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Original Research Article.

Retrospective Analysis to Determine the Maternal and Fetal Outcome of Viral Hepatitis in Pregnancy at a Tertiary Care Hospital

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ABSTRACT

Background: Acute viral hepatitis is the most common cause of jaundice in pregnancy. The course of most viral hepatitis infections (e.g., hepatitis A, B, C and D) is unaffected by pregnancy, however, a more severe course of viral hepatitis in pregnancy has been observed in patients with hepatitis E. The present study was conducted to determine the maternal and fetal outcome of viral hepatitis in pregnancy.

Materials and Methods: A retrospective study was conducted to determine the maternal and fetal outcome of viral hepatitis in pregnancy. 80 women were diagnosed with hepatitis infection were selected. Biochemical test reports, liver function tests, coagulation profile and serological tests for anti-HAV IgM, HBs antigen, anti-HEV IgM and anti-HCV IgM were collected. Maternal complications and fetal complications were investigated. The recorded data was compiled, and data analysis was done using SPSS (SPSS Inc., Chicago, Illinois, USA).

Results: In the present study total sample size was 80 in which HAV was present in 10 patients, HEV in 55 patients, and HCV in 4 patients, and HBV in 11 patients. Complications like coagulopathy, encephalopathy, and fulminant hepatic failure and maternal mortality was absent in HAV and HCV infections. In HBV infection coagulopathy was present in 2 women and fatal hepatitis was present in 1 woman. In HEV infection coagulopathy was present in 5 women and fatal hepatitis was present in 4 women, hepatic encephalopathy was present in 3 women and maternal mortality occurs in 3. 130 women with hepatitis gave birth to live children, 3 (2.30%) with early neonatal deaths. There were 4 intrauterine deaths, 2 occur in HEV and 2 in HBV infection. 2 premature births occur in HBV and 12 in HEV infections. Neonatal icteric occur in 2 HAV, in 21 HEV AND In 3 HBV infections.

Conclusion: The present study concluded that HEV the most and HBV causes maternal and fetal complications.

Keywords: HAV, HEV, HCV, HBV, Maternal and Fetal Complications.

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INTRODUCTION

Hepatitis B virus (HBV) is a worldwide health problem today. WHO estimated in 2009 that more than 2 billion people are infected by HBV infection at one or the other point of their life and 350 million people across the world are chronic carrier of the HBV. The estimated mortality is one million annually.[1] Pregnant women are at increased risk of complications in HEV infection, with the risk increasing as the pregnancy progresses, often leading to fulminant hepatic failure and death in a high number of cases. Acute HEV infection is especially severe during second and 3rd trimester of pregnancy and it may lead to fulminant hepatic failure and death in 30-100% of patients.[2] The first retrospectively described outbreak of hepatitis E occurred in India in 1955-1956.[3] Different type of hepatitis infection has different concern. Hepatitis A is transmitted by faeco-oral route and does not have influence on the course of pregnancy whereas Hepatitis B, when acquired around pregnancy due to its high viral load has a high rate of vertical transmission, this can lead to serious consequences in the child as it can translate into liver cirrhosis or hepatocellular carcinoma. Hepatitis C is popularly known for its vertical transmission leading to hepato-cellular carcinoma in both the mother and the child. Hepatitis E is usually self-limiting, benign form in non-pregnant status but which turns grievous in pregnancy.[4-6] The present study was conducted to determine the maternal and fetal outcome of viral hepatitis in pregnancy.

MATERIALS AND METHODS

A retrospective study was conducted to determine the maternal and fetal outcome of viral hepatitis in pregnancy. Written consent

was taken from the patient after explaining the study. 80 women were diagnosed with hepatitis infection were selected. Women with Hellp, severe preeclampsia, drug-induced hepatitis and acute fatty liver in pregnancy were excluded. Biochemical test reports, liver function tests, coagulation profile and serological tests for anti-HAV IgM, HBs antigen, anti-HEV IgM and anti-HCV IgM were collected. Maternal complications such as premature uterine contractions, placental rupture and early membrane rupture, as well as fetal complications such as prematurity, fetal ascites, meconium aspiration and neonatal jaundice were investigated. The recorded data was compiled, and data analysis was done using SPSS Version 20.0 (SPSS Inc., Chicago, Illinois, USA).

Table 1: Maternal outcome and complications

Maternal outcome	HAV	HEV	HCV	HBV
Coagulopathy	0	5	0	2
Fatal hepatitis	0	4	0	1
Hepatic encephalopathy	0	3	0	0
Maternal mortality	0	3	0	0

Table 2: Fetal outcome

Fetal outcome	HAV	HEV	HCV	HBV
Preterm	0	12	0	2
Intra uterine fetal demise	0	2	0	2
Neonatal icteric	2	21	0	3

RESULTS

In the present study total sample size was 80 in which HAV was present in 10 patients, HEV in 55 patients, and HCV in 4 patients, and HBV in 11 patients. Complications like coagulopathy, encephalopathy, and fulminant hepatic failure and maternal mortality was absent in HAV and HCV infections. In HBV infection coagulopathy was present in 2 women and fatal hepatitis was present in 1 woman. In HEV infection coagulopathy was present in 5 women and fatal hepatitis was present in 4 women, hepatic encephalopathy was present in 3 women and maternal mortality occurs in 3. 130 women with hepatitis gave birth to live children, 3 (2.30%) with early neonatal deaths. There were 4 intrauterine deaths, 2 occur in HEV and 2 in HBV infection. 2 premature births occur in HBV and 12 in HEV infections. Neonatal icteric occur in 2 HAV, in 21 HEV AND In 3 HBV infections.

DISCUSSION

Viral hepatitis is the commonest cause of jaundice in pregnancy, a wide range of outcomes have been explained raging from asymptomatic to fatal outcome.[7] In pregnancy, most of the cases of hepatitis are unaltered whereas hepatitis E has a very fatal outcome and attributed to the highest cause of maternal mortality in endemic areas.[8]

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Kumar et al. observed that two-third of the pregnant women with HEV had preterm deliveries, which is consistent with our results as 20 patients (66.6%) had preterm deliveries between 25-35 weeks of gestation. Better maternal outcome was noted in those patients whose pregnancy was terminated earlier irrespective of gestational age.[9]

Hepatitis E infection was responsible for the maximum number of cases of viral infection reported in a study by Shukla et al.[10]

A study conducted by Sahai et al[8] and Patil et al[11] the mortality rate as high as 18% was reported, where the prevalence of hepatitis E was much higher.

Patra et al. in New Delhi reported 15-20% maternal mortality rate in pregnant patients with HEV.[12] Banait et al in Mumbai reported 69% perinatal mortality and 54% maternal mortality in HEV in pregnancy which is much higher than our results.[13]

Beniwal et al reported mortality rate in the range of 30.0-45.0% and may be as high as 70.0%.[14]

CONCLUSION

The present study concluded that HEV the most and HBV causes maternal and fetal complications.

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