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RETROSPECTIVE AND PROSPECTIVE STUDY ABOUT LIVER DISEASE INFLUENCE AND ADVERSE AFFECTS ON FETAL AND MATERNAL OUTCOME

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Abstract:

Purpose: *To determine the causes, frequency and results of liver disease in pregnant women.*

Study Design: *Retrospective and Prospective*

Configuration: *2 years' study in obstetrics and gynecology Department of Services Hospital, Lahore from January 2015 to January 2017.*

Methods: *During a period of 2 years' obstetrics and gynecology patients were evaluated and followed until the date of birth or death.*

Results: *The study included 40 patients with Cholestatic jaundice, viral hepatitis, 38 patients, 15 patients with sepsis, 5 patients with HELLP I syndrome, hyperemesis gravidarum and in 1 patient, amoebic abscess, enteric hepatitis, acute cholecystitis and pancreatitis were included. Intrahepatic cholestasis in pregnancy is the most common and least harmful cause of liver disease in pregnancy. Preterm labor and the incidence of LSCS were higher with the HELLP syndrome. Admissions in NICU were performed with the HELLP syndrome with the highest rates of acceptance of hepatitis E and NICU. Both the HELLP syndrome and hepatitis E were responsible for maximum maternal and perinatal mortality.*

Conclusions: *liver disease should be treated with caution in pregnant women.*

Key words: *Cholestatic jaundice, hepatic disease, HELLP syndrome, viral hepatitis, perinatal outcome.*

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INTRODUCTION:

Liver disease has a rare association with pregnancy. But at any time, there may be a wide range of effects on pregnancy outcomes. Liver involvement during pregnancy are three types, namely specific liver diseases of pregnancy, liver diseases and accidental pregnancy in patients with pre-existing liver disease in pregnancy. Some of them can lead to maternal and perinatal death. This study was conducted to evaluate maternal and fetal outcomes in pregnant patients with liver disorders.

MATERIALS AND METHODS:

This is a 2-year study (one year retrospective and one prospective year). Of all patients admitted to the Services Hospital, Lahore for antenatal care, with pre-existing liver disease or clinical and / or laboratory data were included in the base of women who were suspected liver dysfunction. The protocol is approved and approved by the institutional ethics committee. A broad clinical evaluation was performed that included detailed narration and examination of these patients. Expert opinion was received from gastroenterologists. These patients were investigated and treated according to the etiology. abortion in pregnancy, premature rupture of membranes, preterm birth, intrauterine death, birth, postpartum hemorrhage and maternal morbidity and the occurrence of complications such as maternal mortality was monitored. Fetal outcomes at birth, gestational age, mode of delivery, birth, anomalies of fetal heart rate, such as bradycardia (<110 beats / min), variable deceleration or late deceleration, meconium staining of amniotic fluid, weight at born, they were evaluated in terms of Apgar scores. 1 and 5 minutes and neonatal morbidity and perinatal mortality. The results were tabulated and the data analyzed according to the protocol.

RESULTS:

During the study, 102 cases of liver disease were diagnosed. Intravenous cholestasis of the liver during pregnancy was the most common liver disease in pregnancy; Hepatitis E syndrome and HELLP were associated with high morbidity and mortality of the mother and perinatal.

Table 1: Delivery characteristics in Obstetric Cholestasis

Mode of Delivery	Term (%)	Preterm (%)
Normal vaginal	17 (42.5%)	10 (25%)
Forceps	3 (7.5%)	1 (2.5%)
Caesarean	8 (20%)	1 (2.5%)

I Cholestatic jaundice

The majority of patients (92.5%) applied in the third trimester; The most common complaint is itching (85%). The most common maternal complication was preterm labor (22.5%). Meconium liquor staining was common (22.5%) and fetal heart abnormalities were observed in 15%.

II Viral hepatitis

The majority of these patients (57.8%) also presented in the third trimester. The hepatitis E virus was 86.9% in the patient's hepatitis, 7.9% in the patient's hepatitis B, 5.3% in the patient's hepatitis A and 2.6% in the hepatitis C of the patient. Hepatitis A, B or C did not result in a negative maternal or neonatal result. However, complications were common in patients with hepatitis E and were shown in Figures 3, 4 and 5.

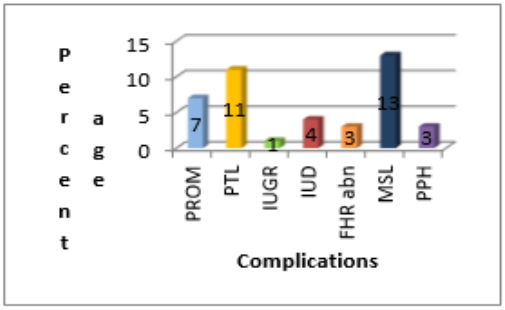

Figure 3: Obstetric complications in patients with Hepatitis E

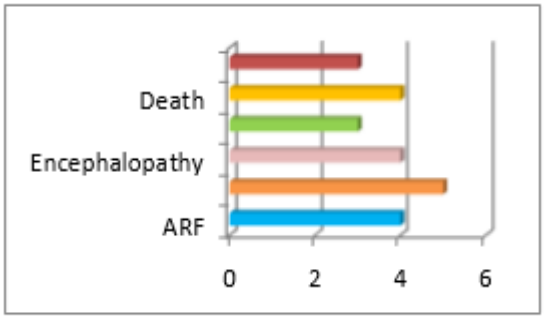

Figure 4: Maternal complications with Hepatitis E

14 patients in the non-HEV group; 9 (23.7%) had a normal vaginal delivery, 3 (7.9%) had forceps and 2 (5.3%) had LSCS. Thirteen of the cases (34.2%) gave birth with premature vaginal delivery, 2 (5.3%) with forceps and 2 (5.3%) with cesarean section. The timing and mode of delivery in patients with hepatitis E are shown in Table 2.

