, which causes the fear; as a result, the feeling of fear gradually dies away, it is inhibited.

*Rational methods* address themselves to the patient’s consciousness, his reason; they are based on logically making the patient change his mind, explaining him the nature of the disorders and ways for their elimination. The psychotherapist’s authority, prestige and knowledge are important for the direct approach (active persuasion of the patient). For indirect approaches, when the psychotherapist and patient act as partners, together assessing the causes of disorders and their possible overcoming, not less important is the physician’s capacity for empathy, i.e. his ability to feel the patient’s sufferings, be imbued with his troubles and anxieties.

On the basis of studying the patient's personality and peculiarities in the system of his relationships, *pathogenetic personality-oriented (reparative) psychotherapy after Miasishchev-Karvasarsky* tries to reveal psychogenic mechanisms of mental (mainly neurotic) disorders and achieve his realization of the casual relationships between peculiarities of his personality relations and the disorders which have developed. But the matter is not limited by the aim that the patient should only understand the essence of the psychogenesis of his disorders. The aim consists in restoration of the system of personality relations, lie directions, plans for future, the style of behaviour, without which no recovery is possible.

*Group psychotherapy* means psychotherapeutic sessions simultaneously with several or even many patients (group hypnosis, autosuggestion), as well as sessions where there is active cooperation of the group members. A group discussion may serve as an example, when various problems, situations, individual biographies, behaviour and feelings of certain people (including participants in these talks) are jointly discussed. Playing of role functions is another example. One by one, in short scenes members of the group play different parts (a spouse, a parent, a subordinate or chief, etc.) or practise in addressing other people with a request, demand, apologies, with an intention to make it up with somebody with whom they were on bad terms, to meet somebody halfway. Nonverbal group psychotherapy, e.g., psychic gymnastics, is intended for learning how to express one's own and understand somebody else's feelings, wishes and thoughts without words.

*Family psychotherapy*, as a matter of fact, is a variety of the group one, but the group consists of the family. When neurosis and other reactive states are caused by an intrafamilial conflict, this kind of psychotherapy is directed at normalizing relations in the family and becomes the decisive method of treatment. In different mental diseases, family therapy proves to be useful for strengthening remissions, preventing relapses, raising the level of the patient's social functioning. The family should learn to understand manifestations of a mental disorder, make feasible demands of the patient and impel him to do what he is able to.

*Psychoanalytical methods* are based on doctrines by a famous Austrian psychiatrist, psychologist and neurologist Sigmund Freud. The essence of psychoanalysis consists in extracting suppressed internal conflicts and psychic traumas, which were forced out from the consciousness into the sphere of the subconscious. It was as early as by Freud that an analysis of dreams and a method of free associations were suggested. Dreams are regarded as symbolic manifestations of some repressed, secret wishes and fears. According to Freud, sexual desire (libido) is the leading subconscious force. For instance, any oblong object (a post, tree, walking-stick, etc.) in a dream symbolizes a penis, any hollow (from a cave to an open saucepan) means a vagina. Free

associations (the patient is suggested to say aloud everything that comes to his head) make it possible for subconscious complexes to burst through in the form of **some** unexpected remarks or slips of the tongue. Much therapeutic attention is attached to a **“transfer”, i.e. a “shift”** of the repressed feelings (love, hate, irritation, etc.), had by the patient towards his parents and other emotionally important people, from him to the psychotherapist. On the other hand, there is a “countertransfer”, when the psychotherapist **“shifts”** feelings of a parent, spouse, etc., on the patient.

Modern **Neo-Freudianism** exists in the form of several **schools**. All of them differ from the “classical” **Freudianism** by the fact that a larger part in the human psyche is assigned to the consciousness and a smaller one to sexuality. Actually like before, the main attention remains concentrated on the subconscious and sexual. But some of the statements, developed mostly by the psychoanalytical **school**, have gained rather wide recognition. Among them there is a doctrine about kinds of the psychological defence mechanisms, which include the following ones.

*Compensation* is an urge for achieving success and prestige in another field, when the person feels his own inferiority in something; e.g., an urge for developing physical strength in case of a mental deficiency.

