

PREVALENCE OF ACTIVE CHRONIC HEPATITIS B AMONG THE HBsAg-CARRIERS IN SMOLENSK, RUSSIA

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ABBREVIATIONS

ALT -alanine aminotransferase
Anti-HBe - antibody to hepatiti B e antigen
CBH - chronic hepatitis B
HBV - hepatitis B virus
HBsAg - hepatitis B surface antigen
HBeAg - hepatiti B e antigen
PCR - polymerase chain reaction

INTRODUCTION

The diagnosis of chronic HBV infection is based on the persistence of HBsAg > 6 months. Earlier the diagnosis of chronic hepatitis B (CHB) was thought to require the presence of hepatitis B e antigen (HBeAg) and HBsAg+/HBeAg- individuals were considered to have nonreplicative HBV infection. Now serum HBVDNA assays should be performed to determine if the patient should be considered for antiviral therapy

AIMS

To evaluate the incidence of HBV DNA+ among HBsAg+ patients and estimate the level of viraemia both in HBeAg(+) / HBsAg(+) and HBeAg(-) / anti-HBeAg(+)/HBsAg(+) patients. To study the ratio of patients who have criteria of active CHB among HBsAg carriers.

METHODS

In this observational study were included 170 patients > 18 years of age with documented HBsAg-carrier >6 months (average age - 40.0 years, male - 56%, female - 44%). HBV DNA in serum was tested by qualitative and quantitative PCR (commercial test-system Ampli-Sens HBV), sensitivity 500 copies/ml. HBeAg, HBeAb, HBsAg, anti-HCV, anti-HDV, anti-HIV were detected by ELISA (Hoffmann La Roche). Clinical chemistry (ALT, AST level) was assessed by automatic analyser HUMALYZER 2000.

CHB criteria from AASLD Practice Guidelines, 2001 was used [1]. All patients were HCV, HDV and HIV negative.

RESULTS

51.5% of HBsAg carriers were HBV DNA positive by qualitative PCR. HBeAg was detected in 7.5% patients. HBV DNA in the concentration >10⁵ copies/ml assessed by quantitative PCR was detected in 22.2% patients (fig.1). The HBV DNA level >10⁵ copies/ml was detected in 100% HBeAg(+) and in 28.6% HBeAg(-) patients (fig.2).

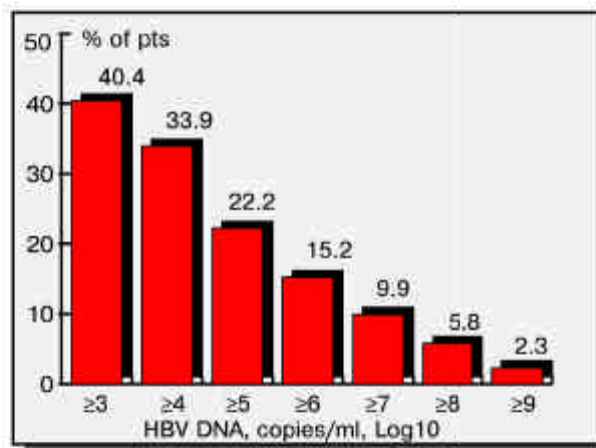


Figure 1. Level of HBV DNA among HBsAg carriers

The average HBV DNA level was 1.2x10⁹ copies/ml in the HBeAg(+) patients and 1.4x10⁷ copies/ml in HBeAg(-) patients (p-Wilcoxon < 0.001). Elevated ALT level (> x1.5 the upper limit of normal - ULN) was determined in 5.4% of the HBV DNA- and 30.1% of the HBV DNA+ HBsAg carriers. 66.7% of HBVDNA+/HBeAg+ and 16.7% HBVDNA+/HBeAg- HBsAg carriers have 1.5 ULN or higher increase of the ALT level (fig.2).

14.1% of all and 12.6% of HBeAg-/anti-HBeAg+ HBsAg carriers had the combination of the biochemical, serological and virology criteria, which are typical for active CHB (HBsAg-carrier >6 months, HBV DNA >10⁵ copies/ml, ALT > x1.5 ULN).

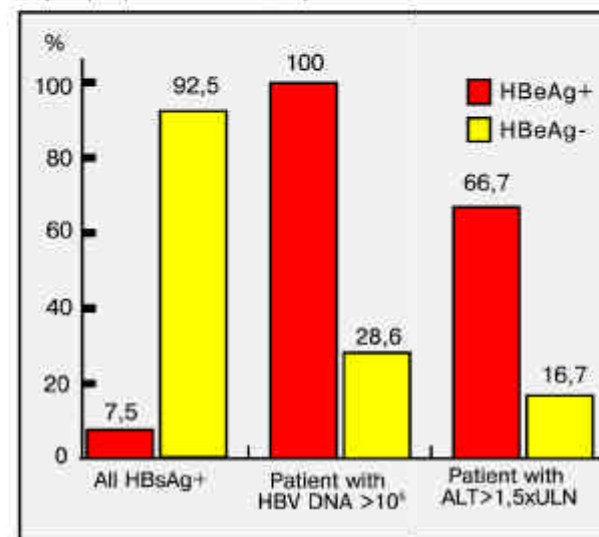


Figure 2. Patients features depending on HBeAg presence

CONCLUSIONS

- 51.5% of HBsAg-carriers had viral replication confirmed by PCR.
- 14,1% of them had biochemical, serological and virology signs of active chronic hepatitis B.
- Not only HBeAg(+) but also 12.6% of HBeAg(-)/anti-HBeAg(+) patients had characteristic typical for active CHB and required an antiviral therapy.

REFERENCES

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