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Obstetrics Cholestatsis: A Study of outcome of Pregnancy Complicated by Obstetric Cholestasis

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ABSTRACT:
Objective: To study the incidence, effects and outcome of pregnancy complicated by obstetric cholestasis.
Methodology: It is a prospective epidemiological study done at department of obstetrics and gyanecology Nalanda medical college and hospital during period of June 2021- August 2022.
Results : The incidence of Obstetrics Cholestasis in our study was 8.9% in hospital. The incidence of post partum haemorrhage was 10%. There were some associated symptoms to patients like sleep disturbance, dyslipidemia, and coagulation disorder. 7%of patients had spontaneous onset of preterm labour . In this study the incidence of lscs was 38% in which 16 % had elective lscs. Fetal distress was seen in 23% of patients.
Keyword : Obstetrics Cholestasis, Pregnancy

I. INTRODUCTION:

Obstetric cholestasis, also known as intrahepatic cholestasis of pregnancy, is a liver disorder that occurs during the second or third trimester of pregnancy.

This condition is characterized by pruritus (itching), elevated serum-aminotransferases, and bile-acid levels. The pruritus experienced by pregnant individuals with obstetric cholestasis can be extremely bothersome and has the potential to significantly impact their quality of life during pregnancy(Kant, A. et al., 2018). Furthermore, obstetric cholestasis can have detrimental effects on both the mother and the fetus.

The elevated levels of bile acids in obstetric cholestasis can lead to complications such as preterm delivery, fetal distress, and stillbirth. Additionally, obstetric cholestasis has been associated with an increased risk of sudden intrauterine infant mortality. It is important for healthcare providers to accurately diagnose and manage obstetric cholestasis in order to minimize the potential risks and complications for both the mother and the fetus.

This condition typically resolves within two to three weeks after delivery, with the disappearance of symptoms and normalization of liver function. However, it is important to note that pruritus is a common symptom in pregnancy and does not necessarily indicate the presence of obstetric cholestasis.

Inclusion criteria:
Gravid women with complaint of pruritis in later half of pregnancy that is at or after 20 weeks of pregnancy

Exclusion criteria:

- Patients with established liver disease.
- Patient with preeclampsia and eclampsia.
- Hepatitis marker positive.
- Diagnosed skin disease causing itching.

Method of study:

The study was done in department of obstetrics and gynaecology at Nalanda medical college and hospital in the duration of June 2021-August 2022. The total number of cases that were taken after applying the inclusion and exclusion criteria were 100.

The pregnant women coming to out patient department with complaint of pruritic over or at 20 weeks of gestation were selected. The diagnosis of obstetric cholestasis was made by clinical symptoms of pruritis without a skin rash affecting mainly extremities and worsening at night associated with evidence of cholestasis in form of elevated serum transaminase (SGOT/SGPT) with or without elevated serum bilirubin in absence of liver disease.

Liver function test was done in all patients presenting with pruritis and in patients with some relevant history while attending the hospital. LFT was repeated every 4 weekly and earlier if required. Fasting lipid profile and coagulation profile were detected once and were repeated if required.

In our study the levels that are more than upper limit of pregnancy specific ranges are considering as positive for obstetric cholestasis. Deranged liver function was defined as increase in

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alanine and aspartate transaminase to more than their normal but not exceeding to 20 times of normal with or without mild increase in serum bilirubin not exceeding 5 mg/dl.

Other relevant investigations were done to exclude another hepatobiliary system. Eg : Viral serology for hepatitis A.B, C , ultrasonography of liver and biliary tract. None of the patients had liver biopsy.

All the patients included in the study were given ursodeoxycholic acid 300mg-1200 mg in divided dose for rest of antenatal period, and response was seen in form of improvement of symptom and serum transaminases level.

Routine blood test for antenatal women and ultrasonography for fetal well being was done.

Patients were allowed to go in labour spontaneously except who were selected for elective or emergency cesarean section based on fetal and maternal conditions.

Labour was monitored using paragraph and electric fetal monitoring was done during active phase of labour.

