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Original Research Paper

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FETOMATERNAL OUTCOME IN INTRAHEPATIC CHOLESTASIS OF PREGNANCY

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ABSTRACT

BACKGROUND- We aimed to study the maternal outcome in patients with intrahepatic cholestasis of pregnancy.

METHODS- Hospital based comparative analysis in pregnant women was conducted on women who presented with pruritus in third trimester of pregnancy and having deranged liver function tests. All the cases were followed from admission to discharge. Socio-demographic, clinico-laboratory profile and feto-maternal outcomes were recorded in a preformed structured proforma. Descriptive statistics was used to present the data.

RESULTS- In our study Intrauterine death was seen in 2% in group A and B. Stillbirth and Nenonatal death were 2% and 4% in group A and B respectively. The p-value was .97 ,which was stastically insignificant.

CONCLUSION- Cholestasis of pregnancy has an adverse effect on the fetal outcome and hence early diagnosis with careful clinical examination and biochemical testing is essential.

KEYWORDS : Cholestasis, PROM, NICU.

INTRODUCTION

Intrahepatic cholestasis of pregnancy (ICP) is a cholestatic disorder characterized by pruritus, elevated serum aminotransferases and bile acid levels with onset in the second or third trimester of pregnancy, and spontaneous relief of signs and symptoms within two to three weeks after delivery.[1]

ICP is a multigenic disease, mutations of genes encoding several proteins involved in the hepatobiliary transport have been associated with ICP. Heterozygous mutations in gene ABCB4 (adenosine triphosphate-binding cassette ,subfamily B, member 4), which encodes the hepatic phospholipid transporter MDR3 (multidrug resistance 3), have been found in patients with ICP. Mutations in genes ATP8B1, ABCB11, or NRH1HA encoding familial intrahepatic cholestasis 1 protein (FIC1), the bile salt export pump, or farnesoid X receptor (a regulator of bile acid synthesis and transport in the hepatocyte), respectively, have less frequently been found in patients with ICP.[2]

According to several studies, although the maternal course is usually benign, there is an increased risk of spontaneous preterm delivery, fetal compromise, meconium stained amniotic fluid, and intrauterine fetal demise. (preterm delivery in 19-60%, intrapartum fetal distress in 22-41% and intrauterine fetal death in 0.75-1.6%).[3]

MATERIAL AND METHODS

Hospital based comparative analysis in pregnant women.

INCLUSION CRITERIA

For case group:- (group A)

Singleton pregnancy in the age group of 20-30 year, after 28 weeks of gestation.

With history of pruritus without a rash.

Altered liver function tests (serum bilirubin:- 3-5 mg/dl, SGOT& SGPT:-Upper limit of normal value is 20% lower than that in non pregnant state, ALP:-Increase 2 to 3 fold in pregnancy).

Remissions of both following delivery.

Women giving informed & written consent.

For control group:- (group B)

Singleton pregnancy in the age group of 20-30 year, after 28 weeks of gestation.

Without history of pruritus and rash.

Normal liver function tests.

Women giving informed & written consent.

EXCLUSION CRITERIA

Excluding liver diseases (hepatitis A , B , C or E , autoimmune hepatitis).

Dermatological conditions (eczema, scabies, pruritus eruption of pregnancy).

Urinary tract infection..

DATA COLLECTION

A detail history, physical & obstetrical examination was done. Gestational age was determined by asking the women the date of last menstrual period, if reliable or from earliest ultrasonography.

Detail history of pruritus specifically regarding the site & severity according to prefixed score was taken.

Routine investigations– complete blood count, fasting blood sugar, ABORh, VDRL, HIV, HBsAg. urine complete microscopy, serum electrolytes, coagulation profile ,USG whole abdomen. Liver function tests was done weekly.

Liver function tests was repeated after 2 week postpartum.

STATISTICAL ANALYSIS:- Continuous variables was summarized as mean and standard deviation while nominal/

categorical variables as proportions(%).Unpaired 't' test was used for comparison of continuous variables where as chi-square test/fisher exact test for nominal/categorical variables. P value <0.05 was taken as significant.

OBSERVATIONS

The socio-demographic variable difference in both groups was stastically Insignificant and both groups were comparable.

