

Study on Prevalence of Hepatitis B in Pregnancy and Their Maternal and Fetal Outcome in Tertiary Care Center in MP

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Abstract:

Background: Hepatitis B virus infection in pregnancy has been associated with risk of adverse maternal and fetal outcomes in highly endemic settings. Prevalence of Hepatitis B virus infection in worldwide is 1.5 to 2.5% whereas in India it varies from 0.2 to 7.7%.

Objective: To determine prevalence of Hepatitis B infection and their outcome among all antenatal cases admitting in tertiary care centre of central India.

Methodology: This is retrospective observational study conducted at MYH hospital, Indore. During November 2020 to October 2021. All Hepatitis B virus seropositive pregnant women admitting in MYH hospital during given time period were included in study and followed for maternal and fetal outcome.

Result: The prevalence of pregnant women with hepatitis B in pregnancy was found to be 1.02%(117/11394). highest prevalence (82) 84.6% seen in age group 20-30. Most of participant were in term of their pregnancy (84) 79.24% and preterm were (22) 20.76%. Most of the women were multigravida(66) 65.8% and primi gravida were (40) 34.18%. Outcome were normal labour (67) 63.2%, LSCS (33) 31.13%, Still birth (5) 4.7%, second trimester abortion (1) 1%. Baby born were low birth weight (<2.5kg) in 24.1% of deliveries. Immunoglobulin was given to all lives born babies (112).

Conclusion: Hepatitis is a condition which turns to a dreadful state in later part of pregnancy for mother as well as fetus which may result in preterm birth or low birth weight in foetus. When associated or superimposed with conditions like gestational hypertension or coagulopathy or jaundice may result in dreadful maternal and foetal outcome. Vertical transmission of virus is preventable through use of immunoprophylaxis.

Keyword: Hepatitis, Hepatitis B in pregnancy, prevalence, antenatal care.

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Introduction

Hepatitis B infection is found worldwide but in some regions especially endemic in Asia and Africa. Prevalence of Hepatitis B in pregnant women worldwide is 0.2 to 1.5% whereas in India it is 0.2 to 7.7%. [1]

Acute HBV infection must be differentiated from other acute liver diseases that occur during pregnancy such as intrahepatic cholestasis or acute fatty liver of pregnancy if jaundice is present, or haemolysis, elevated liver enzymes and low platelets syndrome if jaundice is absent. It does not appear that acute HBV infection increases mortality during pregnancy, or that it has teratogenic effects. However, a higher incidence of low birth weight and prematurity has been reported [2].

In highly endemic areas, hepatitis B is most commonly spread from mother to child at birth

(vertical transmission) or through horizontal transmission (exposure to infected blood). Vertical transmission of infection is mainly in the peripartum period with infected vaginal secretions and breast milk. There is increased chance of spread from an infected child to an uninfected child during the first 5 years of life. The development of chronic infection is common in infants infected from their mothers or before the age of 5 years. [3,4]

In 2016, the WHO set the goal of eliminating viral hepatitis as a major public health threat by 2030 [5]. However, this goal cannot be achieved without solving the problem of vertical transmission of HBV. In this context, in order to reduce the HBV MTCT risk, it is important to apply different approaches to the management of pregnancy in women with CHB.

Maternal screening programs aimed at identifying HBsAg-positive mothers are part of pregnancy routine examinations in most countries. Once HBsAg-positive mothers are identified, their babies receive passive active immunoprophylaxis at birth to reduce vertical HBV transmission[5]. Passive immunoprophylaxis consists of the administration of hepatitis B immune globulin (HBIG) whereas active immunoprophylaxis is the administration of hepatitis B vaccine [2,6].

Objective

To determine prevalence of Hepatitis B infection and maternal and fetal outcome among all HBsAg positive antenatal cases admitting in MY hospital.

Materials and Methods

- ▶ This is retrospective observational study conducted at MYH hospital, Indore. During November 2020 to October 2021.
- ▶ All Hepatitis B virus seropositive pregnant women admitting in MYH hospital during

given time period were included in study and followed for mode of delivery and fetal and maternal outcome.

