International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2021; 5(6): 332-334
Received: 27-09-2021
Accepted: 29-10-2021

Rana M
Associate Professor, Department of Gynaecology & Obstetrics, GMC Kathua, Jammu and Kashmir, India

Digra M
Assistant Professor, Department of Gynaecology & Obstetrics, GMC Kathua, Jammu and Kashmir, India

Salgotra M
Senior Resident, Department of Gynaecology & Obstetrics, GMC Kathua, Jammu and Kashmir, India

Mehta A
Professor, Department of Gynaecology & Obstetrics, GMC Kathua, Jammu and Kashmir, India

Atri SK
Professor, Department of Pathology, GMC Kathua, Jammu and Kashmir, India

Corresponding Author:
Atri SK
Professor, Department of Pathology, GMC Kathua, Jammu and Kashmir, India

Fetomaternal outcome in pregnancy induced liver disorders: A Hospital based prospective study

Rana M, Digra M, Salgotra M, Mehta A and Atri SK

DOI: https://doi.org/10.33545/gynae.2021.v5.i6e.1200

Abstract
Pregnancy specific liver disorders are common, intrahepatic cholestasis is the commonest etiology. This was a prospective study, patients who were admitted to our department with pre-existing liver disease or those suspected to have liver dysfunction on the basis of clinical and laboratory data from AUGUST 2020 to July 2021 were included in our study. During the study period, there were 4638 deliveries in the hospital and 134 pregnant women were diagnosed to have liver disease. Chief complaint associated with liver disease found in this study was pruritus (70%) followed by gastrointestinal symptoms (16.22%), jaundice (5.97%) and asymptomatic (6%). Intrahepatic cholestasis of pregnancy was the most common cause of liver disease (70.14%) followed by hypertensive disorders/HELLP syndrome (14.17%), hyperemesis gravidarum (9.7o%), viral hepatitis (5.22%) and acute fatty liver of pregnancy (0.74%). Early diagnosis, proper maternal and fetal monitoring and timely intervention can prevent adverse maternal and fetal outcome.

Keywords: Pregnancy induced liver disorders, liver dysfunction, fetomaternal outcome, pregnant

Introduction
Pregnancy associated liver disorder affects up to 3% of pregnant women and are the most frequent cause of liver dysfunction in women [1]. When severe, they are associated with significant morbidity and mortality for both mother and infant. Liver dysfunction in pregnancy can be due to pregnancy associated liver diseases, exacerbation of pre-existing liver disease or condition unrelated to pregnancy. Pregnancy associated diseases can carry a high mortality rate for both mother[2] and baby and require rapid diagnosis and urgent delivery if at the severe end of the spectrum. Research and subsequent advances in medical care have resulted in improved but still not satisfactory maternal and fetal outcomes. Pregnancy related liver diseases are hyperemesis gravidarum, intrahepatic cholestasis of pregnancy, hypertension related liver disease, preeclampsia, eclampsia, HELLP syndrome, liver infarction/liver rupture and acute fatty liver of pregnancy. Non-pregnancy related liver diseases, pre-existing liver disease, viral hepatitis, cirrhosis and portal hypertension. The main objective of our study is to find the fetomaternal outcome of liver disorders in pregnancy so as to prevent the fetal and maternal morbidity and mortality.

Material and Methods
This was a prospective study conducted in the Department of Obstetrics and Gynaecology, in Associated Hospital Government Medical College Kathua after taking approval from Institutional Ethics Committee. Patients who were admitted to our department with pre-existing liver disease or those suspected to have liver dysfunction on the basis of clinical and laboratory data from August 2020 to July 2021 were included in our study. The results were tabulated and data was analysed as frequencies, percentages and descriptive statistics

Results
During the study period, there were 4638 deliveries in the hospital and 134 pregnant women were diagnosed to have liver disease. The incidence of liver disease in our study is 2.9%. The demographic profile of patients with liver disease in pregnancy are shown in table 1. Liver disease was more common in younger age group (86.56%). Maximum number of patients in the study group were primigravida (59.70%) followed by gravid 2 (35.82%). Most of these patients belong to low income group (67.16%), educated up to primary level (53.7%) followed by

secondary (40.29%) and 5.9% to higher education. 65% belonged to rural area and 45% belonged to urban areas. 90% patients were booked and 10% patients were un-booked. 83.58% patients were Hindu and 16.42% patients were Muslims. The commonest chief complaint associated with liver disease found in this study was pruritus (70%) followed by gastrointestinal symptoms (16.22%), jaundice (5.97%) and asymptomatic (6%) as shown in table 2. Intrahepatic cholestasis of pregnancy was the most common cause of liver disease (70.14%) followed by hypertensive disorders/HELLP syndrome (14.17%), hyperemesis gravidarum (9.7o%), viral hepatitis (5.22%) and acute fatty liver of pregnancy (0.74%) in this study as shown in table 3. Most common abnormality in laboratory parameters were abnormal liver enzymes (68.65%) followed by bile acids in urine, increased serum bilirubin and deranged coagulation profile.

