Detection of pre-S1 proteins in serum and liver of HBsAg-positive patients: a new marker for hepatitis B virus infection.

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Detection of pre-S1 proteins in serum and liver of HBsAg-positive patients: a new marker for hepatitis B virus infection.
Theilmann L, Klinkert MQ, Gmelin K, Salfeld J, Schaller H, Pfaff E.
Department of Internal Medicine, University of Heidelberg, Heidelberg (F.R.G.)
Microbiology and ZMBH, University of Heidelberg, Heidelberg (F.R.G.)

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Abstract

The presence of pre-S1 proteins in serum and liver of individuals with acute and chronic hepatitis B virus infection was investigated in Western blots using antibodies against a fusion protein, containing amino acids 20-120 of the pre-S region. Pre-S1 proteins were present in 20 of 38 HBsAg-positive sera. All sera positive for pre-S1 proteins were also positive for hepatitis B virus DNA indicating the presence of hepatitis B virions, and 16 of these sera were also positive for HBeAg. In five sera positive for hepatitis B virus DNA, pre-S1 proteins were not found. In an additional study, pre-S1 proteins could be detected in 4 of 6 patients with acute hepatitis B virus infection during the first 2 weeks after admission to the hospital. The presence of pre-S1 proteins showed a good correlation with the detection of hepatitis B virus DNA. After seroconversion from HBeAg to anti-HBe, both hepatitis B virus DNA and pre-S1 proteins were no longer detectable. Pre-S1 proteins were present in three liver tissue specimens from two patients with acute hepatitis B virus infection and from one patient with cirrhosis of the liver. The proteins were not found in the liver of two HBsAg-positive patients with hepatocellular carcinoma (primary liver carcinoma), negative for HBeAg. Pre-S1 proteins can be detected in serum, positive for hepatitis B virus DNA and in liver tissue of hepatitis B virus-infected individuals. The presence of these proteins appears to correspond with the presence of hepatitis B virus DNA, both markers indicating hepatitis B virus replication.

Reference

Acharya, S.K., Irshad, M., Gandhi, B.M. and Joshi, Y.K.: Pre-S proteins: New marker of hepatitis B virus. Tropical Gastroenterology (2): 91-98, 1987