

Incidence of Hepatic Disorder amongst Pregnant Females and Its Effect on Maternal Outcome: An Institutional Based Study

Suman Agarwal¹, Shweta Sharma^{2*}

¹Associate Professor, ^{2*}Assistant Professor, Department of Obstetrics and Gynaecology, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh, INDIA.

Article History

Received: 08 Aug 2015

Revised: 05 Sept 2015

Accepted: 24 Sept 2015

*Correspondence to:

Dr. Shweta Sharma,
Assistant Professor,
Department of OBG,
TMMC & RC,
Moradabad, UP, India.

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.

Materials and Methods: The present prospective study was conducted in the Department of Obstetrics and Gynaecology, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh, India. 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: The study involved 40 female patients whose mean age was 24.27±4.82 years. The age range of females was between 15-30 years. Majority of females were between the age of 21-25 years (67.5%). Very few were between 15-20 years (7.5%). There were 25% of patients who had hepatitis B and 12.5% of the patients had hepatitis E. There were 60% of the patients who had PPH. DIC was observed in 22.5% patients (n=9). One of the patients died during the 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 lifesaving. In our study there were 25% of patients who had hepatitis B and 12.5% 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.¹

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.² 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.³ 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, Teerthanker Mahaveer Medical College & Research Centre, Moradabad, Uttar Pradesh, India.

The study was carried for a period of 1 year. During this period of time a total of 1622 pregnant females were reported to the hospital, out of which females who showed clinical laboratory audience of Jaundice were included in the study.

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.

Table 1: Demographic details

Parameters		No.	%
Age group	15-20	3	7.5
	21-25	27	67.5
	26-30	10	25
Socioeconomic status	Upper class	5	12.5
	Middle class	10	25
	Lower class	25	62.5
Residence	Urban	30	75
	Rural	10	25
Gravida	1	26	65
	2	11	27.5
	3	3	7.5
Gestational age	Preterm	11	27.5
	Term	29	72.5

RESULTS

The study involved 40 female patients whose mean age was 24.27 \pm 4.82 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 (67.5%). Very few were between 15-20 years (7.5%). There were 62.5% patients who belonged to upper class. 75% of the patients were residing in urban area. Only 25% resided in rural area. 72.5% cases were term and rest 27.5% were preterm.

Table 2 shows the presenting signs and symptoms of patients with jaundice. 100% of females had icterus. There were 22.5% patients who presented with petechiae and abdominal pain. There were 85% of the subjects who had pallor. Pruritis was presented by 62.5% patients (n=25). Only 52.5% of the patients (n=21) presented with yellow coloured urine.

Table 2: Presenting signs and symptoms

Signs/Symptoms	Frequency	%
Nausea	19	47.5
Pruritis	25	62.5
Icterus	40	100
Abdominal pain	9	22.5
preclampsia	14	35
petechiae	9	22.5
Pallor	34	85
Yellow colored urine	21	52.5

Table 3: Aetiology of liver disease

Etiology	Frequency	%
Hepatitis B	10	25
Hepatitis E	5	12.5
Hepatitis A	3	7.5
PIH	15	37.5
Intrahepatic cholestasis	7	17.5

Table 4: Maternal complications

	Frequency	%
ICU admission	40	100
Preeclampsia-Eclampsia	13	32.5
DIC	9	22.5
ARF	5	12.5
Preterm labour	11	27.5
Encephalopathy	1	2.5
PPH	24	60
Multi organ failure	6	15
Fever	13	32.5
Blood/Blood products transfusion	24	60
Maternal death	1	2.5
Shock	3	7.5

Table 3 shows the aetiology of liver diseases amongst the patients. There were 25% of patients who had hepatitis B and 12.5% of the patients had hepatitis E. Only 7.5% of the patients (n=3) had hepatitis A. Intrahepatic cholestasis was observed in 17.5% patients (n=7).

Table 4 shows the maternal complications that were encountered. There were 60% of the patients who had PPH. DIC was observed in 22.5% patients (n=9). One of the patients died during the study. There were 7.5% patients (n=3) who had shock. Preterm labour was seen in 27.5% (n=11) patients. Multi organ failure was seen in 15% cases (n=6).

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. In our study there were a total of 1622 admissions and out of these 40 had liver diseases. The incidence being 0.24%, the pathophysiology behind the abnormality is not clearly understood. 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, obstetrician and hepatologist to promote good health of the mother and foetus. According to a study by Ch'ng CL et al¹ conducted in Southwest Wales, the overall incidence was 3.3% which was quite high compared to our study.

In a study conducted by Reilley et al⁴, pruritis was the hallmark of the disease which was seen in 80% of the patients. In our study, 100% of females had icterus. There were 22.5% patients who presented with petechiae and abdominal pain. There were 85% of the subjects who had pallor. Pruritis was presented by 62.5% patients (n=25). Only 52.5% of the patients (n=21) presented with yellow coloured urine. In our study, there were 25% of patients who had hepatitis B and 12.5% of the patients had hepatitis E. Only 7.5% of the patients (n=3) had hepatitis A. Intrahepatic cholestasis was observed in 17.5% patients (n=7). Hepatitis is generally associated with fulminating hepatic failure and hence an important cause of morbidity and mortality associated with mother and foetus.

In a study conducted by Kumar et al⁵ and Dahiya M et al⁶ to determine the common hepatic condition occurring during pregnancy. They also found that hepatitis E is the most common form of viral hepatitis.

In a study conducted by Oladokun et al⁷, the incidence of liver disease amongst pregnant females was 0.3%. In our study all patients were kept in 1 CU under intensive examination (copy table 4). In a study conducted by Fisk et al⁸, 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 lifesaving. In our study there were 25% of patients who had hepatitis B and 12.5% of the patients had hepatitis E.

REFERENCES

1. Ch'ng CL, Morgan M, Hainsworth I, Kingham JG. Prospective study of liver dysfunction in pregnancy in Southwest Wales. *Gut*. 2002; 51: 876-880.
2. Tripti N, Agarwal S. Fetomaternal outcome in jaundice during pregnancy. *Obstet Gynecol India*. 2005;10:424-7.
3. Bacq Y, Zarka O, Brechot JF. Liver function tests in normal pregnancy: A prospective study of 103 pregnant women and 103 matched controls. *Hepatology* 1996; 23: 1030-1034.
4. Reilly CA. Hepatic disease in pregnancy. *Am. J. Med* 1994; 96: 18-22.
5. Kumar A, Beniwal M, Kar P, Sharma JB, Murthy NS. Hepatitis E in pregnancy. *Int J Gynecol Obstet India* 2004; 7: 11-15.
6. Dahiya M, Kumar A, Kar P, Gupta RK. Acute viral hepatitis in third trimester of pregnancy. *Indian J Gastroenterol* 2005; 24: 128-129.
7. Oladokun A, Otegbayo JA, Adeniyi AA maternal and fetal outcomes of jaundice in pregnancy at the University College Hospital, Ibadan. *Niger J Clin Pract*. 2009;12(3):277-80.
8. Fisk M, Bye WB, Storey GNB. Maternal features of obstetric cholestasis; 20 years' experience at King George V Hospital, Austr NZ. *J Ob Gy* 1984; 28; 172.

Copyright: © the author(s) and publisher IJMRP. This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite the article: Suman Agarwal, Shweta Sharma. Incidence of Hepatic Disorder amongst Pregnant Females and Its Effect on Maternal Outcome: An Institutional Based Study. *Int J Med Res Prof*. 2015; 1(2); 107-09.