

NEONATAL OUTCOME IN OBSTETRIC CHOLESTASIS PATIENTS AT AYUB TEACHING HOSPITAL ABBOTTABAD

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Background: Obstetric cholestasis is a liver disease specific to pregnancy characterised by pruritus affecting the whole body but particularly the palms and soles and abnormal liver function tests. Objective of this cross sectional study was to evaluate obstetric cholestasis as a potential risk factor for adverse neonatal outcome. The study was conducted at Department of Obstetrics and Gynaecology, Unit 'B', Ayub Teaching Hospital, Abbottabad from April 1, 2007 to March 31, 2008. **Methods:** All patients presenting with obstetric cholestasis irrespective of their age and parity were included in the study. Patients presenting with other causes of pruritus during pregnancy like Hepatitis (A, B, C), eczema, pruritus gravidarum and *herpes gestationes* were excluded from the study. Patients with liver involvement due to pre-eclampsia were also excluded. Baseline investigations, liver chemistries, viral screening, liver autoimmune screen, liver and obstetrical ultrasound were all done before the diagnosis was confirmed. Patients were treated symptomatically. Neonatal outcome was calculated in terms of increased incidence of passage of meconium, preterm delivery and foetal distress requiring delivery by Caesarean-Section. **Results:** Thirty patients were selected. Babies of 10 patients did well after delivery, 8 required NICU care within first 24 hours of birth and rest were delivered with low APGAR score. Two babies were delivered stillborn. **Conclusion:** Pruritus is quite common in pregnancy with obstetric cholestasis being one of them and earlier detection of the disease allows better identification of foetuses at risk. **Keywords:** Hepatic cholestasis, Pruritus, liver Function Tests, Foetal distress.

INTRODUCTION

Obstetric cholestasis is a liver disease specific to pregnancy characterized by pruritus affecting the whole body but particularly the palms and soles and abnormal liver function tests. It affects 1.2–1.5% women of Indian-Asian or Pakistani-Asian origin.¹⁻³ Obstetric cholestasis remits following delivery. It presents most commonly in the third trimester at around 37 week of gestation.

Obstetric cholestasis is diagnosed by the exclusion of other causes of itching and liver dysfunction. Post-natal resolution of pruritus and LFTs should be confirmed. Patient presents with pruritus which is worse at night, widespread more on palms of hands and soles of feet, with pale stools, dark coloured urine and family history of obstetric cholestasis. Bilirubin is only raised infrequently and most women will have increased levels of one or more of the remaining three LFTs. Isolated elevation of bile salts may occur but this is uncommon. Normal levels of bile salts do not exclude the diagnosis.⁴⁻¹¹ Clinical jaundice is rare (20%)¹² although bilirubin is elevated in 22.56% of cases.^{13,14} The perinatal mortality from obstetric cholestasis is 10.6/1,000. Obstetric cholestasis associated with prematurity both spontaneous and iatrogenic and intra-uterine death.

PATIENTS AND METHODS

All patients with hepatic cholestasis presenting at Ayub Teaching Hospital Abbottabad during one year period from April 1, 2007 to March 31, 2008 were included in the study. Informed consent was taken from all the

patients. Patients belonged to all age groups (18 years to 38 years) and parity. Patients presenting with other causes of pruritus during pregnancy like polymorphic eruption of pregnancy (PEP), pruritic folliculitis, prurigo, herpes gestationes, eczema, scabies,

Hepatitis (A, B, C) and pruritus gravidarum were excluded from the study. Patients with liver involvement due to pre eclampsia and acute fatty liver of pregnancy were also excluded. Detailed present and past history was taken of any liver disorders, PIH, hypertension and history of obstetric cholestasis in previous pregnancies. History of the same disorder in other members of the family during pregnancy was also taken. Detailed examination was performed. Skin inspection was done to differentiate dermatographia artefacta (skin trauma from intense scratching) which could be seen in obstetric cholestasis from other skin conditions such as eczema and pruritic eruption of pregnancy. Abdominal examination specifically for the liver and pelvic examination was done in each patient.

