Mannose Binding Lectin Gene (*MBL 2*) Haplotypes Coding for Low Serum MBL are Associated to Hepatitis B Virus Infection

Tenorio, A.L.[2], Catsman, C.J.L.M.[1,4], Magalhães Filho, R.[2,3], Carmo, R.F.[1], Moura, P.[1], Vasconcelos, L.R.S[2]., Cavalcanti, M.S.M.[1], Pereira, L.M.M.B[2,3].

[1]Instituto de Ciências Biológicas, Universidade de Pernambuco, PE, Brazil;
[2] Faculdade de Ciências Médicas, Universidade de Pernambuco, PE, Brazil;
[3] Hospital Universitário Oswaldo Cruz, PE, Brazil;[4] Faculty of Medicines, Erasmus University Rotterdam, Netherlands

Patients with hepatitis B virus (HBV) infection may develop severe chronic liver disease. Carriers of HBV have an increased risk of developing cirrhosis, hepatic decompensation and hepatocellular carcinoma (HCC). Worldwide an estimated 350 million people are infected with HBV; 15 – 40% percent of them will develop serious squeals in their lifetimes. The aim was investigate the role of SNPs in first exon and promoter region of the Mannose binding lectin gene on chromosome 10 in the susceptibility to HBV infection. A hundred and two patients infected with HBV were included in this study. 232, uninfected individuals were used as healthy controls. Genotyping of the first exon (A/O) was performed by using melting temperature assay. Genotyping of the promoter region (-550 H/L, -221 Y/X) was performed by Taqman PCR technique. In comparison to patients in the control group, in HBV infected patients we found a trend for increased occurrence of haplotypes associated with low serum MBL compared to haplotypes associated with high serum MBL (p= 0.05). In addition strong, but not significant associations of genotypes associated with a low level of MBL were found more in the HBV infected group in comparison to the control group. Our finding may indicate that MBL has a protective role against HBV infection in the studied population.

Keywords: MBL, Hepatitis B virus, Innate immunity, Real-time PCR, Polymorphisms.