Hepatitis E in Pregnancy

ABSTRACT Viral hepatitis is one of the most common infectious diseases in developing countries. Hepatitis E in particular has a wide geographical variation and it either occur as epidemics or seen as sporadic cases. Mainly when pregnant women are affected with Hepatitis E, the disease will be more severe if the women is in second or third trimester, particularly in third trimester, where chances of fulminant hepatic failure is more with high mortality rates. Here we are presenting a case of acute viral hepatitis complicating pregnancy where the women goes into spontaneous labour and almost ends in postpartum hemorrhage. Due to timely intervention by transfusing blood components the possible harm was prevented. Each patient can behave in different way so the plan of management should be tailor made to each patient.

KEYWORDS viral hepatitis, hepatitis E, pregnancy, fulminant hepatic failure, postpartum haemorrhage, component therapy

INTRODUCTION

In India, viral hepatitis is a major public health problem despite improving sanitation, health awareness and socio-economic conditions and hepatitis E is the commonest cause of acute hepatitis in adults and hepatitis A is the commonest cause in pediatric age group

CASE REPORT

A 26-year-old primigravida with 34 weeks of gestation was admitted in the antenatal ward with complaints of yellowish discolouration of the eyes and urine since 1 week and fever for 2 days. On admission her general condition was satisfactory; she was deeply icteric with bilateral pedal oedema. Her pulse rate was 88 b/min with a blood pressure of 116/80 mmHg. Uterus was corresponding to the period of gestation with breech presentation and good foetal heart sounds. A probable diagnosis of infective hepatitis was made and she was investigated further. Her Hb% was 11.5 g%, platelets of 2.43 lakhs/cumm, TLC – 30,350/cumm, with a peripheral smear showing normocytic normochromic anaemia with neutrophilic leucocytosis. Biochemical parameters on admission were as follows: total bilirubin - 17.79 mg/dl, direct bilirubin - 8.05 mg/dl, total proteins - 2.57 gm, A/G ratio - 0.7, aspartate aminotransferase (AST) = 73 U/L (reference value <19 U/L); alanine aminotransferase (ALT) = 120 U/L (reference value <23 U/L); and lactate dehydrogenase (LDH) = 1414 U/L (reference value <140 U/L); alkaline phosphatase was 690 U/L. Liver synthetic function, as defined by international normalised ratio (INR) estimation, was impaired on admission (INR = 2.63). Serological test for anti-HEV IgM was positive and final diagnosis of acute hepatitis E was made. The INR ratio after 2 days was 1.26, meanwhile she spontaneously went into preterm labour and delivered a live preterm female baby by assisted breech delivery weighing 1.7 kg and was shifted to NICU for respiratory distress. Placenta and membranes were delivered spontaneously and uterus was well contracted. Active management of third stage was followed as soon as the baby was born. A second degree perineal tear was noted which was sutured. And there was no undue bleeding at that time. She was monitored once in 15 min post-delivery and a continuous trickle of bleeding was noted even though the uterus was well contracted. An hour after delivery, the right labial swelling was noted and a pre-vaginal examination revealed a haematoma of 4 × 5 cm on the lateral vaginal wall and some clots were felt in the vagina, which were removed following which she started bleeding heavily. So prophylactically she was transfused with 4 units of fresh frozen plasma and a tight vaginal pack was kept in situ and she was catheterised and covered with broad spectrum
Hepatitis E is an inflammatory liver disease caused by hepatitis E virus (HEV) infection, a single-stranded, non-enveloped RNA virus and it is the only virus in the genus Hepivirus and the family Hepeviridae. It was first reported in India in the 1970s. HEV is endemic in China, India, Nepal, as well as in several Asian and African countries, where the prevalence of HEV IgG antibody can be as high as 50%. Most HEV infections have a clinically silent course, but in symptomatic cases, the incubation period can range from 2 to 8 weeks, with a mean of 40 days. Initial symptoms are unspecific and may present as flu-like myalgia, arthralgia, weakness and vomiting.

**HEV infection and pregnancy**

Pregnancy appears to be a potential risk factor for viral replication and also due to extreme low immune status of Indian/Asian pregnant women. Mortality rates among pregnant women ranges between 5% and 25%, particularly those infected in the 3rd trimester which is much higher than men and non-pregnant women. It has been reported that a significant proportion of pregnant women with acute hepatitis E (up to 70%) progress to acute liver failure with a short pre-encephalopathy period with the rapid development of cerebral edema and high occurrence of disseminated intravascular coagulation.

Though rare, vertical transmission of HEV infection from mother to infant has been reported. The fatality rate among pregnant women with ALF is reported to be high in India at 22.2%, with the maximum severity occurring during the third trimester (44.4%). Hepatitis E in pregnancy is also associated with high rates of spontaneous abortion, intrauterine death and preterm labour.

**HEV genotypes**

There are four mammalian genotypes of HEV found to have unique geographic distributions. Genotype 1 includes Asian and African HEV strains, genotype 2 includes the Mexican HEV strain. HEV genotype 3 is most common in China. Genotype 4 includes human and swine HEV strains from Asia, particularly China, Taiwan and Japan. Genotype 1 and genotype 2 appear to be more virulent than genotypes 3 and 4.

Diagnostic methods can be broadly classified into direct and indirect methods. The direct methods detect the virus, viral proteins or nucleic acids in blood and stool samples whereas the indirect methods detect the anti-HEV IgM and IgG antibodies. Detection of anti-HEV IgM is considered diagnostic for acute infection. The presence of IgG antibodies points out to previous exposure to HEV. Anti-HEV IgM is detectable 4 days after the onset of jaundice and persists for up to 3–5 months. Shortly after the appearance of IgM, IgG antibodies develop and peak at about 4 weeks after the onset of symptoms and persist for a variable period of 1–14 years after infection.

Acute hepatitis E infection is usually self-limiting in immune-competent patients and hence customised treatment for each patient is the best option. Even though vaccination for Hepatitis E has been produced it is not widely used, but China has approved its use. Liver transplant is the only option in patients who go in for fulminant hepatic failure.

**CONCLUSION**

Usually acute hepatitis in pregnancy has a high mortality and morbidity for both mother and the foetus and a universal treatment protocol cannot be followed. Each patient may respond differently at various point of time especially following delivery. All prophylactic measures must be kept ready to tackle the situation and it should be tailor made for each patient.

**REFERENCES**