Original Paper

Seromarkers of Hepatitis B virus in newborns with HBsAg positive mothers

Yousef Yahyapour (PhD)*[1], Mohammad Karimi (MD)[2], Nooshin Khayyer (MD)[3]
Ali Hashemzade-Omran (MSc)[4], Seyyed Mohammad Jazayeri (PhD)[5]
Zahra Saadatmand (BSc)[6], Mahmoud Mahmoudi (PhD)[7]

[1] Academic Instructor, Depatrment of Virology, Tehran University of Medical Sciences, Tehran, Iran. [2] Depatrment of Infection Disease, Imam Reza Hospital, Amol, Iran. [3] Pathologist, Khayyer Laboratory, Amol, Iran. [4] Parazitolosit, Imam Reza Hospital, Amol, Iran. [5] Assistant Professor, Depatrment of Virology, Tehran University of Medical Sciences, Tehran, Iran. [6] Depatrment of Virology, Tehran University of Medical Sciences, Tehran, Iran. [7] Professor, Department of Epidemiology, Tehran University of Medical Sciences, Tehran, Iran.

Abstract

Background and Objective: One of the most important routes of hepatitis B virus (HBV) transmission is from asymptomatic carrier mothers to their infants. It has been concluded that over 50% of Iranian carriers have contracted the infection perinatally, making this the most likely route of transmission of HBV in our country. In this study, we assessed the rate of HBV infection in children were born to HBsAg positive mothers that received hepatitis B immunoglobulin (HBIG) and the first dose of vaccine at birth and the second and third of doses of vaccine at 1 and 6 months of age, respectively.

Materials and Methods: In this descreptive study, 123 infants born from HBsAg positive mothers assessed and serum sample of these subjects were tested by ELISA technique for detection of HBsAg, Anti-HBs and Anti-HBc markers. Data were then analyzed by the chi-square and fisher exact tests.

Results: From 31241 pregnant women with delivery during this 5-years study about 140 (0.45%) of them were HBsAg positive. Children born to these mothers follow-up and 123 serum samples of them tested for serologic markers of HBV infection. HBsAg was found in 0.8% of the children and 91.9% had one or more serologic markers of HBV infection. Protective rate (Anti-HBs positive) and Anti-HBc positive were 82.1% and 8.9% respectively.

Conclusion: This study showed that after having focuced on the vertical transmission route for many years, and implementing strategies such as vaccination and HBIG injection to neonates of HBsAg positive mothers, nowadays it seems that we should pay attention to horizontal route of HBV transmission in this area.

Keywords: HbsAg, Anti-HBs, Anti-HBc, HBsAg positive mothers, Newborn

*** Corresponding Author:** *Yousef Yahyapour (PhD Student), E-mail: yahyapour@sina.tums.ac.ir*

Received 25 Dec 2007 **Revised** 20 Sep 2008 **Accepted** 9 Nov 2008