Table-1 Distribution Of Cases Based On Mode Of Delivery

		Group-A (n=50)	Group-B (n=50)	p-value
Vaginal : LSCS		**31 : 19**	**40 : 10**	**<0.05**
LSCS	**Elective**	**7(36.84%)**	**3(30.00%)**	**<0.05**
	Emergency	**12(63.16%)**	**7(70.00%)**	

62.00% women of group A and 80.00% women of group B had vaginal delivery. Remaining 38.00% of women in group A and 20.00% of women in group B taken for LSCS. Previous caesarean was most common indication for elective caesarean section in 36.84% of women in a group A and 30.00% of women group B.

Table-2 Distribution Of Cases Based On Maternal Outcome

Maternal outcome	Group-A(n=50)		Group-B(n=50)		p-value
	No	%	No	%	
PROM	3	6.00	1	2.00	0.359
Preterm delivery	7	14.00	4	8.00	0.356
PPH	0	0.00	1	2.00	0.99

In our study 6.00% women had PROM, 14.00% women had preterm delivery in group A whereas 2.00% women had PROM, 8.00% women had preterm delivery in group B.

None of all women had PPH in group A , 2% of women had PPH in the group B. The p-value was 0.99 which was stastically insignificant.

Table-3 Distribution Of Cases Based On Perinatal Mortality

Perinatal mortality	Group-A(n=50)		Group-B(n=50)		p-value
	No	%	No	%	
IUD	1	2.00	1	2.00	0.99
Still birth	1	2.00	2	4.00	0.97
Neonatal death	1	2.00	2	4.00	0.97

In our study Intrauterine death was seen in 2% in group A and B. Stillbirth and Nenonatal death were 2% and 4% in group A and B respectively. The p-value was .97 ,which was stastically insignificant.

DISCUSSION

In our study 62.00% women of group A and 80.00% women of group B had vaginal delivery. Remaining 38.00% of women in group A and 20.00% of women in group B taken for LSCS. Previous caesarean was most common indication for elective caesarean section in 36.84% of women in a group A and 30.00% of women group B.

In a study done by Ray Alokananda (2005)[4] et al found that 66.6% women of the study group delivered vaginally and 33.3% had caesarean section. Garg Renu (2017)[5] et al reported in their study that 64% women of the study group delivered vaginally and 36% had caesarean section.

In a study done by Dr.Alakananda (2016)[6] et al found that Out of the 100 cases of ICP, 62 cases went into spontaneous labour, 26 patients received induction of labour and rest 12 cases had elective LSCS. There were 63 vaginal deliveries and LSCS was done in 37% cases [12% elective and 25% emergency LSCS]. Among 63% vaginal delivery, 52% cases had spontaneous delivery and 11% cases had instrumental delivery. Incidence of spontaneous delivery was 64.5% in women in whom labour was spontaneous in onset, while it was 46.15% in induced labour group. Instrumental delivery rates in both groups were 8.06% and 23.06% respectively.incidence of emergency LSCS is 30.76% in patients in whom labour was induced which is higher than in the patients (27.41%) in whom labour was spontaneous in onset.

In our study 8.00% women had PROM, 16.00% women had preterm delivery in group A whereas 2.00% women had PROM, 8.00% women had preterm delivery in group B. None of all women had PPH in group A , 2% of women had PPH in the group B. The p-value was 0.99 which was stastically insignificant.

In a study done by Ray Alokananda (2005)[4] et al found that PPH occurred in 25%.of these ,one had received vitamin K 24 hours prior to induction of labour. M.Padmaja (2010)[6] et al reported in their study that 8.9% was PPROM, 24.4% was preterm delivery.there was no case of PPH in either group.

In a study conducted by Dr. Alakananda (2016)[6] et al that There was no significant maternal complication seen except that 6 patients had PPH which was managed conservatively.

In our study Intrauterine death was seen in 2% in group A and B. Stillbirth and Nenonatal death were 2% and 4% in group A and B respectively. The p-value was .97 ,which was stastically insignificant.

In a study conducted by M.Padmaja (2010)[7] et al that still birth rate (per 1000 total birth) was 22.2% and perinatal mortality rate 22.7% . IUFD was 1%. In a study conducted by Dr. Alakananda (2016)[6] et al that IUFD was 2%.

In a study done by Ray Alokananda (2005)[4] et al that IUFD was 5% , neonatal mortality rate was 5%, perinatal mortality rate was 105/1000 live birth.

CONCLUSION

Cholestasis of pregnancy has an adverse effect on the fetal outcome and hence early diagnosis with careful clinical examination and biochemical testing is essential.

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