Investigations included: LFTs, viral screening (Ebstein-Barr, cytomegalo-virus). Liver autoimmune screen, liver and obstetrical ultrasound for all cases before the diagnosis was confirmed.

Increased incidence of passage of meconium, pre-term delivery, foetal distress, delivery by Caesarean Section and post-partum haemorrhage were all found linked with obstetric cholestasis.

Decision regarding the mode of the delivery was taken after doing the Bishop Scoring & assessing

the severity of the symptoms and condition of the foetus. Neonatal outcome was recorded at birth in terms of one minute and five minute APGAR score, birth weight and need for admission to Neonatal Intensive Care within 24 hours of birth. Mothers were followed postnatally till complete resolution of symptoms and normalization of liver function tests.

RESULTS

Seventy patients presented with some sort of pruritus with pregnancy in the Obs/Gyn Department of Ayub Teaching Hospital Abbottabad during the study period of one year and out of them thirty (42.86%) patients after history, examination and investigations were confirmed to be of obstetric cholestasis. They were included in the study and the rest were excluded. All thirty patients presented with itching but in twenty one (70%) this symptom was very intense typically worse at night. Twenty patients (66.67%) had malaise and 7 (23.33%) had associated insomnia as well. Skin rash was absent in all cases. Fifteen patients (50%) had anorexia and had dark urine and 10 (33.33%) had steatorrhea. (Table-1)

Table-1: Frequency of symptoms

Symptoms	No. of patients	%
Mild itching	09	30.0
Severe itching	21	70.0
Malaise	20	66.67
Insomnia	07	23.33
Skin rash	0	0
Excoriation	30	100
Anorexia	15	50.0
Dark urine	15	50.0
Steatorrhea	10	33.33

Three patients (10%) reported a positive family history and four patients (13.33%) reported a positive past history of same problem during the last pregnancy. One patient (3.33%) reported with a history of pruritus while she was taking combined oral contraceptive pills. Two patients (6.66%) who presented with obstetric cholestasis had multiple gestations. Four patients (13.33%) gave a positive family history of gall bladder disease.

Liver function tests were elevated in all the cases especially serum bile acids and transaminases particularly ALT. All patients (100%) had elevated ALT, 27 (90%) had elevated AST, 8 (26.67%) had elevated bilirubin, and 26 (86.67%) had elevated serum bile acids (Figure-1).

Eight patients (26.66%) presented after thirty four weeks of gestation, twenty patients (66.67%) presented after thirty six weeks of gestation and two patients (6.67%) presented around thirty weeks of gestation out of which one was carrier of HCV and other had twin pregnancies as shown in Figure-2.

