

# Incidence of Hepatic Disorder amongst Pregnant Females and Its Effect on Maternal Outcome.

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## ABSTRACT

**Background:** Liver diseases account for 3-10% of all conditions during pregnancy. Jaundice is known to affect only a small number of pregnant women but it gravely affects both maternal and foetal health. The aim of the present study was to evaluate the causes and to determine the maternal and foetal outcome in pregnancies which were complicated by Jaundice. **Methods:** The present prospective study was conducted among 25 pregnant females who reported to the Mahatma Gandhi Hospital, Bhilwara, Rajasthan (India) and showed clinical laboratory audience of Jaundice were included in the study. Liver function test of all the patients were carried out. These include SGOT, SGPT levels, Serum bilirubin, alkaline phosphatase levels. Required blood test like bleeding time, clotting time and platelet count were also done. Method termination of pregnancy, associated complications and end result were used to assess maternal outcome. All the results were recorded in a tabulated form and SPSS software was used for analysis. Data was recorded in percentage and Chi square test was applied as a test of significance. P value of less than 0.05 was considered as significant. **Result:** The study involved 25 female patients whose mean age was 24.27±4.82 years. The age range of females was between 18-30 years. Majority of females were between the ages of 21-25 years (60%). Very few were between 18-20 years (12%). 96% of females had icterus. There were 36% patients who presented with petechiae and abdominal pain. There were 16% of patients who had hepatitis B and 8% of the patients had hepatitis E. Only 4% of the patients (n=1) had hepatitis A. There were 32% of the patients who had PPH. There were 12% patients (n=3) who had shock. **Conclusion:** From the above study we can conclude that liver disease is a fatal and fulminating condition which is responsible for maternal and foetal morbidity. Early and timely recognition of the symptoms is life saving. In our study there were 16 % cases of patients who had hepatitis B and 8% cases of the patients had hepatitis E.

**Keywords:** Hepatitis, Liver, Morbidity, Pregnancy.

## INTRODUCTION

Diseases of liver during pregnancy consist of a vast majority of diseases that can occur anytime during gestation and postpartum and it results in abnormal liver function tests and hepatotoxicity. Liver diseases account for 3-10% of all conditions during pregnancy.<sup>[1]</sup> Jaundice is known to affect only a small number of pregnant women but it gravely affects both maternal and foetal health. It is responsible for 10% of all the maternal deaths.<sup>[2]</sup> These diseases are especially prevalent in developing countries like India. So it is very essential to make a correct diagnosis at an optimum time so that morbidity and mortality associated with both mother and foetus can be prevented. During pregnancy certain amount of abnormality exists in liver function tests like the level of alkaline phosphatase increases during third trimester. Compared to non

pregnant women, albumin level is less and cholesterol level is high in pregnant women.<sup>[4]</sup>

Since the level of aminotransferases remain within normal limit, so any variations in level should prompt the physician towards liver abnormality. Jaundice can occur concurrently with pregnancy which can be due to gall stones, hepatitis or certain hepatotoxic drugs that are administered during pregnancy. Severe preeclampsia can itself lead to liver dysfunction and tenderness. This condition is complicated by the low count of platelets, hemolysis abnormal liver function tests. The only definitive treatment for this condition is immediate delivery. Therefore prompt and early diagnosis with immediate delivery can improve maternal and foetal outcome. The aim of the present study was to evaluate the causes and to determine the maternal and foetal outcome in pregnancies which were complicated by Jaundice.

## MATERIALS AND METHODS

The present prospective study was conducted in the Department of Obstetrics and Gynaecology, Mahatma Gandhi Hospital, Bhilwara, Rajasthan

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## Rathi; Hepatic Disorder amongst Pregnant Females

(India). The study was carried for a period of 1 year among 25 pregnant females who reported to the hospital and showed clinical laboratory audience of Jaundice were included in the study. Ethical clearance was obtained from the Institute's ethical board and all the subjects were informed about the study and a written consent was obtained from all the patients. A complete history of patients were obtained including medical, systemic and obstetric examinations. Liver function test of all the patients were carried out. These include SGOT, SGPT levels, Serum bilirubin, alkaline phosphatase levels. Required blood test like bleeding time, clotting time and platelet count were also done. Method termination of pregnancy, associated complications and end result were used to assess maternal outcome. All the results were recorded in a tabulated form and SPSS software was used for analysis. Data was recorded in percentage and Chi square test was applied as a test of significance. P value of less than 0.05 was considered as significant.

## RESULTS

**Table 1: Demographic details (n=25).**

Age group	18-20	3	12%
	21-25	15	60%
	26-30	7	28%
Socioeconomic Status	Upper class	2	8%
	Middle class	10	40%
	Lower class	13	52%
Residence	Urban	17	68%
	Rural	8	32%
Gravida	1	14	56%
	2	8	32%
	3	3	12%
Gestational age	Preterm	9	36%
	Term	16	64%

**Table 2: Presenting signs and symptoms.**

Signs/Symptoms	Frequency	Percentage
Nausea	19	76%
Pruritis	25	100%
Icterus	24	96%
Abdominal pain	9	36%
Preeclampsia	14	56%
Petechiae	9	36%
Pallor	19	76%
Yellow colored urine	20	80%

**Table 3: Aetiology of liver disease**

Etiology	Frequency	Percentage
Hepatitis B	4	16%
Hepatitis E	2	8%
Hepatitis A	1	4%
PIH	13	52%
Intrahepatic cholestasis	5	20%

The study involved 25 female patients whose mean age was 24.27±4.82 years. The age range of females was between 18-30 years.

