

Maternal and Foetal outcome in Cholestasis of Pregnancy

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ABSTRACT

Background: Obstetric cholestasis has been associated with an increased risk of preterm delivery, intrapartum meconium, foetal distress and intrauterine foetal death. **Objectives:** To know the perinatal outcome of cholestasis in pregnancy. **Materials & Methods:** This is a hospital based Observational study conducted in the department of Obstetrics & Gynaecology at Nepalgunj Medical College Teaching Hospital Kohalpur between August 2015 to January 2016. A total of 40 patients were included in the study with diagnosis of obstetric cholestasis. Data were recorded & analysed. **Results:** The study group of 40 mothers delivered 40 new born. Mean age group of women in the study was 24.9±5.5 years & 70% were primigravida. The mean gestational age at onset of pruritus was 30.33±4.24 weeks. The rate of caesarean section was 40%. Premature membrane rupture noted in 20% cases while 17.5% were postpartum haemorrhage. Regarding foetal outcome; meconium baby 32.5%, Intrapartum foetal distress 17.5%, preterm baby 10% while 37.5% were complication free. There was 2.5% of intrauterine foetal death, where pregnancy continued beyond 38 weeks. Thirteen new borns (32.5%) were admitted to neonatal intensive care unit. **Conclusion:** Cholestasis in pregnancy is high risk group with adverse perinatal outcomes.

Key words: cholestasis, perinatal

INTRODUCTION

Intrahepatic cholestasis of pregnancy (ICP) is defined as pruritus with onset in pregnancy which is associated with abnormal liver function in the absence of other liver diseases which resolves following delivery.¹ ICP develops during second half to third trimester of pregnancy. In the first description of ICP in 1883, Ahlfield described maternal pruritus and jaundice in the last trimester of pregnancy disappearing after delivery.² A low incidence of 0.2% in Europe and a high incidence of 4-14% in Chile have been reported.³ ICP affects 1.2-1.5% women of Indian Asian and Pakistani Asian origin.⁴ One study has suggested that it is more common in women over the age of 35 years. A higher incidence is seen in twin pregnancies (20-22%)^{5,6}

The most common presenting symptom is pruritus that usually presents in the third trimester, becomes progressively more severe as the pregnancy advances and typically resolves within 48 hours of delivery. Approximately 80% of affected women present after 30 weeks of gestation,^{7,12} but ICP has been reported as early as 8 weeks¹³. It has been reported that itch may be present either prior to or after abnormal liver function is detected,¹⁴ Clinical jaundice is rare, affecting approximately

10-15% of pregnant women with ICP and the biochemical abnormalities resolve within 2-8 weeks of delivery².

Uterine and Placental consequences-A significant increase in uterine contractility has been shown during the course of the disease, an event that has been related to the high incidence of spontaneous preterm labour. Perinatal consequences-Higher incidences of clinical markers of intrauterine asphyxia, such as meconium staining of amniotic fluid and foetal distress^{11,5} have been described. There is association between ICP and Preterm labour^{11,5,15-7} The reported frequency of ICP related still birth is as high as 35% which is double that of normal population¹¹. A higher incidence of unexplained 3rd trimester foetal death has been described in association with severe ICP. The foetus shows no evidence of growth restriction and has normal surveillance tests 1 week or less before the foetal death¹⁸.

Recent studies suggest that oral use of Ursodeoxycholic acid improves maternal clinical and biochemical features and may prevent the foetal effects of ICP¹⁹⁻²⁴. Careful foetal assessment and appropriate medical intervention have improved the perinatal outcome⁵. Labour is induced unless contraindicated, at 38 weeks of gestation, In patients with jaundice the induction will be planned from 36 weeks onwards, after evaluation of lung maturity by amniotic fluid and amniotic fluid analysis⁸. As the incidence of Cholestasis of pregnancy in southeast Asia is 1.2-1.5% and as it has adverse maternal and perinatal consequences, so this study has been conducted.