Results

Out of 11394 women admitted in MYH during study period total number of HBsAg positive cases were 117, so the prevalence of HBsAg positive cases was 1.02%. Highest prevalence i.e.84.6% seen in age group 20-30 .Most of the women were multigravida(77) 65.8% and primi gravida were (40) 34.18%. Baby born were low birth weight (<2.5kg) in 24.1% of deliveries. Immunoglobulin was given to all lives born babies (112). Out of 117 HBsAg positive patients only 5.1% presented with mild asymptomatic jaundice(6) no other maternal morbidities seen during study period. There were no maternal mortalities among HBsAg positive mothers during study period.

Observations

Table 1: Age wise distribution of cases

Age group (in years)	No. of cases	percentage
<20	08	6.8%
20-30	99	84.61%
>30	10	8.54%

Table 2: Distribution according to Parity

Parity	No of patients	Percentage
Primi	40	34.18%
Multi	77	65.8%

Table 3: Distribution according to Period of Gestation

	No of Patient	Percentage
Term Pregnancy	93	79.4%
Per Term Pregnancy	21	17.9%
Abortion	03	2.5%

Table 4: Distribution according to mode of delivery

Mode of delivery	No. of Patients	Percentage of cases
NL	67	57.26%
LSCS	25	21.36%
PTL	13	11.11%
PRE TERM SECTION	08	6.8%
PTSVD	01	0.85%
ABORTION	03	2.56%

Table 5: Distribution according to Fetal outcome

Fetal outcome	Percentage	No of births
Live Birth	95.7%	112
Still Birth	1.70%	02
Abortus	2.56%	03

Table 6: Distribution according to Birth Weight

Birth weight	Percentage	No of neonates
>2.5	75.8%	85
< 2.5	24.1%	27

Discussion

Despite recent scientific advancements and clinical progress in anti-viral therapy, HBV still represents a major issue worldwide, especially in developing countries. The present study reports a prevalence rate of HBs Ag in pregnant women as 1.02%. This

rate was relatively low, compared to previous studies which showed the prevalence ranging between 4.1-8.4 percent. Following are results of some similar studies on prevalence of Hepatitis B in pregnancy.

Table 7:

Study	Year	Location	Sample size	Prevalence
Bakthavatchalu et al., [7]	2012	Bangalore	500	7.8%
Khakhkhar et al., [8]	2012	Jamnagar	2050	3.07%
Paranjothi et al., [9]	2009	Krishnagiri	762	5.1%
Dwivedi et al., [10]	2011	Allahabad	4000	0.9%
Preetkawal et al., [11]	2016	Patiala	3686	1.11%
Murad et al., [12]	2013	Yemen	400	10.8%
Zenebe et al., [13]	2014	Ethopia	318	3.8%
El-Magrahe et al., [14]	2010	Libya	1500	1.5%
Oladimeji et al., [15]	2013	Nigeria	1627	3.9%
Mishra et al., [16]	2016	MP	3567	1.09%

The difference in prevalence rate may be due to geographical variation or detection methods and also because HBsAg reactive patients delivering at other centres also.

Conclusion

High prevalence of seropositivity of HBsAg among antenatal female calls for routine vaccination against HBV infection. Universal free screening for HBV infection should be offered to all antenatal females on regular basis to prevent the next generation from being grappled by chronic hepatitis, cirrhosis and hepatocellular carcinoma. Up to 90% of babies born to HBV carrier mothers develop chronic liver disease at a younger age and represent the most important reservoir of infection in the community. Thus prevention of transmission of infection in this group would be helpful to decrease overall carrier rate. In conclusion, the universal screening of pregnant women for HBsAg and passive/active prophylaxis to newborns from HBV-positive mothers is an effective measure through which to prevent vertical transmission. In case of a high maternal viral load, third trimester prophylaxis with a class B drug (telbivudine or tenofovir) is able to further reduce the risk of vertical transmission.

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