Table 1: Demographic profile of patients included in study

Age	Number	Percentage
< 21	08	5.9
21-30	116	86.56
> 30	10	7.46
Socioeconomic status	**Number**	**Percentage**
Lower	90	67.16
Middle	44	32.84
Education	**Number**	**Percentage**
Primary	72	53.7
Secondary	54	40.29
Higher	08	5.9
Religion	**Number**	**Percentage**
Hindu	112	83.58
Muslim	22	16.42
Antenatal status	**Number**	**Percentage**
Booked	121	90
Unbooked	13	10
Parity	**Number**	**Percentage**
Primigravida	80	59.70
Gravida 2	48	35.82
Gravida 3	06	4.4

Table 2: Symptoms of patients with liver dysfunction

Symptom	Number	Percentage
Pruritus	94	70
Vomiting	15	11
Jaundice	08	5.97
GIT symptoms	07	5.22
Altered sensorium	05	3.73
Asymptomatic	05	3.73

Table 3: Distribution of cases according to etiology of liver dysfunction

Disease	Number	Percentage
Cholestasis of pregnancy	94	70.89
Hypertensive disorders of Pregnancy	19	14.17
Hyperemesis gravidarum	12	08.95
Viral Hepatitis	07	05.22
Acute fatty liver of pregnancy	02	01.49

Out of 134 patients,70 (52.23%) had vaginal deliveries and 64 (47.77%) had caesarean section, 23 had preterm delivery, 19 patients had intrauterine growth retardation, 20 had meconium stained liquor,15 patients had acute fetal distress 2 patients had abruption, 8 patients PPH and transfusion of blood and blood products, 4 patients had ICU admission, 2 had abdominal wall hematoma, 1 patient had epihaematoma, 2 patient had wound sepsis, 2 had hepatic encephalopathy and 2 had DIC and there were two maternal deaths, 1 due to hepatic encephalopathy other due to multi-organ failure as shown in table 4.

Table 4: Maternal outcome of patients with liver dysfunction

Outcome	Number	Percentage
Vaginal delivery	70	52.23
Lower Segment Caseraen Section (LSCS)	64	47.77
Preterm vaginal delivery	23	17.16
Intrauterine growth retardation (IUGRD)	19	14.18
Meconium stained liquor	20	14.93
Acute fetal distress	15	11.19
Post-Partum Hemorrhages (PPH)	12	08.96
Blood transfusion	08	5.97
Intensive Care Unit (ICU) admission	04	2.98
Abruption of Placenta	02	1.49
Abdominal wall hematoma	02	1.49
Episiotomy Hematoma	02	1.49
Wound sepsis	02	1.49
Hepatic encephalopathy	02	1.49
Disseminated Intravascular Coagulation (DIC)	02	1.49

Regarding the neonatal outcome (Table 5), out of 134 babies born, 127 were live births and 7 were still births. 70.14% babies had birth weight between 2-3kg followed by 22.4% had birth weight <2 kg and 7.46 had birth weight more than 3kg. 11.19% neonates had hypoglycaemia, 4.47% had neonatal hepatitis and 7.46% had NICU admission. There were 2 early neonatal deaths also.

Table 5: Neonatal outcome of mother's having liver dysfunction

Birth	Number	Percentage
Live birth	127	94.78
Still birth	07	9.22
Baby weight in Kg	**Number**	**Percentage**
< 2	34	22.40
2-3	94	70.14
➢ 3	10	7.46

Discussion

The incidence of liver disorder in pregnancy in our study is 2.8% which is comparable to study conducted by Dsouza, *et al*. 2015 [3] was 3.3%. The peak age of incidence in our study was 21-30 years (86.56%) and majority of them were primigravida (59.70%), it is consistent with study by Acharya N *et al*. [4]. Cholestasis of pregnancy 70.89% (n-94) was found to be the most common cause of liver dysfunction in our study followed by hypertensive disorders of pregnancy (14.17%) whereas study conducted by Dsouza *et al*. 2015 [3] found that cholestasis of pregnancy was 54.9% cause of liver dysfunction in pregnancy. Study conducted by Mishra *et al*. [5] found that the most common cause of liver dysfunction in pregnancy was pre eclampsia (81.25%) which is in contrast to our study. 70% (n-94) of patients in our study presented with non-specific symptom like pruritus whereas study conducted by Reily *et al*. 1994 [6] found 80% of patients presented with pruritus. Pruritus may be ignored by the clinicians, hence a high index of suspicious is required for diagnosis of pregnancy with liver dysfunction. Maternal prognosis is excellent as symptoms and laboratory parameters improve rapidly postpartum.

