Chronic viral hepatitis: etiology, pathogenesis of liver damage and mechanisms of persistence

Irwan Setiabudi, author

Abstrak

Chronic hepatotropic viruses commonly evade the antiviral defence systems of the body and cause a long - lasting persistent infection. The prolonged nature of the infection ensures that every infected person has ample opportunity to transmit the virus to others, allowing many millions of people world-wide to become infected. Three viruses commonly cause chronic hepatitis B virus, hepatitis C virus and hepatitis Delta virus.

Virus specific CD8 T cells of the host, represent the main effector cells against viral infection. Where as the antiviral cytokinex have a major role in the control of viral replication (non-cytolytic inhibition).

To cause persistent infection, a virus must avoid the host defences and that hepatotropic viruses have developed elaborate strategies to achieve this. In the case of hepatitis B virus, two proteins are involved in the inhibition of the host defences; those are the core protein that has been shown to inhibit the production of interferon and the polymerase protein has been shown to inhibit its effect. Where as in the case of hepatitis C virus, the NS5A and E2 protein reduce the effect of interferon by inhibiting the antiviral kinase.

In order to survive and persistent in the liver, the hepatotropic viruses must be able to avoid both arms of the immune system, either by mutation of viral proteins or by preventing activation of the immune system.