HISTOLOGIC AND IMMUNOHISTOCHEMICAL ASSESSMENT OF OF THE LIVER IN PATIENTS WITH CHRONIC HEPATITIS C

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Abstract

This study evaluates liver biopsy specimens from chronic hepatitis C patients using histologic and immunohistochemical methods. Key findings include inflammation, fibrosis staging, and immune-mediated damage. The results provide insights into disease progression and potential diagnostic improvements.

Key words: Chronic hepatitis C, liver histology, immunohistochemical analysis, hepatocellular changes, fibrosis staging, inflammatory activity, portal inflammation, hepatic steatosis, liver biopsy, fibrotic markers, HCV-induced liver damage, hepatic necrosis.

Introduction. Hepatitis is still one of the most urgent problems of the World Health Organization and is the leading cause of death from all diseases. Primary liver cancer is much less common than metastatic cancer. Among primary malignant tumors of the liver, hepatocellular carcinoma (HCC) is in first place; it accounts for 90% of all malignant liver tumors. This is a relatively rare type of tumor, the prevalence of which is determined by the standard of living in the country.

The aim of the study based on the study of clinical, laboratory and morphological data, identify the characteristics of the course of the disease in patients with hepatocellular carcinoma with chronic viral hepatitis, taking into account the presence of hepatitis virus markers to improve the diagnosis of this pathology.

Materials and methods. A total of 60 patients with suspected liver tumors underwent biopsy and retrospective analysis of histological examination results was obtained. The exclusion criteria for patients in the study were: decompensated liver cirrhosis, severe comorbidities, old age - patients over 74 years of age, the patient has no idea about the time and course of hepatitis, the presence of alcoholism or drug addiction, pregnancy, antiviral therapy aimed at treating hepatitis, taking hepatotoxic drugs in the last 30 days. A series of examinations included: HCV genotyping, abdominal ultrasound, liver hepatobiopsy, ultrasound elastometry of the liver, quantitative and qualitative study of HCV viruses, pathomorphological and immunohistochemical analysis of liver hepatobiopsy.

Results. There were 60 patients under observation, including 38 men and 22 women aged 18 to 90 years (average 37.21±0.45 years). The duration of the disease ranged from 6 months to 12 years (average 3.78-0.28 years). When patients with liver disease were studied based on referrals, it was noted that the highest incidence rate was observed at the age of thirty-two. The comparison results did not reveal significant differences in the frequency of occurrence of varying degrees of activity in patients with HCV-C, depending on the genotype of the virus. However, it should be noted that in patients with genotype 1b, the minimal degree of activity was 2.1 times more common than in individuals with genotype 3a (14.9% and 7.1%, respectively). At the same time, in the compared groups, the pronounced degree of activity was recorded 1.9 times less often (8.5% and 16.1%, respectively, the activity of the pathological process is given in absolute values). At the next stage of the study, the results of a number of immunohistochemical indicators were analyzed depending on the main characteristics of the infectious process in CHC (fibrosis, IHA, HCV

genotype). A significant increase in the absolute content of CD3 (F1 - 146±93.4; F2-3 - 355.11±198.52; p=0.01), CD8 (F0- 124± 76.15; F23 320.06) was observed in patients with HCV with the progression of the disease. ±184.8; p=0.003), CD68 (F0-389.76±92.98; F1- 479.74±140.5; p=0.01), relative amount of CD68 % lymphocytes (F1-3.66±0.86; F2-3, p=53.; p=53. =0.04). A significant increase in IgA was also detected with increasing fibrosis (F0- 1.11±0.33; F2-3 - 2.33±0.65; p=0.0001). In the correlation analysis (Table 3.13), a direct strong correlation was established between CD3 and CD8 lymphocytes in the liver tissue (F0- 0.95; F1- 0.82; F2-3- 0.94, p<0.05), between viral load and TGF (F1- 0.97, p<0.05), moderate correlation between CD3, CD8, lymphocytes, SMA and viral load (F2-4 - 0.76, F23 - 0.74, F2-3 0.74, p<0.05), as well as between CD3, CD8 and TGF (F2-3 - 0.62-0.69, p<0.05), respectively.

Conclusion. In conducting a pathomorphological study of hepatobiopsy in patients with chronic hepatitis C, it is very important to conduct an immunohistochemical analysis with the detection of CD8 lymphocytes and antibodies to smooth muscles (SMA). This helps to more accurately assess the development rate of the disease and plays an important role in the formation of a treatment strategy.

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