MATERIAL AND METHODS

Hospital based Observational study was conducted from August 2015 to January 2016 at Nepalgunj Medical College Teaching Hospital, Kohalpur, Banke, Nepal. Forty women with

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Obstetric Cholestasis were included in the study. The pregnant lady, both primigravida and multigravida, may or may not be in labour, with Cholestasis of Pregnancy were included while Viral Hepatitis (A, B, C and E), Gallstone Diseases & Preexisting Liver Disease, IV Drug abuse, Alcohol abuse, other concomitant drug use such as Methyldopa were excluded from the study. A detailed history and clinical evaluation was done. Written informed consent was taken.

All the patients were subjected to routine ANC investigations, ultrasonogram for foetal assessment and Biophysical profile of foetus, maternal scan to rule out gall stone diseases, serology to rule out Hepatitis A, B, C, E and liver function Tests. Patients were admitted in the hospital depending upon the severity of symptoms, state of liver and period of gestation at the time of presentation.

Babies were evaluated for features of prematurity, weight, meconium aspiration at birth and for any other complications.

RESULT

Table I shows age distribution of subjects. Maximum number of subjects belong to age group of 18-35 years (87.5%). Table II shows number of subjects having onset of pruritis belong to 32-36 weeks of gestation constituting 40%. Table III shows Complications of Pregnancy with obstetric cholestasis, 12 subjects constituting complications like emergency caesarean section. Figure I shows Foetal outcome. 37.5% having no complications. Amniotic fluid meconium was next common

Age in years	Number (n=40)	Percentage
<18yrs	4	10
18-35yrs	35	87.5
>35yrs	1	2.5
Total	40	100

Table I: Age distribution

Weeks of gestation at onset of pruritus	Number (n=40)	Percentage
>36	2	5
<24	4	10
24-28	7	17.5
28-32	11	27.5
32-36	16	40
Total	40	100

Table II: Gestational age at onset of pruritus

complication of pregnancy. Figure 2 shows Neonatal intensive care unit admission. Neonatal sepsis (54%) was most common cause to be admitted in NICU.

Complications of Pregnancy	Number (n=40)	Percentage
Premature rupture of membrane	6	15
Prelabour premature rupture of membrane	2	5
Spontaneous Preterm Delivery	4	10
Oligohydramnios	5	12.5
Elective Caesarean section	4	10
Emergency caesarean section	12	30
Postpartum haemorrhage	7	17.5

Table III: Complications of Pregnancy with obstetric cholestasis

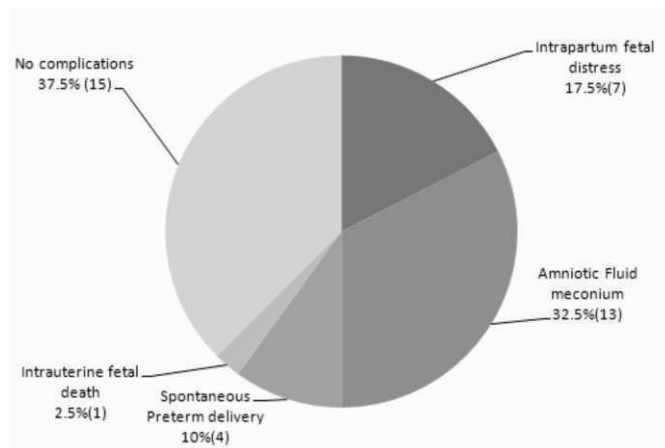


Figure 1: Foetal outcome

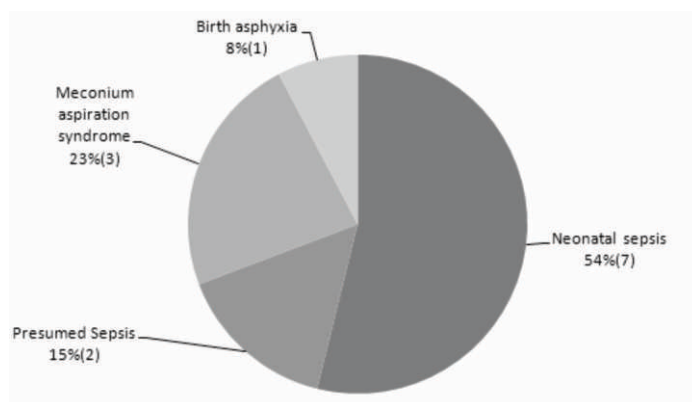


Figure 2: Neonatal intensive care unit admission

DISCUSSION

Intrahepatic cholestasis of pregnancy (ICP) or jaundice in pregnancy is usually observed in third trimester. The usual symptom is pruritus and deranged liver function test. This condition has adverse effect in the delivery, causing maternal and foetal morbidity & mortality.

