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The study of prevalence of Hepatitis B surface antigen during pregnancy in a tertiary care hospital, South India.

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ABSTRACT

To determine the prevalence of of Hepatitis B surface antigen (HBsAg) during pregnancy in South Indian population. The study was conducted at Shadan Institute of Medical Sciences and Post graduate Research centre, Hyderabad, India during January 2010 to April 2012, including 2155 antenatal women. All of them were screened for HBsAg. Of the total 2155 antenatal women, 19 were found to be positive for HBsAg (0.9%). Hepatitis B infection is highly infectious, associated with maternal complications and transmission to the child. It is mandatory that all the antenatal women should be screened for HBsAg and appropriately managed.

Keywords*: Hepatitis B, HBsAg, Pregnancy.*

INTRODUCTION

Hepatitis B virus infection is a major public health problem accounting to 400 million chronic infections worldwide [1]. It is hyperendemic in sub Saharan Africa and Asia [2, 3]. The prevalence of Hepatitis B virus infection in Northern Europe and America is less than 1% of the population, contributing to 5 to 10% of the chronic liver disease. In Asia and Africa the prevalence varies from 5-10% of the population accounting to more than 50% of patients with chronic liver disease. [4]

Hepatitis B virus infection is transmitted by blood transfusion and its products, intravenous injections, transmission from mother to foetus, nosocomial infections, organ transplantation, tattooing and high-risk occupations. [5] The carrier rate of Hepatitis B in India is 4.7%. A great majority of the transmission of Hepatitis B in India and other developing countries occurs by vertical transmission from an infected carrier mother to the neonate, intrapartum or antenatally. [6]

Viral hepatitis during pregnancy is associated with high risk maternal complications such as, flu like symptoms, jaundice, pyrexia, chronic carrier state(5% to 10%), death due to fulmimant infection(1%). Up to 90% of babies born to carrier mothers may become carriers with fetal and neonatal hepatitis, leading to cirrhosis of liver and hepatocellular carcinoma in later life.[7]

The serological marker for the diagnosis of acute Hepatitis B infection is the serum surface antigen (HBs Ag). It would appear in patient's serum usually 2 to 10 weeks after being infected with hepatitis virus, before liver enzymes are increased and clinical symptoms appear. In chronic hepatitis infection the HBs Ag remains elevated for more than 6 months.[8]

MATERIALS AND METHODS

The study was conducted at Shadan Institite of Medical Sciences and Post Graduate Research Centre, Hyderabad, India.

This study was a hospital based study that included 2155 pregnant women who attended the antenatal clinic of Shadan Institite of Medical Sciences and Post Graduate Research Centre, Hyderabad, India, from January 2010 to April 2012.

A detailed history of all the pregnant women attending the antenatal clinic was taken. After excluding pregnant women with history of previous liver diseases, diabetes and pre-eclamptic toxemia, 2155 antenatal women were enrolled into the study. Informed consent of all the 2155 subjects was taken and were screened for Hepatitis infection by Rapid Immuno Chromatographic Technique. Those found to be positive were confirmed by ELISA(Erba Diagnostics, Mannheim, Germany).

RESULTS AND DISCUSSION

2155 antenatal women were included in the study over a duration of 28 months from January 2010 to April 2012. 19 antenatal women were detected to be positive for HBsAg accounting to 0.9% ranging from age group 18years- 35 years. Of the 19 positive antenatal women 69.9% were in the age group of 20-24. (Figure 1)

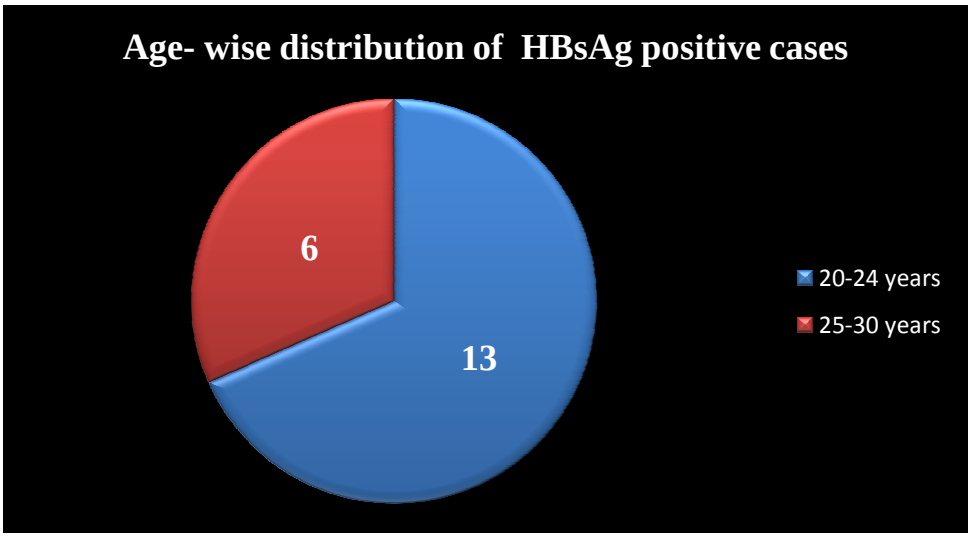

Figure 1: Age- wise distribution of HBsAg positive cases

Our study of 2155 antenatal women showed that the sero-prevalence of HBsAg was 0.9%.

In a study by Chatterjee et al, the prevalence of HBsAg positivity in antenatal women ranged from 0.4% to 4.6% in India with overall mean prevalence of 1.09% and weighted prevalence 0.8%.[6] Prevalence of HBsAg in pregnant women in Mexico was 1.65%,in the Northern part of Kerala, South India, 0.21%. [9], 0.61% in a similar study in south India[10], 6.67% in Nigeria.[11] The prevalence of Hepatitis B varies from country to country and there is a wide variation in the prevalence in different regions of our country. The highest prevalence was reported by Chatterjee et al in Bangalore, India, 4.6%. [6]

CONCLUSION

The probability of transmission of HBsAg infection from mother to child during and after delivery is about 90%.The burden of the disease globally by vertical transmission is significant and this has led to the development of prophylaxis protocols to decrease the pool of chronic carriers worldwide.[5]. Appropriate antenatal screening, intervention and immunoprophylaxis of the neonate is mandatory.

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