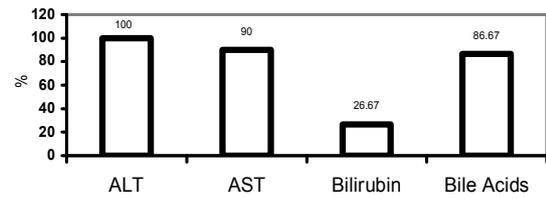


Figure-1: Percent of cases with elevated liver function tests

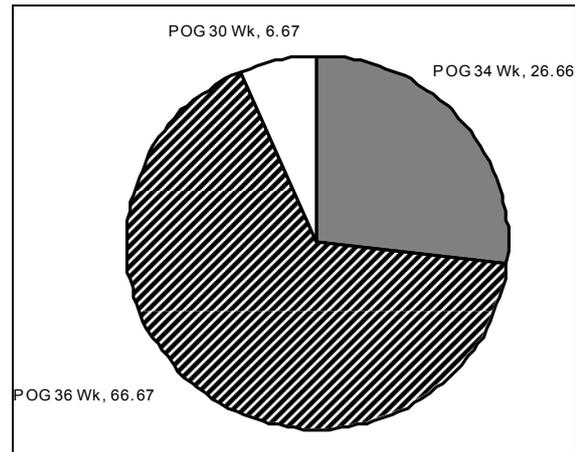


Figure-2: Frequency of presentation at POG in weeks

Patients were followed weekly with liver function test, cardiocography, ultrasound, amniocentesis for the presence of meconium and monitoring of foetal movement patterns. Transcervicalamniocentesis was not done as facilities were not available. Six patients (20%) went into spontaneous labour after 37 weeks of gestation and three before thirty seven weeks of gestation. Two patients (6.67%) were delivered after thirty four weeks and rest (63.33%) were delivered after thirty eight weeks. Twelve patients (40%) required Caesarean Section, four (13.33%) were delivered by outlet forceps, three (10%) pre-term vaginal delivery and rest (36.67%) by normal vaginal delivery. Neonatal outcome is shown in Table-2.

Table-2: Frequency of neonatal complications

Foetal outcome	No. of babies	%
Intrapartum foetal distress	10	33.33
Amniotic fluid meconium	6	20.0
Spontaneous pre-term delivery	3	10.0
Intrauterine death	2	6.67
Admission to NICU	8	26.67
No complication	1	3.33
Total	30	100

In majority of the cases, liver function tests started coming to normal within 48 hours and complete resolution occurred by tenth day of the puerperium. Only two patients had a slight increase in LFTs after two days of delivery. Five patients had PPH, three required more than two pints of blood transfusion.

DISCUSSION

Obstetric cholestasis is one of the common causes of pruritus affecting female pregnant population. During the study period, there were approximately 3000 obstetrics admissions in our unit and the incidence of cholestasis was recorded as 1% compared to the reported incidence elsewhere i.e. 1.2–1.5%.^{1,2} This might be due to the unnoticed cases who deliver at home. All the patients of hepatic cholestasis presented with itching which was the dominant presenting feature in our study as well the disease tends to recur in every pregnancy¹² as was seen in our study. The disease is more common in multiple gestations. Twenty of the obstetric cholestasis cases occur in twins.^{13,14}

Obstetric cholestasis has been reported to be of earlier onset in those women who are carriers of Hepatitis C.¹⁵ LFTs were found elevated in all the cases especially serum bile acids and transaminases.^{16,17} High bile acid levels have been linked with intrauterine death^{5,17} passage of miconium¹⁸ abnormal CTG¹⁷ and prematurity (undefined) and non-fatal asphyxial events. In our study also those two cases who were un-booked and presented for the first time with intrauterine death were found to have very high levels of serum bile acids and ALT. Other studies show no correlation between bile acid concentration and pruritus¹⁸, foetal distress⁷ or Umbilical Artery Doppler.¹⁹ In general, of predictability of future foetal wellbeing of a normal CTG is a major limitation of its use. Individual cases have been reported where routine CTG has detected pre-terminal patterns^{9,10} which has allowed emergency Caesarean Sections to be performed. Intrauterine death is usually sudden and seems to be due to acute anoxia.¹⁹ Intrauterine growth restriction and oligohydramnios are not the feature of the disease^{5,7,10} and Umbilical Artery Doppler assessments are not different when compared with other pregnancies. Until the pathophysiology of obstetric cholestasis is understood more clearly, it seems appropriate to offer all women the same policy of active management regardless of severity of abnormality in liver function.

CONCLUSION

Pruritus is common in pregnancy with obstetric cholestasis being one of them and earlier detection of the disease allows better identification of foetuses at risk. One should have the clear protocol to diagnose the disease and follow the policy of active management, i.e., antenatal foetal surveillance and elective early delivery which may improve obstetric outcome at the cost of high rate of intervention, i.e., Caesarean Section, iatrogenic prematurity and PPH. Current treatment may

be effective in controlling pruritus but not of much benefit in reducing perinatal morbidity. Further research is needed to identify foetuses at risk to improve the outcome.

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