*Hypercompensation (or “supercompensation”)* is a craving for success just in the field where one’s own inferiority is felt. Patients with sensitive psychopathy would overcome their shyness and bashfulness, holding the posts which require constant personal contacts. Former drunkards, who have given up drinking, would become militant abstainers.

*Denial* is a flat refusal to recognize something evident, what seems intolerable or wounding one’s self-respect. In case of a hysterical reaction to a sudden death of a relative, upon whom one’s own well-being depended, this person “would not believe” this relative’s death and behave as if this person were still alive. A person, dying from cancer, does not want to realize that he has a malignant tumour and is ready to attribute his bad state to other causes. Patients ill with alcoholism, despite an expressed dependence upon it, would deny it and persuade other people and themselves, that if they want they are able to give up drinking at any moment.

*Rationalization* is explanation of what has happened with deliberately invented logical reasons or an attempt to justify one’s behaviour (“I started smoking hashish because it increased my creative abilities, as I had to support the family which was on my hands”).

*Conversion* means somatic disturbances which as if symbolically reflect unwillingness to reconcile oneself to the situation. For instance, when an opera singer did not receive the part that she had a claim on and instead was given another one which she did not regard as prestigious, she absolutely “lost” her voice and spoke only in a whisper (hysterical aphonia).

*Displacement* is a transfer of wishes, emotions and thoughts from the **primary** object, which is unacceptable, to another one substituting for it. For example, for the parents of a narcomaniac the very thought that their son's drug abuse was mainly caused by his incorrect upbringing and intrafamilial conflicts is intolerable, and they put all the blame on a narcotics dispensary, where "he was referred only for an examination, but left it as a narcomaniac".

*Dissociation* is split personality owing to an intolerable situation. Some hysterical disorders may serve as examples. Thus, residents of some regions of Russia may suffer from an "obsession with an **ikotka**". This is the name for a specific creature which, as they believe, installs itself in a human being, speaks with his voice, makes great demands of other people, forces to "indulge" it, threatening with a seizure for the person in whom it has installed itself.

*Idealization* is an evident exaggeration of abilities, services, advantages and any other positive qualities of some person, community, organization or movement, to which this person belongs or upon what he depends. This is particularly characteristic of the conforming type of the character accentuation: idealization of one's surroundings gives an emotional support and justification for one's own behaviour.

*Identification* is a subconscious imitation of some idol in the behaviour, views, tastes, etc. (if it is done **consciously**, it is called imitation). This mechanism is particularly important for juveniles as a way of self-affirmation.

*Projection* is a subconscious transfer of something unacceptable in oneself to other people. For instance, a father would willingly find and be implacable to those negative qualities of his son which he does not want to recognize in himself. One's own shortcomings are transferred to other people ("Everybody drinks" is a common statement made by alcoholics).

*Introjection* is a mechanism contrary to projection, when something hated or adored outside is transferred to oneself. For example, in the state of dysphoria, instead of aggression towards other people that may cause severe consequences, self-aggression is displayed with resultant self-injuries (usually they are not dangerous).

*Regression* is a transfer to the infantile level of behaving, reacting and thinking as a way of defence against life adversities; e.g., hysterical puerilism, when in the situations of arrest or court examination, concerning committed offences, people behave like young children.

*Sublimation* is the state when an instinctive desire, particularly sexual one, cannot be satisfied because of some moral-ethic principles or other restrictions imposed on the people by themselves. With a double energy the patients would strive for some activity, which is socially acceptable and even encouraged. For instance, repressed sexual desires stimulate **creation of works of art, inventing**, etc.

*Substitution* is a subconscious replacement of an unachievable or unacceptable aim by another one, which is more achievable and acceptable. For instance, having no opportunity or ability to become an actor, the patient is ready to do any work at the theatre, film studio, etc. The love, undivided by the spouse, is transferred on the children.

“*Undoing*” is an alleviation of some internal tension, restlessness, anxiety by performing rituals, repeating invocations, etc.

The mechanisms of psychological defence may play a double part. In some cases, they form the basis of neurotic disorders and are revealed in the process of psychoanalysis or pathogenetic personality-oriented psychotherapy. In other cases, on the contrary, such mechanisms really play a defensive part (e.g., sublimation) and become strengthened in the process of psychotherapy.

