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THE STUDY OF PREVALENCE OF HEPATITIS B SURFACE ANTIGEN DURING PREGNANCY IN A TERTIARY CARE HOSPITAL, GAYA, BIHAR.

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ABSTRACT **Background**: Hepatitis is an inflammation of the liver affecting millions of people's every year. Hepatitis is among the most important cause of loss of health life years in women.

Aims and objectives: To determine the prevalence of hepatitis B Surface Antigen (HBsAg) during pregnancy in Gaya, Bihar .

Materials and methods: The Study was conducted at Gaya Medical College and Hospital, Gaya Bihar during January 2015 to April 2017, including 2177 antenatal women. All of them were screened for HBsAg.

Result: Of the total 2177 antenatal women, 17 were found to be positive for HBsAg (0.7%).

Conclusion: Hepatitis B is highly infectious disease associated with maternal complication and transmission to the child. It is mandatory that all the antenatal women should be screened for HBsAg and appropriately managed.

KEYWORDS : HBsAg, Pregnency

BACKGROUND:

Hepatitis B virus (HBV) infection is a serious global public health problem with an estimated 2 billion people infected worldwide and 350 million persons with chronic HBV infection. The World Health Organization estimates that 500,000 to 1.2 million deaths occur each year due to HBV related chronic liver disease, and that cirrhosis of the liver and primary hepatocellular carcinoma associated with HBV infection is the 10th leading cause of death worldwide. HBV related hepatocellular carcinoma (HCC) is the 5th most frequent cancer worldwide.[1] The epidemiology of HBV transmission is complex. Transmission occurs in all age groups associated with percutaneous and permucosal exposure to infectious body fluids from persons with acute or chronic HBV infection. The highest concentrations of HBV occur in blood and serous fluids, and infection most frequently occurs through direct inoculation of the virus through unsafe injections or reuse of contaminated medical equipment. Other common modes of transmission include sexual contact with infected persons and births from HBV-infected mothers.[2] As India is in the intermediate endemic region, prevalence of hepatitis B in India among general population ranges from 0.1% to 11.7%, while it is between 2% to 8% in most studies. HBsAg prevalence rate among blood donors ranged from 1% to 4.7%. With the exception of higher HBsAg positivity in some North-Eastern states (~7%), no substantial geographical variation is apparent in other parts of India. Considering, on an average, HBsAg carrier rate of 5%, the total number of HBV carriers in the country is estimated to be about 50 million, that forms nearly 15% of the entire pool of HBV carriers in the world and is the second largest pool of chronic HBV infections in the world.[3] In patients who are suffering from chronic Hepatitis B, cumulative incidence of developing liver cirrhosis over a period of 5 years after diagnosis is 8–20%. Economic burden of treatment of these patients is huge not only for their families but also for health resources of the country.[4]The Quantum of Risk Varies with Different Types of Exposure a) Needle Stick Injury- If HBeAg is positive, then there is 37-62% risk if there is serologic evidence of infection in the recipient.[5] b) Blood Transfusion- The rate of transmission is 52-69% if transfused with HBsAg positive blood.[6] c) Sexual Exposure- The infection rate seen is 18-40% in regular partners of HBV infected people; increased risk if history of multiple partners, syphilis, gonorrhoea, receptive anal intercourse.[7] d) Other Percutaneous Injuries with Blood Exposure- The transmission rates vary between 6- 15% if universal precaution are not followed.[8] e) Human Bites and Exposure to other Body Fluids (e.g. saliva)- The risk is negligible by human bite in the absence of visible blood. The risk of transmission is very low by saliva. Studies report that if the source is HBeAg positive then they require risk assessment.[9]

Other factors reported to be associated with acquisition of hepatitis B virus infection include age, male gender, low level of education, and history of previous surgery, multiple sexual partner, HIV infection and nonusage of condoms.[10]

Young children who become infected with the hepatitis B virus are most likely to develop chronic infections, 90% of infants infected during the first year of life develop chronic infections; 30-50% of children infected between one to four years of age develop chronic infections. In adults, 25% of adults who become chronically infected during childhood die from hepatitis B related liver cancer or cirrhosis. 90 % of healthy adults who are infected with the hepatitis B virus will recover and be completely rid of the virus within 6 months. [11].

AIMS AND OBJECTIVES:

To determine the prevalence of hepatitis B Surface Antigen (HBsAg) during pregnancy in Gaya, Bihar.

MATERIALS AND METHODS:

The study was conducted at Gaya Medical College and Hospital , Gaya Bihar. This study was a hospital based study that included 2177 pregnant women who attended the antenatal clinic of Gaya Medical College and hospital, Gaya Bihar during January 2015 to April 2017.

A detailed history of all the pregnant women attending women with history of previous liver diseases, diabetes and pre enrolled into the study. Informed consent of all the 2177 subjects was taken and were screened for hepatitis B infection by Rapid Immuno Chromatographic Technique. Those found to be positive were confirmed by ELISA.

RESULTS :

2177 antenatal women were included in the study over a duration of 28 months from January 2015 to April 2017. 17 antenatal women were detected to be positive for HBsAg accounting to 0.7% ranging from age group 18 years years. Of the 17 positive antenatal women 69.9% were in the age group of 20-24.

DISCUSSION:

Our study of 2177 antenatal women showed that the sero-prevalence of HBsAg was 0.7%. In a study by Chatterjee et al, the prevalence of India with overall mean prevalence of 1.09% and weighted prevalence 0.8%.[6] Prevalence of women in Mexico was 1.65%,in the Northern part of Kerala, South India, 0.21%. [9] south India[10], 6.67% in Nigeria.[11] wide variation in the prevalence in different regions of our country. The highest prevalence was reported by Chatterjee et al in Bangalore, India, Hepatitis B virus (HBV) can be transmitted from an infected mother to her baby during childbirth. The presence of HBV does not influence whether the delivery method is vaginal or via cesarean section. Infants who are infected with hep B are at high risk for serious complications including liver damage, liver cancer and even death. Fortunately, nearly all cases of infant-acquired hep B can be avoided if established prevention measures are followed.

When prevention measures are not taken, roughly 40 percent of infants born to HBV-infected mothers will develop chronic hepatitis B infection. Infants who are born with hep B often have no symptoms. Infants who are infected have a 90 percent chance of developing chronic HBV; one in four of these will die from chronic liver disease.

CONCLUSION

Babies born to a mother with hepatitis B have a greater than 90% chance of developing chronic hepatitis B if they are not properly treated at birth. It is imperative for pregnant women to know their hepatitis B status in order to prevent passing the virus on to their newborn baby during delivery.

All pregnant women should be tested for hepatitis B. Testing is especially important for women who fall into high-risk groups such as health care workers, women from ethnic communities where hepatitis B is common, spouses or partners living with an infected person, etc. If you are pregnant, be sure your doctor tests you for hepatitis B before your baby is born, ideally as early as possible during the first trimester.

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