Cesarean section was done for following situations

- Cephalopelvic disproportion
- Unsatisfactory progress of labour
- Intrapartum fetal complications/ fetal distress.

PPH during all deliveries were determined by assessing blood loss by usual manner . PROM & PPROM patients were monitored by assessing fetal well being and liquor volume, their time of delivery and mode of delivery were determined on their condition.

Babies were resuscitated and kept in closed surveillance of neonatologist. Babies requiring NICU admission, or suffering from neonatal jaundice,RDS, SEPSIS were detected by neonatologist

Post partum and perinatal periods were observed carefully.

II. OBSERVATIONS AND RESULTS

Out of total deliveries of 3600, the total number of patients with obstetrics cholestasis was seen in 320 mother . So the incidence was seen 8.9%.

The primigravida were 142 in number and multigravida was 178 in number . So the incidence was 8.77% and 8.98%.

Among multigravida 17 had history of viable pregnancy in which 11 had previous history of obstetric cholestasis which was significantly higher.

Response yo ursodeoxycholic acid (UCDA) was seen and complete response was seen in 65%, 30% had partial response and approx 5 % had no response to the treatment. The biochemical improvement to UCDA was observed in 85% of patient which was significantly higher.

60 patients had sleep disturbance which is 60 %.

Dislipidemia was seen in 30 patient(30%). Deranged coagulation profile was seen in 19 patients (19%). PROM (Premature Rupture membrane was found in 10(10%) of our study.

The mean gestational age of delivery of the patient was 37.28±1.18 with range 33-40 weeks and the median was 3.70 weeks.

Most of the patients (62%) were with gestational age of delivery between 37-38 weeks which was significantly higher ($p<0.01$); followed by 35-36 weeks and 39-40 weeks, in which 22% and 14% patients delivered respectively. Only 2% delivered before 35 weeks of gestation.

Out of total cases of maternal outcome operative delivery (66%) and sleep disturbances (60%) were significantly higher.

In our study of obstetric cholestatis, 10 patients had post partum haemorrhage which is 10%.

The mode of delivery elective cesarean section in 16 patients(16%) emergency cesarean section in 22(22%), vaginal delivery in 58(58%), forceps delivery was in 4 patients (4%).

Maternal outcome	Number of cases	Percentage
Sleep disturbances	60	60%
Dyslipidemia	30	30%
Deranged coagulation profile	19	19%
PPH	10	10%
PROM	10	10%
Operative delivery	42	42%
Preterm spontaneous labour	7	7%

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Coming to the neonatal outcome, feta distress was found in 23% of cases. The abnormal CTG was found in 17 patients during intrapartum period.

The meconium stained liquor was found in 41 cases which is 41% of the population.

The mean birth weight of the babies of thepatienst was 2.80±0.36 kg with the range 1.50-3.80 kg and the median was 2.70 kg.

Low birth weight was found in 32 (32%) of cases and most of babies had IUGR and other had Low Birth weight due to preterm birth.

In our study 7 patients had spontaneous onset of preterm labour and 15 patients had preterm birth iatrogenically due to fetal distress or abnormal CTG. Total preterm birth was observed in 22% of the cases.

Intrauterine fetal death was seen in only 2% of cases and 27 babies (27%) were admitted to NICU.

Fetal outcome	Number	%
Fetal distress	23	23%
Abnormal ctg	17	17%
Meconium stained Liquor	41	41%
LBW	32	32%
IUFD	2	2%
NICU ADMISSION	27	27%
Preterm Birth	22	22%

Neonatal jaundice was found in 14% of cases. Neonatal RDS was found in 10% of cases and sepsis was found in 6% of cases.

Neonatal outcome	Number	Percentage
Neonatal Jaundice	14	14%
Neonatal RDS	10	10%
Sepsis	6	6%
NICU Admission	27	27%

III. DISCUSSION :

Obstetric cholestasis is the most common liver disorder in pregnancy, affecting mainly the second half of pregnancy. It is associated with adverse outcome in mother and fetus.

