HEPATITIS B SURFACE ANTIGEN PREVALENCE AMONG PREGNANT WOMEN IN RAFSANJAN CITY, IRAN, 2003

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Abstract: Perinatal transmission of hepatitis B virus from infected mother to infant often leads to sever long-term sequel. A descriptive study was designed in 600 pregnant women delivering in Niknafs Hospital of Rafsanjan city, March - Auguest 2003. Maternal venous blood samples were collected and tested for Hepatitis B surface antigen (HBsAg), by ELISA. 8 cases with positive HBsAg were found (1.3%) (95% CI = 1.26%-1.35%). The mean of age was 26.2+/_5.3 years, and mean no. of gravidity was 2.143+/-1.41. There was a history of hepatitis B vaccination only in 1% of pregnant women .There was a significant corrolation between HBsAg positivity and history of to be born in Rafsanjan, drug usage of the pregnant woman or her husband, and having tattoo (P<0.05). Hepatitis B vaccination should be considered in women of child-bearing age to prevent prenatal HBV infection.

Keywords: • Hepatitis B virus • Pregnancy • HBsAg

Hepatitis B virus (HBV) infection is a worldwide public health problem [1]. Infants born to mothers positive for both HBsAg and Hepatitis B e antigen (HBeAg) have 70–90% chance of prenatal HBV infection, and 85–90% of the infected infants become chronic carriers [2,3].

In Iran, there is a prevalence of 1.3 - 2.3% HBsAg positive in pregnant women [4,7].

A descriptive study was designed in 600 pregnant women delivering in Niknafs hospital of Rafsanjan city, between March and Auguest 2003. Maternal venous blood samples were collected and tested for HBsAg, using ELISA (Behring, Germany). Statistical analysis was performed by SPSS software.

8 out of 600 collected samples were HBsAg positive (1.3% or one in every 80 deliveries) (95% CI = 1.26-1.35%). The mean of age was 26.2 +/- 5.3 years, and mean number of gravidity was 2.143 +/- 1.41. There was a significant corrolation between HBsAg positivity and place of birth of the pregnant woman, drug addiction of her or her husband, and having tattoo, P<0.05 (Table 1). There was no significant corrolation between HBsAg positivity and history of surgery, cesarian section, transfusion, jaundice, and hepatitis B vaccination. Only 1% of the pregnant women in this research had been vaccinated. There was not a significant corrolation between HBsAg positivity and number of previous deliveries and abortions.

Iran has an intermediate prevalence of HBV infection with a prevalent less than 5% HBsAg-positive population [8]. In our study 1.3% of the pregnant women were HBsAg positive. Up to now, different data on the prevalence of HBV among women of child - bearing age have been recorded throughout the country. Tabriz has the highest prevalence of 2.17% [4] in compare with Babol(1.64%)[5], Kerman (2.3%)[6], and Bandar xAbbas (1.3%)[7]. In this study 6 of 8 HBsAg-positive pregnant women (75%) has risk factors for xHBV infection, but only 1% has history of hepatitis B vaccination. It should be considered

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Table 1 Assessment of risk of hepatitis B virus infection among HBsAg-positive and HBsAg-negative pregnant women

Considered variables	HBsAg positive	HBsAg negative	*P* value
Origin of Birth:			
Rafsanjan	2	387	<0.03
Other Cities	6	205	
No Drug addiction	7	590	<0.04
Drug addiction	1	2	
History of Husband's Drug addiction:			
No	5	567	<0.004
Yes	3	25	
History of Tattoo:			
No	6	581	<0.01
Yes	2	11	

that hepatitis B vaccination is the most effective way to prevent HBV infection [9]. There was a significant corrolation between HBsAg positive and to be born in Rafsanjan, to have history of drug adiction, to have drug adicted husband, and having Tatto which is in agreement with Baldo [10] research. There was not a significant corrolation between HBsAg positive and history of surgery, cesarian section, transfusion, and jaundice which is in agreement with Poorsadegh[4] and Aali [6] studies.

In conclusion the low prevalence of HBsAg in pregnant women in Rafsanjan city in compare with other cities correlates with different factors including previous vaccination against HBV. Since only 1% of the pregnant women were vaccinated, it is necessary to consider HBV vaccination in women of child-bearing age as an effective factor to prevent prenatal HBV infection.

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