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Changes in levels of Interleukin-8 in the serum of patients with hepatitis B virus infection correlate with HBe seroconversion and increased levels of I Interleukin-8 indicate resistance to IFN-alpha therapy

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The aim of this study was (1) to determine plasma values of CXCL-8/interleukin-8 (IL-8) in patients with different clinical manifestations of hepatitis B (HB) and (2) to analyse the correlation between presence of circulatory levels of IL-8 and levels of HB virus (HBV) DNA during the natural course of acute HB and interferon alpha-induced HBe and HBsAg seroconversion in patients with chronic HB (CHB). Serum IL-8, HBV DNA, and transaminases in serum were measured consecutively (before, during and after treatment) in patients with acute hepatitis B and IFN -alpha-treated patients with chronic HBV infection.

Patients (n=10) with acute HB infection exhibited high IL-8 levels during the acute phase of the infection and low during the resolution of the disease. The peak response of IL-8 was always preceded by the peak level of the transaminases and the reduction of HBV DNA. The peak level of IL-8 coincided with HBe and HBsAg seroconversion during the natural course of acute infection. The presence of IL-8 in circulation was dynamic during treatment in patients with chronic HB. Detectable levels of IL-8 were always measured after the reduction of HBV DNA and transaminase levels. Moreover, the IL-8 levels were significantly higher in patients who did not respond to IFN therapy than in patients who did respond to the therapy ($p<0.005$). The positive predictive value (PPV) of IL-8 serum levels below 69 pg/ml (mean value + 2.5 SD) in determining a virological response was 92% and the negative predictive value (NPV) 100%. IL-8 is associated with acute and chronic active hepatitis B and may be used as predictive marker for response to IFN-alpha therapy in patients with chronic hepatitis B.

Biography

Staffan P.E. Sylvan is a senior expert in infectious diseases and is the county medical officer for Uppsala County. As such he heads the local department of communicable disease control and prevention and has been very active in undertaking campaigns concerning the containment of the spread of communicable diseases such as pandemic influenza, Chlamydia, HIV and hepatitis A, B and C. He has a long standing research career particularly in the area of hepatitis immunology. He has published more than 60 papers in reputed journals

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