Table 2: Delivery characteristics in Hepatitis E

Mode of Delivery	Term (%)	Preterm (%)
Normal vaginal	9 (23.7%)	13 (34.2%)
Forceps	3 (7.9%)	2 (5.3%)
Caesarean	2 (5.3%)	2 (5.3%)

The majority (89.2%) of the children born to the mother with viral hepatitis were weighed according to their gestational age. Apgar> was observed in 5 minutes in 5 minutes and 85.7% in newborns. The neonatal result is shown in Fig5.

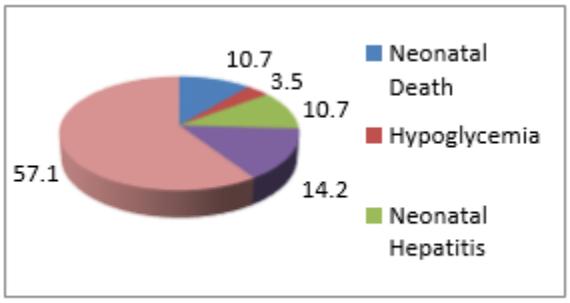

Figure 5: Neonatal Outcome in Hepatitis E

III. HELLP syndrome

Syndrome was diagnosed in 5 patients. All patients entered in the third trimester. The main symptoms (preeclampsia in the background) in 60% of pedal edema, yellowing of the eyes in 60%, 20%, nausea / vomiting, epigastric pain and bleeding, was 20%.

Table 4: Comparison of Outcomes in Cholestasis, Hepatitis E and HELLP Syndrome

Associated Complications	Cholestatic Jaundice %	Viral Hepatitis E %	HELLP syndrome %
Abortion	0	10.5	0
PROM	10	18.42	40
Preterm labour	22.5	28.9	40
IUGR	5	2.6	20
Still Birth	0	10.5	20
Meconium Staining	22.5	34.2	40
Intra partum FHR abnormalities	15	7.9	20
PPH	2.5	7.9	20
DIC	0	7.9	20
ARF	0	10.5	40
FHF	0	13.1	
Encephalopathy	0	10.5	
Maternal deaths	0	10.5	20
Preterm Delivery	30	44.7	80
LSCS	22.5	10.6	40

The laboratory parameters shown are shown in Table 3. There was still 1 (20%) at birth. Meconium staining was observed in 40% of patients. 20% had intrapartum FHR abnormality. Eighty percent of patients had pre- and postpartum hemorrhage by 20%. Acute renal failure was present in 40% of patients, disseminated intravascular coagulation and pulmonary edema in 20%. Caesarean section was applied in 40% of patients. There was 1 death. 50% of newborns were AGA while 25% were SGA. 50% of newborns had Apgar> 5 for 5 minutes. Asphyxia at birth is the most common complication observed in 75% of newborns.

Table 3: Laboratory Results in HELLP Syndrome

Lab Test	Range
Platelet Count	71,000-1,30, 000
SGOT (IU/L)	98-537
LDH (IU/L)	640-950
Total Bilirubin (mg/dl)	1.6-17
Serum Creatinine (mg/dl)	0.4-3.2
Serum Uric Acid (mg/dl)	6.1-10.6

Liver function deteriorated in several patients with sepsis. Forty percent of the patients in this group had hepatic encephalopathy and 40% had fulminant hepatic failure. 13.3% had acute renal failure, 6.7% had acute respiratory distress syndrome and 40% of patients died.

DISCUSSION:

In this study, liver disease was detected in 102 of the patients who requested our antenatal clinic. Of the total of 102 pregnancies with liver disease, 46 (45%) had specific liver disease of pregnancy and 38 (37.25%) had viral hepatitis. No specific cause could be determined in 15 patients. Cholestatic jaundice in our study is the most common cause of liver dysfunction related to pregnancy (39.2%). It manifests itself in nonspecific symptoms such as itching that can be missed in patients. For this reason, a high index of suspicion is required for the diagnosis. The maternal prognosis is excellent, since symptoms and laboratory parameters report a rapid improvement in the postpartum period (1). Although fetal distress of sudden onset was frequently reported in these patients , we still did not have any delivery. The most common cause of acute hepatitis in our study was hepatitis E and predominantly in the third trimester. Commonly fulminant liver failure (FHF), is associated with high maternal and perinatal morbidity and mortality, FHF and constituted 13.1% of patients and 10.5% of maternal mortality. This is in agreement with previous reports from Pakistan. The HELLP syndrome was found responsible for the worst maternal and perinatal outcomes in our study. The incidence of complications such as Acute Renal Failure and CID is 40% and 20%, respectively. Maternal mortality was also the highest (20%) according to other liver diseases. Similar results have been reported in the literature. The study also

included disorders unrelated to pregnancy, such as enteric hepatitis, amebic liver abscess, acute cholecystitis, and pancreatitis. There was no maternal or perinatal death in this group.

CONCLUSION:

In conclusion, this study suggests that although liver disease is rare in our environment, it is associated with maternal and perinatal mortality, even in a tertiary referral center. For this reason, early detection, appropriate support management and proactive prenatal policy are necessary to improve maternal and perinatal outcomes in pregnant women with liver disease.

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