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DIAGNOSIS OF THE DEGREE OF LIVER FIBROSIS IN PATIENTS WITH CHRONIC HEPATITIS AND CIRRHOSIS OF THE LIVER

Resume: The main cause of the formation of liver fibrosis (AF) and, accordingly, its transition to cirrhosis are viral hepatitis.

AF is the replacement of healthy liver tissue with connective tissue, which develops as a result of external (viral and alcoholic hepatitis) or internal (hereditary metabolic disorders and other genetic disorders) causes.

It is known that fibrosis is a physiological response of the body aimed at limiting the inflammatory focus from healthy tissue and blood vessels. Histologically, AF is the replacement of extracellular matrix proteins (including collagen) of hepatic lobules in the liver parenchyma. The rate of AF formation depends on the etiology of liver tissue damage. In viral hepatitis, fibrosis begins with the portal vein system, from where it spreads to the parenchyma.

Key words: liver fibrosis, liver cirrhosis, diagnosis of fibrosis, hepatitis.

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ДИАГНОСТИКА СТЕПЕНИ ФИБРОЗА ПЕЧЕНИ У БОЛЬНЫХ ХРОНИЧЕСКИМИ ГЕПАТИТАМИ И ЦИРРОЗАМИ ПЕЧЕНИ

Резюме: Основной причиной формирования фиброза печени (ФП) и, соответственно, перехода его в цирроз являются вирусные гепатиты.

ФП представляет собой замещение здоровой печеночной ткани на соединительную, развивающееся в результате внешних (вирусные и алкогольные гепатиты) или внутренних (наследственные метаболические расстройства и другие генетические нарушения) причин.

Известно, что фиброз является физиологическим ответом организма, направленным на ограничение воспалительного очага от здоровой ткани и кровеносных сосудов. Гистологически ФП представляет собой замещение внеклеточными матричными белками (в том числе коллагеном) печеночных долек в паренхиме печени. Скорость формирования ФП зависит от этиологии повреждения печеночной ткани. При вирусных гепатитах фиброз начинается с системы портальной вены, откуда распространяется в паренхиму.

Ключевые слова: фиброз печени, цирроз печени, диагностика фиброза, гепатиты.

Relevance. Cirrhosis of the liver (CP) occupies a significant place in the structure of diseases of the digestive system, remaining an extremely urgent socio-economic and clinical-epidemiological problem of health care in all countries of the world. Currently, the incidence of liver cirrhosis in the world is about 20-40 patients per 100 thousand population, and this indicator is steadily growing.

Early diagnosis and timely appointment of treatment for patients with HCG and CP is one of the most important tasks of modern medical practice. The "gold standard" in the diagnosis of liver fibrosis (AF) remains liver biopsy - BP [2,4]. However, BP, as a method of assessing AF, has serious limitations due to objective and subjective reasons [1,5]. Meanwhile, this method is not applicable for mass examinations of patients with newly identified markers of chronic hepatitis B and C. Subsequent monitoring of patients against the background of the natural course of the disease or after therapy also requires accessible non-

invasive tests [3,4]. Serum fibrosis assessment tests containing surrogate markers of AF, if available, are informative only with CP [1]. Combined serum tests containing, in addition to surrogate and true markers of fibrosis, are informative, but are not accessible to a wide range of patients at the screening stage [6]. Ultrasound methods for diagnosing AF using portal blood flow indices make it possible to detect moderate and severe AF in HCG and CP, but require special training and time for their implementation [1,4]. The results of the direct method of determining the stage of AF - elastometry - having high diagnostic accuracy, depend on age, body mass index, disease activity according to biochemical tests [5]. Thus, it is relevant to develop new methods of noninvasive assessment of AF, reflecting both the structural (ultrasound characteristics) and functional state (serum markers) of the organ, available for initial examination of patients and their further monitoring.

The proportion of viral etiology of liver cirrhosis (in the outcome of chronic hepatitis B, C, B +D) ranges from 10 to 23.5% of all cirrhosis. In recent years, the number of cirrhosis in the outcome of viral hepatitis C has increased to 30.3%. This is consistent with the data of the European Association for the Study of Liver Diseases that the leading role in the formation of liver cirrhosis is played by chronic hepatitis C virus infection, which is the cause of 40% of cases of liver cirrhosis. And, apparently, not only the etiological factor determines the peculiarity of the course of liver cirrhosis, but also other additional regulatory mechanisms that are not fully understood at the moment.