In our study 76.11% (n-102) patients delivered vaginally where as 23.89% (n-32) patients delivered by lower segment caseraen section which was consistent with the study conducted by

Dsouza wherein 65% patients had normal deliveries and 35% underwent LSCS [3]. The maternal complications in our study were post-partum hemorrhage (PPH) 17.16% (n-23), 8 patients had blood transfusion and 4 patients had transfusion of blood products, 4 patients had intensive care unit (ICU) admission and 4 patients had abruption of placenta whereas study conducted by Farooq R *et al*. 2021 [7] found that 12 patients had post-partum (17.1%) hemorrhage, abruptio placentae in 5 patients (7.1%), 2 patients had disseminated intravascular coagulation (DIC) [7]. The maternal mortality in our study was 2(1.5%) which is not consistent with above the study. Though Dsouza *et al*. 2015 [3] reported death in 2% of cases that is consistent with our findings.

Out of 134 live births, 127 were live birth and 7 were still births. Preterm births in our study were 17.16% which are less than the study conducted by Farooq R *et al*. 2021 [7] (28.6%). Tiwari *et al*. 2017 [8] observed pre-term births in 32.6% of cases which are not consistent with our study. IUD in our study were 5.22% which is consistent with observations of Sumangali *et al*. 2017 [9] where IUD was seen in 3% cases. IUGR was seen in 8.2% (n-11) of cases in our study which not consistent with the study conducted by Sumangali *et al*., 2017 [9] where IUGR was seen in 22% of cases [9]. Perinatal asphyxia in our study was 11.19% (n-15) which is not consistent with the study conducted by Patra, *et al*. 2010 [10] (28%). NICU admissions were 7.46% in our study (n-10), 4.47% had neonatal hepatitis and hypoglycemia; there were 2 early neonatal deaths.

Conclusions

Pregnancy specific liver disorders are common, out of which ICP is common. Pruritus is common symptom. Signs and symptoms are not specific, but the underlying disorder can have significant morbidity and mortality; effects on the mother and fetus. Early recognition is lifesaving. Early diagnosis, proper maternal and fetal monitoring and timely intervention can prevent adverse maternal and fetal outcome. Proper maternal care units and neonatal intensive care units need to be equipped with all facilities to cater to the needs of neonates with preterm birth and perinatal asphyxia.

References

1. Joshi D, James A, Quaglia A, Westbrook RH, Heneghan MA. Liver disease in pregnancy. The Lancet. 2010 Feb 13;375(9714):594-605.
2. Pervia SP, O Donohue, J Wendon J, William R. Maternal and perinatal outcome in severe pregnancy related liver disease. Hepatology. 1997;26(5):1258-1962.
3. Dsouza AS, Gupta G. Maternal and fetal outcome in liver diseases Int. J Scie res. 2015;21(25):27.
4. Acharya N, Acharya S, Shukla S, Avthale R. Shaveta Study of Jaundice in pregnancy GUJ of Med Research 2013;13:25-29.
5. Mishra N, Mishra VN, Thakur P. Study of abnormal liver function test during pregnancy I a tertiary care Hospital in Chhattisgarh J Obstet Gynaecology India. 2016;66(1):129-35.
6. Riely CA. Hepatic disease in pregnancy Am J Med. 1994;96(1):18-22.
7. Farooq R Int. J Basic Clin Pharmacol. 2021 Sep;10(9):1121-1124.
8. Tiwari A, Srivastav R Spectrum and outcome of liver disease in pregnant women Int. J. Reproductive contractive Obstet Gynaecology. 2017;6(8);3642-5.
9. Sumangali PK, Kurian S. Study of abnormal liver function tests in pregnancynin North Kerala. 2017;5(12):5193-6.
10. Patra S, Kumar A, Puri M, Sain SK. Maternal & fetal outcome in pregnant women Ann Internal Med. 2007;14(1):28-33.