

West Haven Criteria is used for grading the severity of HE. This criteria is based on the level of impairment of autonomy, change in consciousness, intellectual functions, behavior and the dependency on therapy.

- Grade 1 - trivial lack of awareness, euphoria or anxiety, shortened attention span, impaired performance of addition and subtraction.
- Grade 2 - lethargy or apathy, minimal disorientation for time or place, subtle personality change, inappropriate behavior.
- Grade 3 - somnolence to semi-stupor, but responsive to verbal stimuli, confusion, gross disorientation.
- Grade 4 - coma

CLASSIFICATION BASED ON UNDERLYING CAUSE

This classification of HE was introduced at the World Congress of Gastroenterology, 1998 in Vienna.

- Type A - (acute) describes HE associated with acute liver failure, typically associated with cerebral edema.
- Type B - (bypass) is caused by portal-systemic shunting without associated intrinsic liver disease.
- Type C - (cirrhosis) occurs in patients with cirrhosis. This type is divided into episodic, persistent and minimal encephalopathy.

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PATHOLOGY OF THE BILIARY TRACT IN PATIENTS WITH OSTEOARTHRITIS AND OBESITY

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The combination of two or more diseases at the individual patient is always leads to changes in clinical symptoms, lengthening periods of exacerbation and the formation of complications. These problems usually occur in situations where we have common pathogenetic links, which activation and stimulation will ensure the progression of nosology, despite the differences in the affected organs.

In the middle of the last century, the nosological tandem under the name metabolic syndrome was first identified. It included 4 most socially significant diseases initially: hypertension, coronary heart disease, insulin resistance (diabetes) and obesity. Now it also includes joined osteoarthritis (OA) and hyperuricemia.

Occurrence articular syndrome and osteoarthritis, in patients with obesity due not only to mechanical stress on the joints, but also an active synthesis

adipokines by adipocytes (resistin, apelin, IL-1, TNF- α , etc.). Adipokines are involved in many processes in body. In this case, obesity can be regarded as a basis for changes in the formation of many organs and systems.

Aim: to set the frequency of lesions of the biliary tract and its variants in patients with osteoarthritis and obesity.

Materials and methods. We observed 49 patients with OA and obesity between the ages of 42 to 67 years and the duration of the joint pathology from 7 to 23 years. Among surveyed was dominated by women (79.6%). Taking into account the body mass index patients were distributed as follows: 17 patients had obesity first stage, 24 patients had obesity second stage and 8 patients had third stage. Diagnosis of OA was set at the previous stages of examination of patients with recommendations for the diagnosis. During the work of disease was in the stage of laboratory remission.

Dysfunction affected joints of the first degree was observed in 17 patients, the second degree in 23 patients and the third degree in 9 patients. Radiologically the first stage was diagnosed in 14 patients, the second stage was diagnosed in 31 patients and the third was diagnosed in 4 patients.

The survey also included ultrasound of the liver, gallbladder and biliary tract, assessment of liver function tests, lipid profile (enzymatic method using standard kits), carbohydrate metabolism and the level of pro-inflammatory interleukin-6 - IL-6 (ELISA test system "Protein contour", Russia). Twenty healthy individuals representative by gender and age was the group of the control.

Statistical analysis of the results was carried out using the application program «Statistica 6.0».

Results and discussion. The abdominal ultrasound allowed to establish that in 27 cases mentioned the moderate increase in liver, which was not exceed 1.5-1.8 cm from the norm. The structure of the liver was homogeneous, and did not have cysts, sections of fibrosis. In 31 patients diagnosed increase in the gallbladder with thickening of its walls and the presence of biliary sludge (13 patients) or small stones (6); 7 patients had spikes. In the 19 cases, there was no indication of clinical manifestations of cholecystitis.

There was an increase in cytolytic activity in the analysis of the functional state of the liver: the level of AST was - $0,71 \pm 0,01$ mmol / l / g (normal - $0,42 \pm 0,01$), ALT - $0,87 \pm 0,01$ mmol / l / g (control - $0,45 \pm 0,01$) with a reduction in the value of the ratio of AST and ALT up to $0,80 \pm 0,02$ at the rate of - $0,97 \pm 0,01$, $p < 0.05$. The level of alkaline phosphatase increased to $3,75 \pm 0,1$ units. under the control of - $1,67 \pm 0,05$ units) on a background of unchanged parameters bilirubin.

Lipid profile was characterized by elevated levels of total cholesterol ($6,9 \pm 0.12$ mmol/L) and triglyceride ($2,4 \pm 0.02$ mmol / l) and lipoproteins low density (3.71 ± 0.2 mmol / l). Indicators of carbohydrate exchange in 8 patients consistent with the development of insulin resistance, and in 5 patients was

diagnosed with type 2 diabetes with the level of HbA1c $9,6 \pm 1,3$ mmol/l. The original content of IL-6 was $7,1 \pm 1,1$ pg/ml at a rate of $5,2 \pm 0,9$ pg / ml.

An increase in IL-6, which appears in the inflammation after 2-3 days from the start of the disease, associated with the synthesis of acute phase proteins by hepatocytes and the control of fibrogenesis (reduced activity). In this case, we can say that combined OA and obesity rate has practically no effect of IL-6 for being in clinical remission. Those, there is not an active inflammatory process in the liver, and the resulting changes are due to the formation of liver's steatosis background changes of lipid and carbohydrate metabolism. At the same time, changes in ultrasonic indicates gallbladder inflammation occurred with the change of physical and chemical properties of bile.

Thus, the presence of obesity in patients with OA may contribute to the formation of hepatobiliary disease that aggravate the clinical manifestations of the disease.

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**RISK OF INJURY HEPATOBILIARY SYSTEM IN PATIENTS
WITH SUBCLINICAL AND CLINICAL HYPOTHYROIDISM IN
CONJUNCTION WITH THE AUTOIMMUNE DESTRUCTION
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The problem of autoimmune thyroiditis (AIT) is now becoming increasingly important. The etiology of this disease is controversial and multifactorial, including a set of genetic, environmental and physical factors. AIT prevalence among the adult population is 4-5 %, while in 86 % of cases the disease is diagnosed at a stage already occurring symptomatic functional disorders on the part of the thyroid gland, which requires hormone replacement therapy.

Thyroid hormones regulate the level of basic metabolism of all body cells, including hepatocytes, which certainly has an impact on their functional status. Hepatobiliary system plays an important role in the metabolism of thyroid hormones. The liver is involved in iodination thyroxine in the bloodstream and degradation of thyroid hormones and their metabolites elimination. In the pathogenesis of lesions of the hepatobiliary system in autoimmune diseases of the thyroid gland leading role played by dyslipidemia. Thyroid hormones have a number of effects on the regulation of lipid metabolism. It has been established that 1 to 11 % of patients with dyslipidemia have subclinical hypothyroidism. Cholesterol and its fractions