SIGNIFICANCE OF IL-17 CYTOKINE IN CHRONIC LIVER DISEASES

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Over the past 20 years, there has been a significant increase in liver diseases. In the CIS countries, from 500 to 1 million people fall ill with various liver diseases. By now, the number of people suffering from liver diseases in the world has reached 2 billion. Every year, 2-3 million people are registered with viral, toxic, medicinal, alcoholic or autoimmune diseases.

The problem of viral hepatitis is considered one of the urgent health problems. Due to the spread of drug addiction in Russia in the last decade, the spread of viral hepatitis V through blood contact has gained special importance. About 80% of injection drug users are found to be infected with viral hepatitis V, C, D or several types at the same time. The liver is an important metabolic and immunological organ in the body. The liver is especially important in immunological control and synthesis of acute phase proteins. Almost all liver diseases are associated with derangement of immune cell and inflammatory homeostasis. Cytokines are known to have a wide range of biological activities and elicit an adequate immune response. At the tissue level, cytokines are responsible for inflammation and subsequent regeneration processes. Recently, the importance of cytokines in chronic liver diseases has been widely studied. Six types of IL-17A or IL-17 are known, including IL-17A through IL-17F. IL-17A and IL-17F are considered 50% homogeneous. Among these cytokines, IL-17A and IL-17F are secreted as homodimers, and IL-17A/F as heterodimers. IL-17F. While IL-17B, IL-17C and IL-17D cytokines are also considered inflammatory cytokines, IL-17A is considered to have a strong effect. IL-17 is an inflammatory cytokine and belongs to a type of cytokine that can elicit two types of immune response. This cytokine is important in the immune response against bacterial and fungal infections. This cytokine also plays a role in various inflammatory and autoimmune diseases. Currently, there are anti-IL-17 antibodies used in psoriasis, psoriatic arthritis and ankylosing spondylitis. In recent years, there has been a growing body of research investigating the role of IL-17 in liver damage and inflammation.

There are speculations that IL-17A is important in enhancing the fibrosis process in chronic liver diseases. These changes are attributed to an effect on the activity of stellate Ito cells in the liver. Studies have shown that IL-17A expression is increased in patients with partial hepatectomy due to the presence of HBV infection and early stages of liver cirrhosis and hepatocellular carcinoma. IL-17A immunoreactivity in fibrotic tissue occurs in the inflammatory infiltrate.

Therefore, it is possible to help patients with chronic hepatitis and liver fibrosis by blocking this cytokine. In addition, studies in mice have shown increased expression of IL-6, α-smooth muscle actin, collagen, and TGF-β mRNA in response to IL-17A in isolated stellate cells (HSCs). This indicates that the fibrosis process can be controlled.

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