

Profile and outcome of liver diseases in pregnancy - A hospital based study

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ABSTRACT

Background & Objective: Liver disease in pregnancy can have serious consequences. We studied the profile of liver disease in pregnant women and its correlation with outcome of pregnancy during the hospital stay in a tertiary care hospital.

Methods: Pregnant women with liver disease admitted in the departments of Medicine, Gastroenterology and Obstetrics & Gynaecology between January 2011 and June 2012 in a tertiary care hospital of North India were evaluated for various parameters.

Results: Out of 2663 pregnant women, 92 patients (3.45%) were diagnosed to have liver disease. Acute viral hepatitis (AVH) was found in 42 (45.6%) and pregnancy specific liver disease in 39 (42.4%) patients. Hypertensive disorder of pregnancy including HELLP Syndrome (Hemolysis, Elevated liver enzymes, Low platelet count) was seen in 27 patients (29.3%). Four patients had leptospirosis and hepatitis E co-infection. Overall maternal and perinatal mortality was 7.6% (7/92) and 25% (23/92) respectively.

Interpretation and Conclusion : Acute viral hepatitis (45.6%) was the most common cause of liver disease in pregnancy in our study.

Keywords: Hepatitis, Liver disease, Maternal mortality

INTRODUCTION

Varying etiologies of liver diseases are frequently seen in pregnancy. Acute viral hepatitis is the most common cause of jaundice in pregnancy. The course of most viral hepatitis infections is unaffected by pregnancy, however, a more severe course has been observed in patients with hepatitis E.^{1,2} The reported maternal mortality from HEV liver failure is 41-59%, with a perinatal mortality of 69%.^{3,4} This study was undertaken to study the profile of liver disease in pregnancy and its relation to maternal and fetal outcome during the hospital stay.

MATERIAL AND METHODS

Pregnant women with liver diseases admitted in the departments of Medicine, Gastroenterology and Obstetrics & Gynaecology in a tertiary care hospital (January 2011 to June 2012) were enrolled in this study. A detailed history was taken and a general physical &

obstetrical examination was carried out after taking informed consent. This study was approved by the institutional ethical committee.

Following blood investigations were performed: Complete blood count, Liver function tests (LFTs), coagulation profile, blood glucose, viral markers (HBsAg, anti-HCV, anti-HIV 1&2, anti-HAV & anti-HEV). Ultrasonography of the abdomen for fetal well-being was done. Statistical analysis was done by using ANOVA and t-test.

RESULTS

Out of 2663 pregnant women included in the study, 92 were diagnosed with liver related diseases. Thus, the incidence of liver diseases in pregnancy was 3.45%.

Table – I

Association of Chief Complaints with Maternal Morality		
Chief Complaints	No. of patients (%)	Maternal mortality (%)
Jaundice	54 (58.7)	6/54 (11.1)
Fever	23 (25)	4/23 (17.4)
Pain Abdomen	19 (20.6)	-
Vomiting	19 (20.6)	4/19 (21.0)
Pruritis	6 (6.5)	-
CNS Symptoms	21 (22.8%)	3/21 (14.3)

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Table - II

Incidence of Liver Related Diagnosis in Various Stages of Pregnancy

Liver-related Diagnosis	0 – 13 weeks	14 – 28 weeks	29 – 40 weeks	Post-Partum	Total No. (%)
Acute viral hepatitis	0	3	34	1	38 (41.3)
Hypertensive disorder of pregnancy	0	3	24	0	27 (29.3)
Acute fatty liver of pregnancy	0	0	1	0	1 (1.1)
Cholestatic jaundice	0	1	7	1	9 (9.8)
Septicemic hepatitis	0	1	1	1	3 (3.3)
Dengue fever	0	0	1	1	2 (2.2)
Malaria	0	0	2	0	2 (2.2)
Chronic Liver Disease	0	0	1	0	1 (1.1)
Co-infection of acute viral hepatitis with leptospirosis	0	1	3	0	4 (4.3)
Idiopathic	0	0	5	0	5 (5.4)
Total	0	9	79	4	92 (100)

Majority of the patients (90.2%, 83/92) were in the age group of 20-30 years and 84.8% (78/92) developed liver diseases in the third trimester of their pregnancy. Signs and symptoms of the patients are described in Table I. The most common liver disease in pregnancy was acute viral hepatitis. (Table II)

The most common cause for acute viral hepatitis was hepatitis E (97.6%) followed by Hepatitis B (0.02%). None was positive for hepatitis A or C.

There were 7 maternal deaths during hospital stay among 92 pregnant women with liver disease (Figure I). The maternal mortality and perinatal mortality were 7.6% and 25% respectively. The perinatal mortality rates in various liver diseases in pregnancy are shown in Figure II.

DISCUSSION

Liver dysfunction in pregnancy has serious consequences. In a study done by Ch'ng *et al*⁵ liver