[Table 1] shows the demographic details. Majority of females were between the ages of 21-25 years (60%). Very few were between 18-20 years (12%).

There were 8% patients who belonged to upper class. 68% of the patients were residing in urban area. Only 32% resided in rural area. 64% cases were term and rest 36% were preterm.

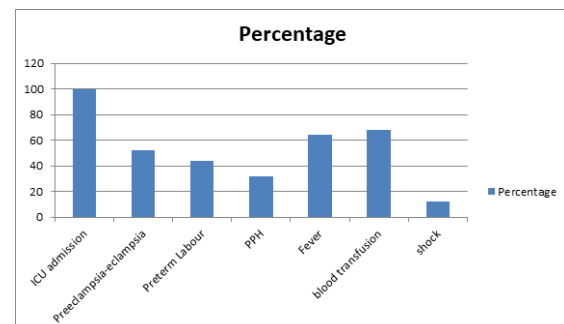
[Table 2] shows the presenting signs and symptoms of patients with jaundice. 96% of females had icterus. There were 36% patients who presented with petechiae and abdominal pain. There were 76% of the subjects who had pallor. Pruritis was presented by 100% patients. Only 80% of the patients (n=20) presented with yellow coloured urine.

[Table 3] shows the aetiology of liver diseases amongst the patients. There were 16% of patients who had hepatitis B and 8% of the patients had hepatitis E. Only 4% of the patients (n=1) had hepatitis A. Intrahepatic cholestasis was observed in 20% patients (n=5).

[Table 4], Graph 1 shows the maternal complications that were encountered. There were 32% of the patients who had PPH. There were 12% patients (n=3) who had shock. Preterm labour was seen in 44% (n=11) patients. There were 64% patients who had fever. All the patients were admitted to ICU for intensive care.

**Table 4: Maternal complications**

ICU admission	25	100%
Preeclampsia-Eclampsia	13	52%
Preterm labour	11	44%
PPH	8	32%
Fever	16	64%
Blood/Blood products transfusion	17	68%
Shock	3	12%

**Graph 1: Showing maternal complications**

## DISCUSSION

Liver diseases during pregnancy shows varied presentations and outcomes. It can be benign, just elevation of liver enzymes and has a good outcome or can manifest as serious condition affecting the hepatobiliary function and leading to maternal and foetal death. The overall incidence of mortality associated with liver disease has significantly decreased in last few years because of better understanding of physiology of pregnancy. Identifying the cause and effective and timely treatment has decreased its incidence dramatically. Often a team approach is followed with physician,

*Rathi; Hepatic Disorder amongst Pregnant Females*

obstetrician and hepatologist to promote good health of the mother and foetus.<sup>[1]</sup>

In a study conducted by Reilley et al,<sup>[4]</sup> pruritis was the hallmark of the disease which was seen in 80% of the patients. In our study, 96% of females had icterus. There were 36% patients who presented with petechiae and abdominal pain. There were 76% of the subjects who had pallor. Pruritis was presented by 100% patients. Only 80% of the patients (n=20) presented with yellow coloured urine. In our study, there were 16% of patients who had hepatitis B and 8% of the patients had hepatitis E. Only 4% of the patients (n=1) had hepatitis A. Intrahepatic cholestasis was observed in 20% patients (n=5). Hepatitis is generally associated with fulminating hepatic failure and hence an important cause of morbidity and mortality associated with mother and foetus. Intrahepatic cholestasis of pregnancy (ICP) is a very specific pregnancy related liver disease. It is a reversible condition of cholestasis seen in pregnancy and characterized by pruritus and increase in fasting or post-prandial serum bile acids with relief of signs and symptoms within 6 weeks after delivery.<sup>[5]</sup> Acute fatty liver is another medical and obstetric emergency and it can cause both maternal and foetal mortality if early recognition and proper management is not carried out.<sup>[6,7]</sup> All infants born to Hepatitis B positive mothers should be given hepatitis B vaccination and hepatitis B immunoglobulin as soon as possible after birth, specially within 24 hours.<sup>[8]</sup>

In a study conducted by Kumar et al and Dahiya M et al to determine the common hepatic condition occurring during pregnancy.<sup>[9,10]</sup> They also found that hepatitis E is the most common form of viral hepatitis. In a study conducted by Oladokun et al,<sup>[11]</sup> the incidence of liver disease amongst pregnant females was 0.3%. In our study all patients were kept in ICU under intensive examination. In a study conducted by Fisk et al,<sup>[12]</sup> the incidence of premature labour was 15-44%, which was in accordance with our study.

## CONCLUSION

From the above study we can conclude that liver disease is a fatal and fulminating condition which is responsible for maternal and foetal morbidity. Early and timely recognition of the symptoms is life saving. In our study there were 16% of patients who had hepatitis B and 8% of the patients had hepatitis E.

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