

Maternal and Foetal Outcome amongst Pregnant Females having Hepatic Dysfunction - Prospective Study

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ABSTRACT

Introduction: Liver diseases during pregnancy phase include of a majority of conditions that can happen anytime during gestation and postpartum and results in abnormality in liver function tests and ultimately causing hepatotoxicity. During pregnancy there is certain amount of abnormality in liver function tests including the level of alkaline phosphatase, as it increases during third trimester. When compared to non pregnant females, albumin level is reduced and cholesterol level is increased amongst pregnant females. The present study was aimed at evaluating the causes and the maternal and foetal outcome in pregnancies which were complicated by Jaundice.

Material and methods: The prospective study was done in the Department of Obstetrics and Gynaecology in the Institute. Data was expressed as percentage and Chi square test was used as a test of significance. P value of less than 0.05 was considered as significant. Complete demographic detail with medical, systemic history was obtained from all the subjects. The study also included a detailed obstetric examination of the subjects. Complete liver function tests of all the subjects were performed. SGOT, SGPT levels, Serum bilirubin, alkaline phosphatase levels were recorded

Results: The study involved 30 female subjects whose mean age was 24.15 \pm 3.72 years. The age range of females was between 15-30 years. Majority of females were between the ages of 21-25 years (73.3%). Very few were between 15-20 years (6.7%). There were 26.7% (n=8) of patients who had hepatitis B and 10% (n=3) of the patients had hepatitis E.

Conclusion: Liver diseases occurring during pregnancy is fatal and fulminating situation. It requires immediate attention. It is responsible for maternal and foetal morbidity and mortality.

Keyword: Hepatitis, Liver, Morbidity, Pregnancy

amount of abnormality in liver function tests including the level of alkaline phosphatase, as it increases during third trimester. When compared to non pregnant females, albumin level is reduced and cholesterol level is increased amongst pregnant females.³

Normally the level of aminotransferase level remain within normal range, so any abnormality in level should divert the attention of the physician towards abnormality in liver functions. During pregnancy, jaundice can occur and this could be due to gall stones, hepatitis or some hepatotoxic drugs that are given during pregnancy. Preeclampsia occurring during pregnancy can lead to liver disorders and tenderness. Low platelet count, hemolysis with abnormal liver function tests further increase the complication during pregnancy. Immediate delivery is the only definitive treatment of the condition. Therefore early diagnosis and immediate delivery can improve both maternal and foetal outcome. The present study was aimed at evaluating the causes and the maternal and foetal outcome in pregnancies which were complicated by Jaundice.

MATERIAL AND METHODS

The prospective study was done in the Department of Obstetrics and Gynaecology in the Institute. A total of 1600 pregnant subjects that reported to the hospital during this period. Only subjects showing clinical laboratory evidence of Jaundice were included in the study. The study was approved by the institute's ethical board. An informed consent was obtained from all the subjects in their vernacular language. Complete demographic detail with medical, systemic history was obtained from all the subjects. The study also included a detailed obstetric examination of the subjects. Complete liver function tests of all the subjects were performed. SGOT, SGPT levels, Serum bilirubin, alkaline phosphatase levels were recorded. Certain blood tests like bleeding time, clotting time and platelet count were also recorded. The method of pregnancy termination, any complications and the end maternal outcome were noted for all subjects.

INTRODUCTION

Liver diseases during pregnancy phase include of a majority of conditions that can happen anytime during gestation and postpartum and results in abnormality in liver function tests and ultimately causing hepatotoxicity. The incidence of liver diseases during pregnancy account for 3-10% of all conditions during pregnancy.¹ Jaundice though affects only a small number of pregnant females but it gravely influences both maternal and foetal outcome. Approximately 10% of all the maternal deaths are due to jaundice.² These diseases are commonly seen in developing nations like India. So it is very crucial to make appropriate diagnosis at a right time so that morbidity and mortality associated with both mother and foetus can be reduced. During pregnancy there is certain

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Age group	15-20	2	6.7
	21-25	22	73.3
	26-30	6	20
Socioeconomic status	Upper class	2	6.7
	Middle class	6	20
	Lower class	22	73.3
Residence	Urban	25	83.3
	Rural	5	16.7
Gravida	1	20	66.7
	2	8	26.7
	3	2	6.7
Gestational age	Preterm	6	20
	Term	24	80

Table-1: Demographic details

Signs/symptoms	Frequency	Percentage
Nausea	17	56.7
Pruritis	24	80
Icterus	30	100
Abdominal pain	7	23.3
Preeclampsia	12	40
Petechiae	8	26.7
Pallor	23	76.7
Yellow colored urine	18	60

Table-2: presenting signs and symptoms

Etiology	Frequency	Percentage
Hepatitis B	8	26.7
Hepatitis E	3	10
Hepatitis A	1	3.3
PIH	13	43.3
Intrahepatic cholestasis	5	16.7

Table-3: Aetiology of liver disease

ICU admission	30	100
Preeclampsia-Eclampsia	9	30
DIC	5	16.7
ARF	3	10
Preterm labour	9	30
Encephalopathy	0	0
PPH	19	63.3
Multi organ failure	4	13.3
Fever	10	33.3
Blood/Blood products transfusion	19	63.3
Maternal death	1	3.3
Shock	1	3.3

Table-4: Maternal complications

STATISTICAL ANALYSIS

All the data was arranged in a tabulated form and analysed using SPSS software. Data was expressed as percentage and Chi square test was used as a test of significance. P value of less than 0.05 was considered as significant.