*Other psychotherapeutic and social therapeutic methods* include *musicotherapy* (a certain emotional state is achieved by listening to specially selected music, choral singing), *bibliotherapy* (reading of specially selected fiction in order to change the mood or, by a similarity between the described situations and events in the patient’s life, to help him find a way out of a difficult situation, to correct his plans, etc.), *play therapy* in children, *art therapy* (artistic creative work, in the process of which the patient may “react” his repressed feelings), and others.

*Work therapy* is a system of work processes: from the least difficult, distracting from morbid feelings and taking time (therapy with being busy), to training in new professions, if the illness requires it. Work therapy is the most important method of social therapy.

## PSYCHOHYGIENE, PSYCHOPROPHYLAXIS AND REHABILITATION OF MENTAL PATIENTS

*Mental hygiene* is a complex of measures for preservation and promotion of mental health, creation of conditions for normal development of the personality and for its optimum functioning.

Mental hygiene studies environmental effects on the human mental health, reveals risk factors of mental disorders **on job**, in everyday life, **public** and nature, it determines and organizes ways and methods for their overcoming.

A relation between psychiatry and social hygiene is exercised via mental hygiene. The latter is often connected with psychoprophylaxis, studying such factors as social-psychological, dysadapting and compensating for the psychic sphere.

The modern stage in the development of the society is characterized by a sharp change in the conditions of man's life and higher demands to the state of his health, the level of his physical (biological) and intellectual functions. Typical for people today is reduction of their adaptive capacities and functional reserves of the organism, disturbances in the mechanisms of self-regulation; it naturally results in a higher morbidity rate of many noninfectious diseases and requires solution of the problems concerning their correction and prevention.

The main task of mental hygiene is to create favourable conditions for an all-round harmonious development and realization of all mental faculties of people (a good family, normal nourishment, a good material well-being, favourable living conditions, etc.).

The sections of mental hygiene are systematized with regard for comparative age-specific peculiarities of the psyche. The following aspects of mental hygiene are separated: *mental hygiene of childhood, a child's playing activity, upbringing, education, sexual feeling, youth, work, family, sexual life, marriage.*

*The mental hygiene at the preschool age* (the period of formation of the personality nucleus) includes:

1) keeping of a reasonable regime of day, diet, **work**, play activities, rest, sleep, etc.;

2) provision of a normal psychological situation in the family and a children's educational collective, a normal care and demands;

3) problems of the family fullness, its well-being (incomplete families, divorces, single mothers, mental stresses, alcoholization, etc.), living conditions (overpopulation, conflicts, early sexual experience, etc.), material welfare, etc.

Particular attention should be paid to the problems of mental hygiene at the school (prejuvenile, juvenile and young) age, since in recent time there is a rise in the mental morbidity rate of this age group.

Unfavourable effects are produced by the following general school problems:

1) an inability to cope with academic loads (incorrectness and complexity of syllabi and other demands);

2) a teacher's hostile attitude to backward pupils, injustice to all or some pupils with a resultant mutual apathy, etc. (Ushinsky K.D. emphasized, "The school should be the reign of seriousness, allowing a joke, of sweetness without sickliness, of justice without captiousness, of kindness without weakness, of order without pedantry, and, above all, of a constant reasonable activity.");

3) changes of school collectives (a necessity to get adapted to schoolmates and teachers, to the relations which have already been established);

4) rejection by a school collective (complicated emotional relations in a children's collective, significance of sympathies and antipathies, an urge towards leadership and independence, a particular part of streaks of the character, etc.

The following general psychological problems are important:

1) upbringing of psychological sex differences at the preschool and school age (belonging of the certain sex to certain trends in the work and household activities, family orientation, etc.);

2) sex-related physiological and psychological differences at the juvenile and young age (puberty, development of secondary sexual characters, changes in the appearance, difficulties in professional orientation, an urge towards **independence, freedom** and occupying a corresponding social place, etc.

In order to ensure *mental hygiene of the family*, on which the children's normal development depends to a considerable extent too, very important are the following factors: mutual respect and support; mutual help in household activities; a psychologically rational solution of the conflict situations which appear; involvement of all the members of the family in settling issues concerning important purchases, places for going to rest, etc.; provision of a healthy way of life (without bad habits); bringing up the children (on their parents' own examples) to be modest, honest, industrious, etc.