The purpose of the study. To develop immunodiagnostic criteria for liver fibrosis in patients with chronic hepatitis B and C based on the assessment of the pathogenetic value of cytokines of profibrotic and antifibrotic action, as well as serotonin and the implementation of an integral approach to their interaction during the infectious process.

Materials and methods of research. To solve these tasks, a clinical, laboratory, and instrumental examination of 103 patients with viral cirrhosis of the liver was carried out.

The results of the study. In patients with cirrhosis of the liver of viral etiology, a deviation was revealed at all levels of autonomic regulation - a decrease in parasympathetic tone and reactivity, vasoreflective and baroreflective mechanisms, a weakening of the activity of subcortical nerve centers, as well as a decrease in humoral regulation, a shift of vegetative homeostasis towards the predominance of the sympathetic nervous system.

Clinical symptoms and changes in biochemical samples generally increase with increasing duration of the disease, the age of the patient and the stage of fibrosis, but are quite variable. If subjective complaints and clinical and biochemical signs of disease activity dominate with mild AF of HCV, then with CP there are phenomena of violation of synthetic liver function, portal hypertension. Of the clinical symptoms, asthenovegetative syndrome was most often present, being the only complaint of patients. According to ultrasound data, significant differences ($p<0.05$) were obtained in the size of the liver and spleen when comparing the data of patients with HCV (stage of fibrosis of RO) and CP. Qualitative (descriptive) characteristics, such as diffuse liver changes in HCV, granular structure and serration of the liver contour in CP were extremely variable and had no numerical value, so they were not included in further analysis.

The severity of the course of liver cirrhosis correlates directly with the severity of autonomic maladaptation, manifested in patients with cirrhosis of the liver of viral etiology by a significant decrease in heart rate variability, a sharp increase in the activity of the sympathetic nervous system, the phenomena of overstrain of the activity of regulatory systems.

Multiple correlations of average strength were revealed between the indicators of vegetative status and the assessment of the severity of the patient

with liver cirrhosis in Child-Pugh scores, the analysis of which using the developed correlation matrix allows to increase the objectivity and informativeness of the assessment of the prognosis of the course of liver cirrhosis of viral etiology.

Heart rate variability indicators are prognostically significant in patients with cirrhosis of the liver of viral etiology and depend on the severity of the disease.

Prognostic equation of the probability of death for patients with cirrhosis of the liver of viral etiology Y = 41.02 + (0.609 * CO VAR2) + (0.0003 * IVR2) + (-0.035 * EXCG) +(-11.21 * VLF2) + (-^3.30 * AUTOC2) + (-0.015 *A Mo,)+ (-0,212 * CO) +(-0.013* HR,), where Y is the probability of death, from 0 to 1, suggests a 59% probability of death.

The use of a non-selective beta-blocker (propranolol) reduces the heart rate, but does not affect heart rate variability. The complex use of nonselective beta-blockers together with neurotropic hepatoprotectors (ademethionine, B-orinitine-B-aspartate) is a promising direction for correcting adaptive capabilities in patients with cirrhosis of the liver of viral etiology.

Conclusion. It has been established that heart rate variability is a prognostic factor of progression and risk of death in patients with cirrhosis of the liver of viral etiology. The application of the methodology for the study of heart rate variability in patients with cirrhosis of the liver of viral etiology will allow to assess the degree of adaptive capabilities of patients, to make a prognosis regarding the risk of death and to carry out individual correction of therapeutic measures.

The results obtained indicate the need for the combined use of indirect methods (serum tests, ultrasound with Dopplerography, densitometry) and direct (elastometry) in the diagnosis of liver fibrosis. For this purpose, the use of methods included in the standard of examination for chronic hepatitis B and C without additional costs on the part of the patient and the medical institution

allows using the proposed algorithm for diagnosing fibrosis and a computer program in the outpatient practice of any doctor.

The possibility of using a computer program as a database of patients with chronic hepatitis, dynamically changing when monitoring the latter, can solve the problems of the organization of healthcare in this field of medicine.

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