The majority of patients in our study underwent lower segment cesarean section which was 40%(16). Out of 16 cases, 25%(4) underwent Elective caesarean section while 75%(12) underwent emergency caesarean section. According to Turunen et al (2010), the incidence of Cesarean section was found to be 14.8%²⁵ which is very low, as most of the women in this study were induced and delivered vaginally. Similarly the study conducted by Padmaja et al (2010) and Wang et al(2006), the incidence of Cesarean section was found to be 93.3%⁹ and 85.9%²⁶, respectively which is very high, attributed to high incidence of complicated pregnancies in their hospital

Alokanada et al in 2005 found that the incidence of post partum hemorrhage was 25%(8/32)³, which somehow correlates our study as 17.5%(7/40) while Wang et al(2010) the incidence of post partum haemorrhage in their study was only 1.4%²⁶.

In our study, Prelabour rupture of membranes (PROM) was found in 15%(6/40) and Premature prelabour rupture of membranes (PPROM) was seen in 5%(2/40) of cases. According to Padmaja et al where the incidence of Premature Prelabour rupture of membranes was observed to be in 8.9% of cases⁹ as most of the women were delivered before 37 weeks of gestation (either spontaneous or iatrogenic) in this study.

Regarding the preterm delivery the incidence was 10%(4/40), which was similar to Sultana et al (2009) study, having the incidence of spontaneous preterm delivery as 10%⁴. Wang et al(2006), the incidence of Preterm delivery was found to be 24%²⁶ whereas In Rioseco et al(1994), the incidence was 12.1%⁵, higher than ours.

We have found that the incidence of meconium staining of amniotic fluid in women with Obstetric cholestasis as 32.5%(13/40). It was similar to Mei-ting et al (2014) study, where the incidence of meconium stained liquor was found to be 33.3%.¹⁰ Similarly Sultana et al(2009) observed the incidence of 20%(6/30)⁴ in their subjects and Wang et al (2006), found the incidence of meconium stained liquor to be 23.2%²⁶.

The incidence of Intrapartum fetal distress in women with Obstetric cholestasis was found to be 17.5%. According to Padmaja et al, Intrapartum fetal distress seen in 4.4%⁹ women with obstetrics cholestasis which is low attributed to proper ANC visits and timely treatment of obstetrics cholestasis. Rioseco et al, incidence of intrapartum. Fetal distress was found to be 12% which is low attributed to proper ANC visits and proper treatment of cholestasis⁵.

Intrauterine Fetal Death was found to be 2.5%. According to Sultana et al (2009), the incidence of IUFD was found to be 6.67%⁴, which is high, attributed to no previous ANC visits and the study conducted by Alokananda et al(2005) where the incidence of IUFD was found to be 3.1%(1/32)³ which is similar to our study.

Finally, in our study, the incidence of baby admission in neonatal intensive care unit was 32.5% (13/40). The causes for higher incidence of Neonatal admissions were attributed to Neonatal sepsis and Meconium aspiration syndrome in babies. According to study conducted by Sultana et al (2009), the incidence was 26.67%⁴, which was similar to our study. Alokananda et al (2005), observed the incidence of Neonatal admissions was found to be 40.6%(13/32), which was very high³ attributed to high incidence abnormal cardiactocograph and meconium staining of amniotic fluid.

CONCLUSION

The cholestasis in pregnancy belongs to high risk group during pregnancy. The pharmacological therapy could improve maternal & foetal outcome provided that variety of strategies taken during delivery with active management. The larger study is needed to establish the management protocol & to reduce maternal and foetal morbidity & mortality. Though this study is a small scale but it provides an important framework for management of Cholestasis in Pregnancy.

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