Mental health is also preserved owing to mental-hygienic measures for ensuring mental and physical work (its rational organization, a regime of work and rest, optimum loads, a favourable psychological climate in the work collective, positive emotional directions for work, an adequate choice of the profession, etc.).

*Psychoprophylaxis* is a complex of measures for preventing mental disorders and diseases (primary psychoprophylaxis), as well as relapses of the mental diseases suffered before (secondary psychoprophylaxis).

*Primary, secondary and tertiary preventions* are separated. *The primary prevention* includes prophylaxis of mental diseases in mentally healthy people. This is protection of health in future children, genetic consultations, measures directed at sanitation of women, organization of obstetric aid, an early revealing of developmental defects in newborns, medical-pedagogical correction.

*Secondary prevention* consists in early diagnosing, early beginning of treatment, use of adequate methods of correction, long-term maintenance **drug** therapy of a mental disease, prophylaxis of relapses and a transfer to a chronic course.

*Tertiary prevention* is a system of measures directed for prophylaxis of disability in patients ill with chronic diseases.

*Psychoprophylactic measures are directed at the following things:*

1) prevention of psychotraumatizing influences **on job** and in everyday life (this is the basis for preventing neuroses, psychopathies and some other kinds of psychic pathology);

2) prevention of iatrogenies and **didactogenies**;

3) provision of opportune treatment and psychotherapeutic care for somatic patients and convalescents (attention, kindness, etc.);

4) an individual approach in determining job loads after the illness, regulation of the working and living conditions;

5) provision of antirelapse therapy after the illness.

Besides the above listed, a particularly important place in mental prophylactic measures belongs to *the creation of a correct regime of **meals and rest, a favourable psychological climate at home, at a medical establishment and on job, a psychotherapeutic training of the whole personnel and their corresponding **bedside** manners.***

*Social-**occupational** rehabilitation.* This is restoration of the person's social status and rights. One of the basic principles of the rehabilitation consists in the unity of biological and social methods of influence. The patient's drug treatment should be combined with consulting and pedagogical work and **solving his social problems**. Work with the patient should be accompanied by sanitation of his medium, and changes (favourable for the patient) of relationships in his family, on job and in his social activity. The patient himself should be made an active participant interested in the rehabilitative measures, which are to be carried out in consecutive order, with changes in the forms and methods of influencing the patient.

Mental diseases often involve the individual's personality with a resultant break in social relations. Rehabilitation of mental patients, first of all, comes to their resocialization.

It is necessary to preserve the patient's interests at all the stages of the therapy given. Psychiatrists should not only try to make mental disorders in the patient disappear or reduce their intensity, but also take care about creation of his firm social status after the illness, his adaptation to work, training in new occupational skills. Even at the stage of the tertiary mental prophylaxis it is necessary to encourage the patient's work activity, using his residual capacity for work. One should not be in a hurry to give **a disability status** to patients even in cases of chronic mental diseases. A more favourable effect on the course and outcome of a disease is produced, if the patient is given an opportunity to remain in his former work collective with a change in his working conditions.

If the patient becomes disabled, it is very important to offer him work at medical industrial workshops, where his life passes in a collective, it contributing to appearance of new emotional and business contacts.

The level of rehabilitation depends upon the attitude to the patient in his family and the situation where he is to return to after the treatment.

The basis of rehabilitative activity is created only after disappearance of acute psychopathological symptoms. The concrete content of rehabilitation depends upon the character of the illness and individual peculiarities of the patients.

## MEDICAL EXAMINATION OF MENTAL PATIENTS

Under certain conditions, mental patients may undergo 3 kinds of special examination, such as medical labour, medical military and forensic psychiatric ones.

### Medical labour examination and social-occupational rehabilitation of mental patients

The basic principles of *the medical labour examination* are as follows: its state character, prophylactic direction, a scientifically grounded approach to determining the extent and duration of disability, a constant medical control over changes in the state of the disabled person.

*The medical labour examination* is a study of the person's capacity for work, made by doctors in order to reveal the extent and duration of his disability.

