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TYPE 2 DIABETES AND COMORBID CONDITIONS IN THE PRACTICE OF A FAMILY DOCTOR

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Actuality . The treatment of type 2 diabetes in a patient with high comorbidity is usually carried out simultaneously by several specialists, each of whom prescribes a complex of treatments, not always taking into account the appointments of their colleagues and do not follow treatment tactics . [1] . Therefore, in patients with diabetes mellitus (DM), several ways of developing polymorbidity are important at once : the presence of cause-and-effect relationships and mechanisms of formation, the unity of pathogenetic mechanisms , as well as the long-term use of medications leads to the occurrence of side complications that develop into independent nosological forms [ ]. Polypharmacy as a result of polymorbidity leads to a sharp increase in the probability of the development of systemic and unwanted effects of drugs, which is not always taken into account by doctors, since it is considered as a manifestation of one of the factors of polymorbidity and entails the prescription of an even greater number of drugs [2, 3]. Numerous studies have proven that comorbid pathology worsens the course of diabetes, in turn, diabetes also negatively affects the accompanying pathology. In this regard, it is necessary to study the impact of polymorbid pathology in patients with type 2 diabetes on the rehabilitation capabilities of the body.

The aim of the study. To study the structure of comorbid pathology in patients with type 2 diabetes and to evaluate the impact of polymorbid pathology on the

rehabilitation capabilities of the body.

Materials and methods. In the course of our work, we worked out and analyzed foreign and domestic literary sources, WHO and MOH surveys related to this topic. A retrospective analysis of 314 patient histories was conducted. All patients were diagnosed with type 2 diabetes in accordance with WHO criteria (1999) and algorithms for diagnosing diabetes (2007). In all patients, the data of anamnesis, objective examination, results of laboratory-instrumental studies were evaluated. Initially, patients were divided into groups depending on the duration of type 2 diabetes: 1st group - up to 5 years; 2nd group – 6–10 years old; 3rd group - over 10 years. In the 1st group - 61 people, which is 19.43%; in the 2nd group - 106 people - 33.76%; in the 3rd group - 147 people - 46.81%. Polymorbidity was assessed by the comorbidity index Charlson (IR) [3]. The MFI calculation formula included the average values of blood pressure, heart rate, height, weight, and age of the patient. Compensated course of diabetes and a high level of adaptation capabilities of the body corresponded to values of MFI≤0. The state of subcompensation and the average level of functional reserves of the body reflected the value 0≤MFI 1 there was decompensation of diabetes and a low level of functional capabilities of the body. The presence of diseases of the digestive organs in these patients was assessed as a comorbid pathology. For each patient, the comorbidity coefficient (CC from gastrointestinal pathology) was calculated depending on the number of diseases of the gastrointestinal tract. Processing of the received data was carried out using the package of programs "STATISTICA 6.0" (Mathematica ®, Matlab ®, Harvard Graphics ®) of the American company " StatSoft " (1995).

The results. Based on the results of a retrospective analysis of disease histories most often, patients with type 2 diabetes had diseases of the cardiovascular system (91.1%). Among all cardiovascular pathologies, the most patients (266 people - 84.7%) suffered from arterial hypertension. Ischemic heart disease was detected in 102 people (32.5%), of which 34 patients (10.8%) suffered a myocardial infarction, 17 patients with type 2 diabetes (5.4%) had an acute violation of cerebral circulation. As the duration of diabetes increased, the number of patients suffering

from type 2 diabetes and cardiovascular diseases increased: in the 1st group - 19.49%, in the 2nd group - 33.12%, in the 3rd group - 47.11%, respectively. The same dynamics is observed separately by nosologies. Diseases of the gastrointestinal tract are in second place in the structure of comorbid pathology in patients with type 2 diabetes (198 people - 63.05%). The majority of patients (73 persons - 23.3%) were observed with gallbladder pathology (gallstone disease, chronic cholecystitis). Appendectomy in history in 13.1% of patients. Hepatitis of various etiology and fatty hepatosis were found in 10.2% and 10.5%, respectively. Gastric and duodenal ulcers were observed in 6.05% of patients with diabetes. Diseases of the urinary system were observed in 105 patients with type 2 diabetes (33.4%). Pathology from various endocrine organs was detected in 63 people (20.1%), thyroid gland diseases were most often observed in the form of a toimmune thyroiditis, diffuse toxic goiter or diffuse nodular goiter (45 people - 14.3%). Respiratory diseases were detected in 47 people (14.97%). Chronic bronchitis, which occurred in 35 patients (11.15%), prevailed in the incidence structure. In second place is bronchial asthma (12 people - 3.82%). With a long course of type 2 diabetes, diseases of other systems were detected more often. In the patients with type 2 diabetes examined by us, chronic pancreatitis, gallstone disease, and gastric ulcer disease were most often detected. The comorbidity rate corresponded to 4.5 somatic diseases per person. Evaluating MFI, 30% of patients had average rehabilitation capabilities of the body, 70% - low. The presence of 2 or more diseases of the digestive organs contributed to the deterioration of the body's rehabilitation capabilities, despite the satisfactory compensation of type 2 diabetes. Deterioration of rehabilitation possibilities (MFI>1) of patients with type 2 diabetes mellitus was observed with an increase in the comorbidity index, regardless of the number of diseases of the digestive organs. Statistical analysis of the surface graph using the weighted least squares distance allows you to visually demonstrate this relationship. Analysis of the prevalence of concomitant diseases in our patients showed the presence of cardiovascular system pathology in 91.1% of cases. The presence of cardiovascular pathology influenced the achievement of compensation in type 2

diabetes (RR=1.4; p=0.001) and, as a result, the frequency of hospitalization of patients. Pathology of the gastrointestinal tract (54.1%) and urinary system (33.4%) were highly prevalent. Less often I k comorbid pathology observed endocrine diseases - 20.1% and damage to the respiratory system - 14.97% of cases. For patients with type 2 diabetes, excessive body weight was a pressing problem (88.7%). The prevalence of concomitant diseases associated with the pathology of the digestive system in patients with type 2 DM depended on the compensation of carbohydrate metabolism and amounted to 91.5% in the group of patients with unsatisfactory compensation of the disease and 23.2% in the comparison group . When studying the risk factors of comorbid pathology according to the Charlson index , we managed to establish a progressive increase in the risk of developing concomitant pathology in parallel with the increasing duration of the course of the disease and, accordingly, the progression of complications of diabetes mellitus with the maximum risk in the period 11-15 years from the onset of the disease.

Conclusions. Assessment of comorbidity in patients with diabetes is an important component of clinical and rehabilitation prognosis. The presence of concomitant pathology from the digestive organs and other systems in type 2 diabetes worsens the rehabilitation prognosis. Type 2 diabetes mellitus, as an initial polymorbid pathology, requires a comprehensive examination of patients and an assessment of the body's rehabilitation capabilities using the calculation of the morphofunctional index, which reflects the biological component of the rehabilitation potential. The prognosis of formation and the rate of progression of comorbid pathology are determined by the level of conservation of biological resources (MFI indicator).

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