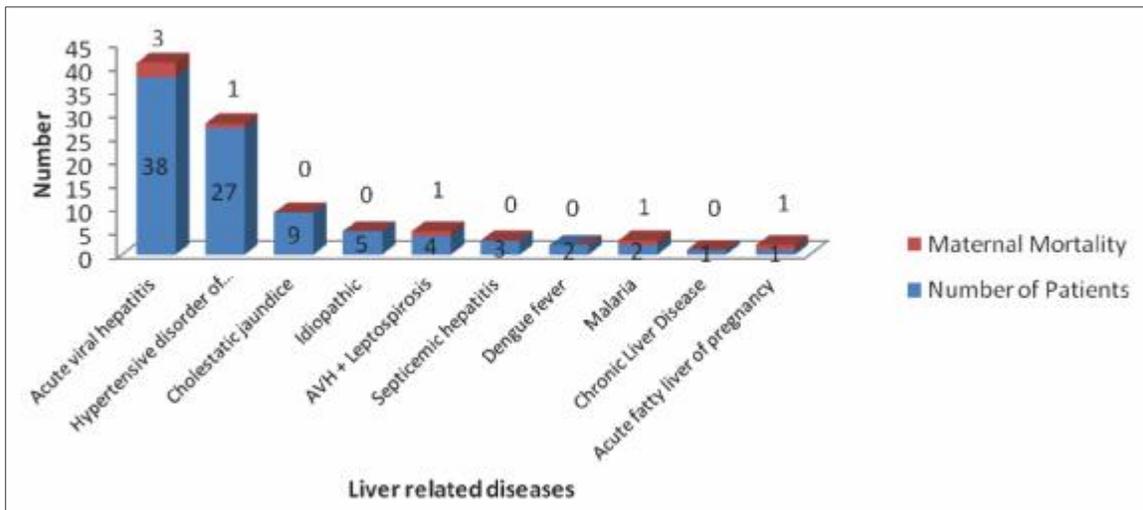


Figure I: Correlation of Liver Related Diagnosis and Maternal Mortality

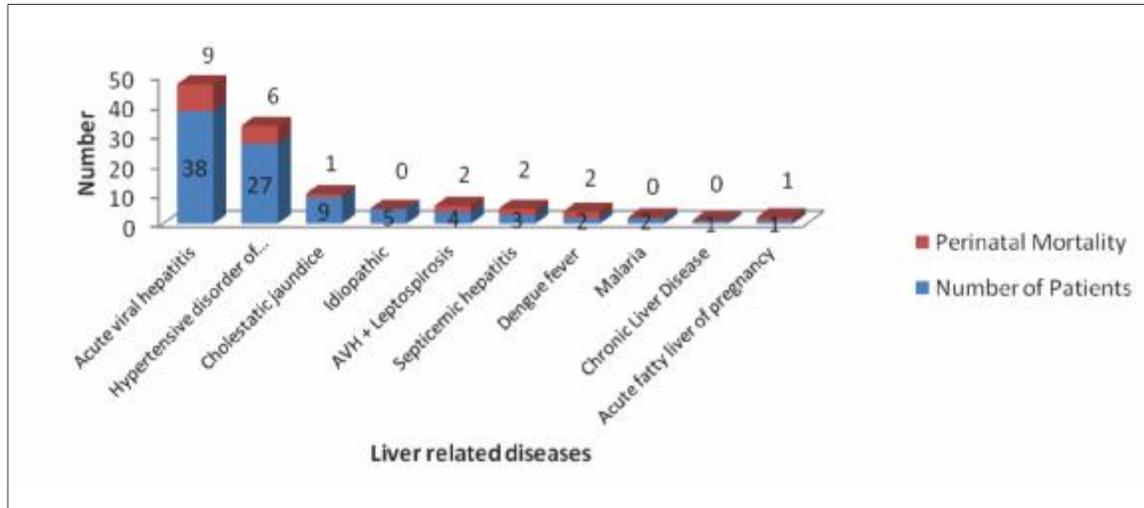


Figure II: Correlation of Liver Related Diagnosis and Perinatal Mortality

dysfunction was seen in 3% of pregnant women. This correlates with incidence of liver disorders in pregnant women in our study.

Liver diseases in pregnancy can be related to pregnancy or a pre-existing disorder. In the study done by Harish *et al*,⁶ majority of liver disorders in pregnancy were due to hyperemesis gravidarum (55.8%), followed by viral hepatitis (47%), HELLP syndrome (28.3%) and acute fatty liver of pregnancy (14.8%). Most of these patients presented in third trimester, which also correlates with our study. In our study acute viral hepatitis in pregnancy was seen in 41.3% and majority of these presented in third trimester of pregnancy, hypertensive disorders were seen in 29.3%, cholestatic jaundice in 9.8%, septicaemic hepatitis in 3.3%, acute fatty liver of pregnancy in 1.1% cases.

Hepatitis E is known to be the most common cause of acute viral hepatitis during pregnancy (5% to 86%).⁷⁻⁹ This is similar to our study where hepatitis E was the most common cause of acute viral hepatitis (97.6%).

All the liver disorders in pregnancy are complicated with maternal and perinatal mortality. Harish *et al*⁶ reported an overall maternal and perinatal mortality rates of 20.2% and 24.6% respectively. In our study maternal mortality was 7.6% and perinatal mortality of 25%. The maternal mortality was highest in acute fatty liver of pregnancy (100%) followed by malaria (50%), co-infection of leptospirosis and acute viral hepatitis (25%).

Ch'ng *et al*⁵ reported maternal and perinatal mortality of 0-13% and 0-9% in acute fatty liver of pregnancy.

Hepatitis E in pregnancy is often complicated by fulminant hepatic failure and high maternal and perinatal mortality.^{7,9,10} The reported maternal mortality due to HEV is 41-54% and perinatal mortality of 69%.^{3,9,11} High maternal and perinatal mortality is due to increased concentration of cytokines in pregnancy with hepatitis E.¹² *In utero* transmission of HEV to the fetus might add further toxic metabolites to maternal circulation resulting in increased maternal morbidity and mortality.¹³

CONCLUSION

In our study the incidence of liver diseases in pregnancy was 3.45%. Acute viral hepatitis was the most common cause of liver disease in pregnancy (45.6%). The most common cause of viral hepatitis was found to be hepatitis E viral infection (97.6%).

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