The main task of the experts is not to ascertain the fact of disability; it consists in the soonest possible restoration of the health and capacity for work, the most rational and full use of the labour of people with a restricted capacity for work without any damages to their health, with the maximum benefit for the workers and economy.

The most important task of the medical examination is to reveal disability, it predetermining the treatment and regime necessary for restoring and improving the person's health. The ascertainment of disability ensures the workers the right to be released from work and receive payments at the expense of social insurance funds, as well as free treatment and getting a job.

Diseases are the most frequent causes of disability. But even in cases of the same disease, the issue of disability may be settled in different ways depending upon the patient's occupation, his working conditions and loads.

In diseases causing functional disturbances, which do not hamper continuation of a routine occupational activity, there no grounds for releasing from work. In some cases it may be enough to change the conditions or character of work for the period of treatment and thereby prevent development of disability in the workers without releasing them from work.

*Depending upon its duration, there may be:* a) temporal disability, and b) **persistent** disability (invalidity); they differ mostly by the clinical and work prognosis, i.e. prognostication of the course and outcome of the morbid process and terms for a possible restoration of the capacity for work.

Depending upon the extent of disability, the latter may be complete or partial. In the former case, as a result of his disease the patient is unable to and

must not do any work, he needs a special medical regime. But if the disabled person is able to do another kind of work or the previous one, without any damages to his health and production, only in other conditions or not in the full scope, such a disability is regarded as partial.

### **Forensic psychiatric medical examination**

*Administration of the forensic psychiatric medical examination.* The main task of this examination consists in revealing the objective truth, namely: 1) revealing of the mental state of the examinee at the moment of committing an offence or at the moment of holding an investigation (ascertainment of sanity), as well as at the moment of pleading a civil case (ascertainment of capacity); 2) ascertainment of the possibility to serve one's sentence; 3) revealing of the mental state of witnesses and victims and their capacity to correctly assess circumstances of the case and provide correct information about them; 4) use of certain medical measures for insane people.

The experts' legal state is based on their independence from the sides of a trial, which is ensured by the fact that the medical examination is completely under the jurisdiction of health authorities and does not have any commercial basis.

As a rule, it is forensic psychiatric commissions, working at psychoneurological dispensaries and mental hospitals, who are charged with making forensic psychiatric medical examinations.

A legal physician bears the penal responsibility for his refusal or evasion from drawing a conclusion at a trial or in the process of a preliminary investigation. In those cases, when in order to give answers to the questions, which they were asked, experts need additional materials of the case (questionings of witnesses, testimonials, medical documents, etc.) or special examinations and consultations of particular specialists, without which an experts' conclusion cannot be drawn, the experts' commission may use these circumstances as an objective reason for a temporary refusal to draw their conclusion until the above data are obtained. In such cases, investigation and court organs must provide the legal physicians with all the data required for drawing a conclusion.

One of the tasks of the forensic psychiatric medical examination consists in revealing of the mental state of the examinee at the moment of committing an offence or at the moment of holding an investigation (ascertainment of sanity). Sanity means the capacity of correctly control one's own actions and be aware of them.

In civil suits, the forensic psychiatric medical examination is administered for settling the issue of capacity of plaintiffs and defendants. Incapable are those people who, owing to their mental disease or deficiency, are not able to reasonably conduct their affairs. Capacity predetermines presence of a rather developed and preserved psychic activity, which enables the person to realize his civil rights and perform his civil duties. If a conclusion is drawn that somebody is incapable, then all the deals on behalf of this mental patient or feeble-minded person are to be made by his guardian.

### **Medical military examination**

The main task of the medical military examination is not to admit mentally defective people to armed forces and to remove them if they are already there. Fitness for military service is determined on the basis of a conclusion drawn by a medical military experts' commission. This examination may be undergone both under inpatient and outpatient conditions, but the issue of fitness for military service is settled, as a rule, only after an inpatient examination. The medical military examination is to be made by army psychiatrists, who are guided by relevant articles and columns in the list of diseases from an order issued by the Ministry of Defence.

The **medical military psychiatric** examination determines the extent of fitness to military service at peace-time with regard to a possibility of giving complete and qualified treatment and restoration of the capacity for work and combat.