The aim and objective of current study are to determine the incidence of obstetric cholestasis in the study area and its distribution in relation to gestational agent diagnosis, maternal age and parity.

Maternal outcome was determined in terms of sleep disturbances, dyslipidemia,, abnormal coagulation profile, post partum haemorrhage, mode of delivery and post partum resolution of symptoms and deranged liver function test.

Obstetric cholestasis si most common liver disorder in pregnancy, afecting mainly second half of pregnancy, characterised by pruritus and derangement in liver function test that resolves after delivery. It si associated with adverse maternal and fetal outcome.

The study was a prospective epidemiological study (cross sectional study) carried out at Nalanda Medical College and Hospital, Patna over aperiod of Two years.

The study population consisted of al pregnant women attending our Hospital, with

complain of pruritus at or after 20 weeks of gestational age, satisfying inclusion and exclusion criteria and thereafter diagnosed as having obstetric cholestasis byclinical and biochemical examinations. Among them Initial 10 patients were selected and enrolled for the study as sample with their full informed consent.Regular antenatal checkup, detailed history taking, thorough clinical examination, necessary investigation, cardiotocography and ultrasonography for fetal profile and to rule out liver and gall bladder pathology were carried out.

After confirmation of gestational age, cases were managed either expectantly or actively depending on period of gestation, maternal and fetal condition, status of cervix etc. Caesarean section, elective or emergency, was performed for maternal, fetal or obstetric indication. Labour was monitored using partograph and electronic fetal monitoring. Every newborn either delivered vaginally or by caesarean section were kept under supervision of a neonatologist. Mothers and newborns were monitored carefuly till discharge from hospital. Postpartum follow up done. Adetailedrecord was kept in each case.

Analyzed statistically.

Data were collected systematically andpresent study incidence of obstetric cholestasis is 8.9% in hospital.

The incidence of cholestasis almost equal in primigravida 8.77% and multigravida 8.98%. Maximum number of obstetric cholestasis cases 40.% wasdiagnosed in theagegroup26-03yearswithmeanageofpatients was 27.53+4.49 years.

Among 10 cases included in our study maximum number of cases (43.0%) was diagnosed at 28-32 weeks and 36.0% in 32.1-36 weeks of gestation. In our study 64.7% patients had history of obstetric cholestasis in their previous pregnancy also.In our study, most of the patients had complete response (65%) and partial response (30%) to ursodeoxycholic acid treatment which was significantly higher ($p<0.01$). Only 5% of the patients had no response. 85.0% patientsshowed biochemical response to ursodeoxycholic acid treatment.

The incidence of postpartum hemorrhage was 10.0% in the study. Among 10 patients, 60 patients were diagnosed ot have sleep disturbane, 30 had dyslipidemia, and 19 had coagulation defect. 7.0% patients were detected to have spontaneous onset of preterm labour.

The overall LSCS rate was 38.0% with elective LSCS rate of 16.0% and emergency LSCS rate of128% while 580.% mothers were delivered by normal vaginal delivery and 40% delivered yb application of forceps. Ventouse rupture of membrane
Was reported in 10.% (10/100) of cases.
Among fetal-neonatal morbidities, the incidence of fetal distress was 23%
In this study.
71 patients were detected ot have abnormal CTG (17.0%), 14 patients had meconium stained liquor (14%) and 2 patients had preterm birth (2.0%). 32 patients had delivered low birth weight babies (32.0%) among which majorities were due to IUGR and others due to prematurity.
27 neonates required admission to NICU (27.0%). There were 2intrauterine
fetal deaths (2.0%). No perinatal death occurred among cases while 39 patients had no complication (39.0%.Out of total cases of fetal outcomes meconium stained liquor (41%) and LBW (32%) were significantly higher.($P<0.01$). Postpartum resolution of symptoms and deranged liver function test occurred in 98.0% after 6 weeks of delivery.
It is concluded that obstetric cholestasis is associated with significant maternal and fetal adverse outcome. Ursodeoxycholic acid is effective forsymptomatic and biochemical improvement in obstetric cholestasis.

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