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TITLE

IMPACT OF CHRONIC HEPATITIS B ON THE SPERM QUALITY AND MALE REPRODUCTIVE POTENTIAL IN VIVO AND IN VITRO

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ABSTRACT

Context : Some studies suggested that chronic hepatitis B virus (HBV) have a negative effect on sperm quality and disturb male fertility but results are discordant.

Objective : To analyze the impact of HBV on sperm parameters and male reproductive potential in vivo and in vitro

Methods : Retrospective case-controlled study

Patients : Our study included 57 patients investigated for couple infertility. 31 patients (G1 group) where HBV seropositive and 26 patients (G2 group) where seronegative for HBV. We excluded from our study all patients with a factor that could alter sperm parameters.

Main Outcome Measures : The semen analysis was carried out according to the WHO standardized method (WHO 2010). Informations on paternity history and a use of a medical assisted reproductive technique (ART) were obtained .The statistical analysis was carried out using the SPSS v20.0.

Results: Our results showed a significant decrease in the sperm mobility and vitality in G1 group patients compared to those in G2 ($p = 0.01$, $p = 0.04$ respectively). The comparison of mean values of ejaculate volume, sperm numeration and normal sperm morphology levels showed no significant difference between G1 and G2. We noted that chronic B hepatitis did not affect spontaneous reproductive potential of G1 patients since a history of paternity following spontaneous pregnancy in this group was noted in 32.2% of patients (versus 38.4% in seronegative patients ; $p = 0.4$). There were no significant differences in the outcome of ART results (clinical pregnancy, life births) between patients in G1 and G2 patients .

Conclusion: HBV can trigger the apoptosis process in the SPZ inducing structural and molecular changes with a decrease in the fertilizing potential of male gamete. Integration of viral DNA into the SPZ genome could interfere with male reproduction both in vivo and in vitro.

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