RESULTS

The study involved 30 female subjects whose mean age was 24.15+/-3.72 years. The age range of females was between 15-30 years.

Table 1 shows the demographic details. Majority of females were between the ages of 21-25 years (73.3%). Very few were between 15-20 years (6.7%). There were 6.7% patients who belonged to upper class. 83.3% of the patients were residing in urban area. Only 16.7% resided in rural area. 80% cases were term and rest 20% were preterm. There were 66.7% primigravidae and rest multigravidae.

Table 2 shows the presenting signs and symptoms of patients with jaundice. 100% of females had icterus. There were 26.7% patients who presented with petechiae and 23.3% presented with abdominal pain. There were 76.7% of the subjects who had pallor. Pruritis was presented by 80% patients (n=24). Only 60% of the patients (n=18) presented with yellow coloured urine.

Table 3 shows the aetiology of liver diseases amongst the patients. There were 26.7% (n=8) of patients who had hepatitis B and 10% (n=3) of the patients had hepatitis E. Only 3.3% of the patients (n=1) had hepatitis A. Intrahepatic cholestasis was observed in 16.7% patients (n=5).

Table 4 shows the maternal complications that were encountered. There were 63.3% of the patients who had PPH. DIC was observed in 16.7% patients (n=5). One of the patients died during the study. There were 3.3% patients (n=1) who had shock. Preterm labour was seen in 30% (n=9) patients. Multi organ failure was seen in 13.3% cases (n=4). There were 30% (n=9) subjects presenting with preeclampsia and eclampsia. Encephalopathy was not seen in any case. Fever was seen 33.3% (n=10) cases.

DISCUSSION

During pregnancy liver diseases shows different presentations. Liver diseases during pregnancy shows varied presentations and outcomes. Its severity can range from mild to severe. It can be just elevation of liver enzymes or serious leading to hepatobiliary dysfunction or death. In our study there were a total of 1600 admissions and out of these 30 had liver diseases. The incidence being 0.16%. there is no clear description of pathophysiology behind these liver abnormalities that occur during pregnancy. In a study conducted by Tank PD et al, the incidence of liver abnormalities during pregnancy was 0.42%.⁴ Because of better understanding of the physiology of pregnancy, there is a decrease in the mortality associated with liver dysfunctions. Early identification of the cause and providing effective management strategies has decreased the incidence. A team approach is required to improve both maternal and foetal outcome. In a study conducted by Ch'ng CL et al¹ conducted amongst subjects of Southwest Wales, the overall incidence reported was 3.3% which was high compared to our study. As per a study conducted by Reilley et al⁵, pruritis was the chief symptoms of and was seen in 80% of the patients. In our study, 100% of females had icterus. There were 26.7% patients who presented with petechiae and 23.3% presented with abdominal pain. There were 76.7% of the subjects who had pallor. Pruritis was presented by 80% patients (n=24). Only 60% of the patients (n=18) presented with yellow coloured urine. There were 26.7% (n=8) of patients who had

hepatitis B and 10% (n=3) of the patients had hepatitis E. Only 3.3% of the patients (n=1) had hepatitis A. Intrahepatic cholestasis was observed in 16.7% patients (n=5). In the study conducted in south India, AFLP was the most common cause of liver disease during pregnancy followed by PIH-associated liver dysfunction and viral hepatitis.⁶ In another similar study conducted by Kumar et al⁷ and Dahiya M et al⁸ to evaluate the hepatic conditions occurring during pregnancy, Hepatitis E was found to be the most common cause of viral hepatitis the common hepatic condition occurring during pregnancy. In our present study, There were 63.3% of the patients who had PPH. DIC was observed in 16.7% patients (n=5). One of the patients died during the study. There were 3.3% patients (n=1) who had shock. Preterm labour was seen in 30% (n=9) patients. Multi organ failure was seen in 13.3% cases (n=4). There were 30% (n=9) subjects presenting with preeclampsia and eclampsia. Encephalopathy was not seen in any case. Fever was seen 33.3% (n=10) cases. As per a study by Oladokun et al⁹, the incidence of liver disease during was 0.3%. In a study conducted by Fisk et al¹⁰, the incidence of premature labour varied from 15-44%, which was in similar to our study. According to various studies, hepatitis E was the most common cause of acute viral hepatitis occurring during pregnancy in India, with the incidence ranging from 58% to 86%.^{11,12,13}

CONCLUSION

Liver diseases occurring during pregnancy is fatal and fulminating situation. It requires immediate attention. It is responsible for maternal and foetal morbidity and mortality. Prompt recognition of the symptoms is life saving measure that can prevent deaths due to liver dysfunctions. In our study there were 26.7% of patients who had hepatitis B and 10% of the patients had hepatitis E.

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