

THE SIGNIFICANCE OF CYTOKINES IN THE DEVELOPMENT OF CHRONIC LIVER DISEASES

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It is known that the activity of the immune system is controlled by genetic control, so it is possible to think that the development of chronic hepatitis or viral infections depends on immunogenetic mechanisms. For this reason, it is suggested that some individuals are resistant to infection with the virus, and some are prone to infection. To date, it has been proven that HCV and HBV viruses do not have a direct hepatotoxic effect, but there is a correlation between liver tissue damage caused by immune inflammation and the acceleration of liver fibrosis. Regardless of the etiology of liver damage, large amounts of cytokines such as interleukin-1 and FNO- α are released.

These cytokines in turn activate Ito cells and cause Ito cells to produce thrombo-activating factor (PDGF) and transforming growth factor (TGF- β 1), which are important in the pathogenesis and progression of the disease. Transforming growth factor is a group of cytokines that activates regenerative processes, increases the production of collagen and cellular matrix, and transforms Ito cells into fibroblasts. Collagenogenesis in the space of Disse is accompanied by derailment of blood circulation in the sinusoids and necrosis of hepatocytes.

Recently, the importance of cytokines in the complications of liver cirrhosis, such as portal hypertension, liver encephalopathy, bleeding from varicose veins of the esophagus, polyorgan failure, has been studied. An increase in the amount of FNO- α causes an increase in the amount of interleukins, such as IL-1, IL-6, IL-8, which cause hepatocyte necrosis, apoptosis and fibrogenesis. As a result of studies by some authors, FNO- α has been proven to cause portal hypertension in experimental mice.

FNO- α and IL-8 together participate in the production of reactive oxygen species and nitric oxide, causing damage to various organs and tissues and eventually polyorgan failure. Recent studies have shown that increased levels of inflammatory cytokines such as FNO- α , IL-1, IL-6 in blood serum and decreased levels of anti-inflammatory cytokines such as IL-4 and IL-10 are associated with portal hypertension, hepatic encephalopathy, ascites, ascites-peritonitis. causes such complications.

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