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SEROPREVALENCE OF HBSAG AMONG ANTENATAL WOMEN ATTENDING TERTIARY CARE HOSPITAL, TELANGANA STATE

Pathology

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ABSTRACT

Background: Viral hepatitis is a serious public health problem affecting billions of people globally. The maternal to fetal vertical transmission is on the rise and usually goes undetected. The Hepatitis B surface antigen(HBsAg) in serum is the first seromarker to indicate active HBV infection.

Aim: To determine the seroprevalence of HBsAg in healthy asymptomatic antenatal women attending at Government Maternity Hospital, Sultan Bazar Telangana State

Methods: All antenatal women attending the hospital outpatient department were screened for hepatitis B surface antigen during May 2016 to April 2018 . A total of 27024 pregnant women were tested .The age group ranged from 18 yr to 35 yrs

Results: Present study shows prevalence of HBsAg among antenatal women is approximately 0.5%. It is most common in the age group of 25 to 30 yrs.

Conclusion: Screening pregnant women for hepatitis B will reduce prevalence of the disease and the information will help to design program on awareness to prevent mother to child transmission of virus. Hepatitis B vaccination to new born has to be encouraged.

KEYWORDS

Viral hepatitis, Hepatitis B Surface Ag, Seroprevalence.

INTRODUCTION:

Hepatitis is the inflammation of liver tissues due to viral infection[1]. Hepatitis B infection leads to a wide spectrum of clinical presentations ranging from asymptomatic carrier state to acute self limiting infections or fulminating hepatic failure, chronic hepatitis with progression to cirrhosis and hepatocellular carcinoma[2].Hepatitis B virus is the primary cause of severe liver infection, counting hepatocellular carcinoma and cirrhosis related end stage liver disease[3]. The WHO estimates that there are 350 million people with continual HBV infection overall[4].Hepatitis B virus that can be transmitted vertically from mother to their neonates or horizontally through blood products and body secretions. The Hepatitis B, highly contagious and relatively easy to transmit from one infected individual to another by blood-to-blood contact during birth, unprotected sex, and by sharing needles has relatively higher prevalence in tropics[5].Acute HBV infection during pregnancy is less severe and is not directly associated with increased mortality or teratogenicity . However, increased incidences of low birth weight and prematurity in infants born to mothers with acute HBV infection have been recorded[6].The strategy was to vaccinate all children born to mother's infected with HBV. This strategy may reduce by 75 – 90% the mother-to-child HBV transmission[7].The carrier rate of Hepatitis B in India may vary in the different regions and is being quoted as 4.7%[8].

MATERIALS AND METHODS:

A study was conducted at the tertiary care hospital, Government Maternity Hospital, Sultan Bazar. A total of 27024 pregnant women were tested for HBsAg during the 2 yrs period from May 2016 to April 2018.The age group ranged from 18 yr to 35 yrs. The 3 ml of venous samples were taken and dispensed into serum separator tubes, allowed to clot and centrifuged at a relative centrifugal force (RCF) of 1000 - 1500 g for 10 minutes.

METHODS:

ASPEN[R] HBsAg Rapid Test strip was used, it is a quantitative, solid phase, two-site sandwich immunoassay for the detection of HBsAg in serum. The test strip contains anti-HBsAg particles and anti-HBsAg coated on the membrane. The test can detect 1 ng/ml of HBsAg in the serum. Relative sensitivity >99.9% , Relative specificity> 99.0% Accuracy 99.4%

RESULTS:

A study was conducted during 2 years period from May 2016 to April 2018. A total number of antenatal women were 27024. Age group ranged from 18 years to 35 years. Among this 133 cases were positive for HBs Ag . The prevalence of HBs Ag was 0.5% and more common in the age group of 25-30 years.

Figure 1.Age Group Distribution of Antenatal Women

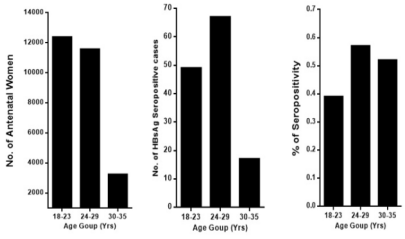

Table 1:

Age Group	No. of Antenatal Women	No. of HBsAg Seropositive cases	% of Seropositivity
18-23	12285	49	0.39
24-29	11538	67	0.57
30-35	3201	17	0.52
	27024	133	0.5

Table 2

Comparative Studies	
Parveen S et al[9] (India)	0.6%
Saraswathi et al[10] (India)	0.9%
Chatterjee et al[11] (India)	1.09%
Musa BM et al[12] (Nigeria)	14.1%
Salleras et al[13] (spain)	0.1%
Present study	0.5%

DISCUSSION:

Screening of the HBsAg is important for disease detection, especially in asymptomatic pregnant women. The main objective of the study was to evaluate the potential risk of mother to child transmission from routine screening results conducted in asymptamatic pregnant women at Government Maternity Hospital, Sultan bazar. The first observation is that the overall prevalence rate of HBS Ag in pregnant woman was 0.5%. All positive cases were screened for renal function test and liver function tests which are normal range. This is comparable to 0.6% reported in a study by Praveen S et al. [9] In another study carried out by

Saraswathi et al., shows prevelance was 0.9% [10] and Chatterjee et al shows 1.09% [11] .In a study conducted by Musa BM et al in Nigeria shows (14.1%) high prevalence of HBsAg [12]. Low prevalence rate (0.1%) was in Spain conducted by Salleras et al [13]. In addition, in our study shows HBV prevalence in pregnant women was more common in the age group of 25 to 30 years. This was correlated with the EI-Magrahe et al[14]. Sibia P et al[15], and Sathiyakala Rajendran et al [16]. Screening of HBsAg in pregnant women can prevent developing infection and disease in neonates. This study determined the seroprevalence of HBsAg in pregnant women. The vertical transmission is responsible for majority of HBsAg infections.

CONCLUSION:

The prevalence of chronic hepatitis B infection in antenatal women is low. However there is an increased risk of transmission from mother to child. In near future burden of Hepatitis B infection among pregnant woman and newborn will definitely become serious public health issue. Regular screening and awareness programmes is need of hour. At the same time Hepatitis B vaccination in new born has to be encouraged.

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