Incidence of HBeAg/anti-HBe and HBs/anti-HBs seroconversion after antiviral treatment in children with chronic hepatitis B

P. Kemnitz, W. Sluzewski, A. Mania, M. Figlerowicz, A. Kowala-Piaskowska, M. Michalak
University of Medical Sciences, Poznan, Poland

Background: Chronic hepatitis B (CHB) is still a significant clinical problem in the whole World. It is estimated that 2 milliard people had contact with hepatitis B virus (HBV) and 400 millions suffer from CHB or its remote consequences. The study was aimed at remote analysis of the incidence of seroconversion in HBeAg/anti-HBe and HBsAg/anti-HBs after antiviral treatment and their relation to age at infection as well as evaluation of aminotransferase activity and chosen biochemical parameters.

Methods: The study included 310 children (220 boys and 90 girls) with diagnosed CHB who underwent antiviral treatment with interferon-alpha (IFN-alpha) or lamivudine. 177 children were treated with IFN-alpha, 25 with lamivudine and 107 children were treated with lamivudine after prior lack of response to IFN-alpha treatment. Mean age at HBV infection diagnosis was 4.14 ± 3.23 years. Mean age at the beginning of observation was 6.93 ± 3.69 years. Mean length of follow-up was 7.11 ± 2.39 years.

Results: In 222 children (71.6%) seroconversion in HBeAg/anti-HBe was present - on the average 6.69 ± 3.02 years after the diagnosis and 2.19 ± 1.47 years after the introduction of antiviral treatment. The group of children treated with IFN-alpha was introduced 3.72 ± 2.12 years and lamivudine 6.38 ± 3.71 years after the diagnosis of HBV infection. Reverse relation was found between the incidence of seroconversion and the age at diagnosis (r = −0.30; p < 0.001). ALT and AST activity at HBV diagnosis was compared in children with and without seroconversion. Children with HBeAg/anti-HBe seroconversion had higher aminotransferase at the diagnosis of HBV infection in comparison with patients without seroconversion. Viral load in children with seroconversion revealed significant alterations in the following years of the follow-up period in children with seroconversion (p = 0.0089). Similar changes were not present in children without seroconversion.

Conclusion: Age at infection seem to be a significant factor influencing the incidence of seroconversion. ALT and AST activity at the diagnosis is a good prognostic factor of HBeAg/anti-HBe and HBsAg/anti-HBs seroconversion.


B. Ataei, Z. Nokhodian, A. Babak, P. Shoaei, N. Kassaian, M. Ataei

Isfahan University of Medical Sciences, Isfahan, Iran, (Islamic Republic of)
Isfahan University of Medical Sciences, Isfahan, Iran, (Islamic Republic of)
Azad Islamic Najaf Abad University, Isfahan, Iran, (Islamic Republic of)

Background: Millions of children throughout the world live on the street. They are at higher risk of viral diseases (e.g., hepatitis B virus) because of physical, sexual and drug abuse. The aim of this study was to evaluate the prevalence of hepatitis B virus (HBV) and its risk factors in Isfahan street children.

Methods: In a cross-sectional study, we selected 399 street children by simple sampling method in June 2005-March 2007 from correctional centers in Isfahan, Iran. After getting information and giving consent form, data on sociodemographic characteristics and life time risk factors were obtained during a structured interview and a venous blood sample was taken for HBV testing. The tests for HBs Ag, HBs Ab and Hbc Ab were done by ELISA method and data were analyzed by SPSS software version 15 used t-test, 62, Mann Whitney and logistic regression.

Results: We studied 271 (68%) boys and 128 (32%) girls. Their mean age was 12.74 ± 3.27 years. In our study, poverty was the main motivation for street children (68% of participants). 91.7%, 94.7% and 96.7% of the participants had no history of smoking, drinking alcoholic beverages or drug abuse, respectively. 34.4% of girls and 4.4% of boys (P = 0.001) were sexually abused and 68% of girls and 17.3% of boys (P = 0.001) were involved in physical fighting. HBs Ag, HBs Ab and Hbc Ab seroprevalence were 3.3%, 14.4% and 2.1% respectively. No significant statistical difference was between HBV-seroprevalence and its probable risk factors.

Conclusion: According to prevalence of HBV markers in the same age group in Isfahan general population, it seems that street children have had more HBV infection and less protection. Educational programs for safer behaviors, improve quality of life, and hepatitis B vaccination in those who are non-immune are recommended for them.


Prevalence of HBeAg positive cases and abnormal aminotransferase tests in HBV chronic carriers in Kashan, Iran
M. Momen Heravi

Kashan University of Medical sciences, Kashan, Isfahan, Iran, (Islamic Republic of)

Background: Hepatitis B virus (HBV) infection and its sequelae are major global health problems. It is estimated that 400 million people worldwide are HBV carriers. The natural history of hepatitis B is complex and is influenced by many factors, including age at infection, viral factors (HBV...