ORIGINAL RESEARCH

Assessment of maternal and fetal outcome of jaundice in pregnancy

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ABSTRACT

Background: Jaundice is defined as the yellowish discoloration of skin, sclera and mucous membrane resulting from raised serum bilirubin concentration. The present study was conducted to assess maternal and fetal outcome of jaundice in pregnancy. **Materials & Methods:** 58 pregnant women with singleton pregnancies having onset of jaundice were enrolled. Maternal and neonatal outcomes was recorded. **Results:** Age group 20-30 years had 30 and >30 years had 28 patients. Parity was primi in 26 and multi in 32 patients. SES was upper in 14, middle in 23 and lower in 21 patients. The difference was significant (P< 0.05). The mode of delivery was LSCS in 35 and vaginal in 23. Labour onset was spontaneous in 26 and induced in 32. Admission-delivery interval was <10 days in 43 and >10 days in 15. ICU admission was seen in 11 patients. The difference was significant (P< 0.05). LBW was seen in 44, born alive in 56, still birth in 2, IUGR in 8 and NICU admission in 25 patients. The difference was significant (P< 0.05). **Conclusion:** For the 2 stillbirths, we can conclude that, both the patients were unbooked. One was a case of severe pre-eclampsia with hellp syndrome. The other patient had Obstetric cholestasis with grade 3 meconium.

Key words: Jaundice, perinatal outcome, Labour

INTRODUCTION

Jaundice is defined as the yellowish discoloration of skin, sclera and mucous membrane resulting from raised serum bilirubin concentration, that is clinically visible when bilirubin level exceeds 3 mg %, the normal level being 0.2-0.8 mg%.[1] Liver is one of the organs affected during pregnancy due to hormonal and metabolic changes. Metabolic, synthetic and excretory functions of the liver are affected by the increased levels of estrogen and progesterone in pregnancy.[2]

Jaundice during pregnancy can be attributed to liver diseases unique to pregnancy, pre-hepatic causes, hepatic causes and post-hepatic causes of jaundice.[3] Liver dysfunctions unique to pregnancy are pre-eclampsia, HELLP syndrome, acute fatty liver of pregnancy, intrahepatic cholestasis of pregnancy and hyperemesis gravidarum.[4] Prehepatic conditions including haemolytic anaemia, hepatic pathologies like acute viral hepatitis, drug-induced hepatitis, Budd–Chiari syndrome, Wilson's disease cause clinical hyperbilirubinemia.[5] Post-hepatic pathologies like CBD obstructions, gall stones, choledochal cyst, pancreatitis can also lead to clinical jaundice in pregnancy. Pre-eclampsia related liver dysfunctions and viral hepatitis are the most commonly encountered causes of jaundice in pregnancy.[6] The present study was conducted to assess maternal and fetal outcome of jaundice in pregnancy.

MATERIALS & METHODS

The present study consisted of 58 pregnant women with singleton pregnancies having onset of jaundice. All gave their written consent to participate in the study.

Data such as name, age, etc. was recorded. History recording and physical examination was carried out. Abdominal examination was done Maternal outcomes such as mode of onset of labour and delivery, ICU admission, component therapyand condition at discharge and complications were recorded. Neonatal mortality/morbidity, NICU admission and condition at discharge was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Demographic data

Parameters	Variables	Number	P value
Age group (years)	20-30	30	0.84
	>30	28	
Parity	Primi	26	0.95
	Multi	32	
SES	Upper	14	0.61
	Middle	23	
	Lower	21	

Table I shows that age group 20-30 years had 30 and >30 years had 28 patients. Parity was primi in 26 and multi in 32 patients. SES was upper in 14, middle in 23 and lower in 21 patients. The difference was significant (P< 0.05).

Table II Maternal outcome

Parameters	Variables	Number	P value
Mode of delivery	LSCS	35	0.81
	vaginal	23	
Labour onset	spontaneous	26	0.95
	induced	32	
Admission-delivery interval	<10 days	43	0.01
	>10 days	15	
ICU admission	Yes	11	0.01
	No	47	

Table II, graph I shows that mode of delivery was LSCS in 35 and vaginal in 23. Labour onset was spontaneous in 26 and induced in 32. Admission-delivery interval was <10 days in 43 and >10 days in 15. ICU admission was seen in 11 patients. The difference was significant (P< 0.05).

Graph I Maternal outcome

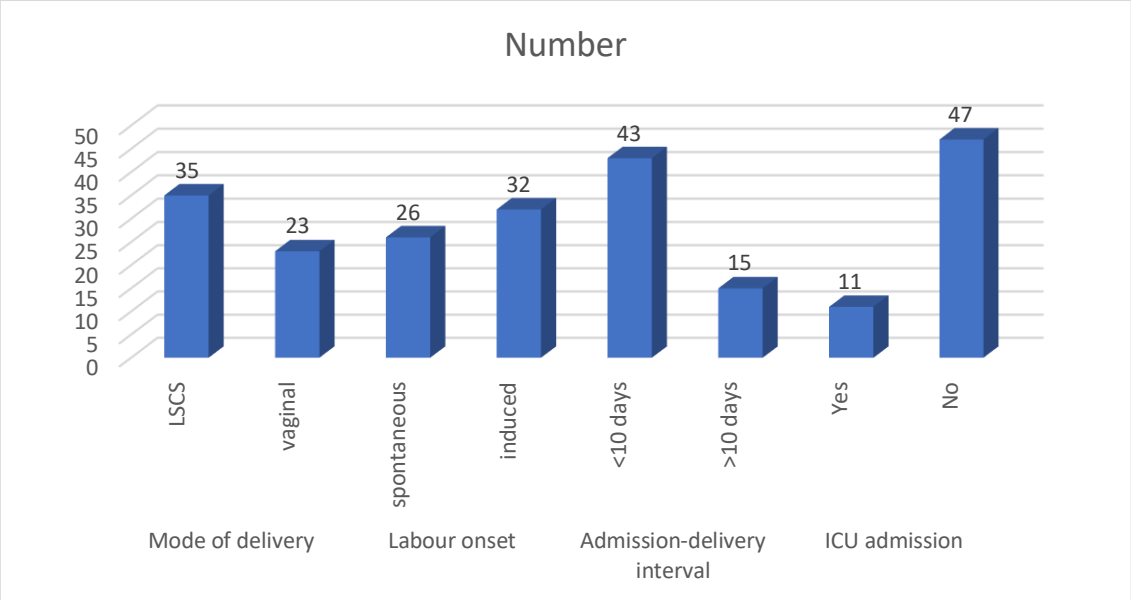

Table III Neonatal outcome

Outcome	Number	P value
LBW	44	0.38
Born alive	56	
Still birth	2	
IUGR	8	
NICU admission	25	

Table III shows that LBW was seen in 44, born alive in 56, still birth in 2, IUGR in 8 and NICU admission in 25 patients. The difference was significant (P< 0.05).

DISCUSSION

ICD 10 CM defines jaundice (R 17) as a clinical manifestation of hyperbilirubinemia which consists of deposition of bile pigments in the skin, resulting in yellowish staining of the skin and mucous membranes.[7] The normal serum bilirubin concentration in adults is less than 1 mg/dL; however, clinical jaundice is not manifested until the serum bilirubin is greater than 3 mg/dL.[8,9] Liver function tests remain largely unchanged during pregnancy except the increased levels of alkaline phosphatase (ALP). ALP is physiologically produced by placenta at the brush border membranes of the syncytiotrophoblast.[10,11] The present study was conducted to assess maternal and fetal outcome of jaundice in pregnancy.

We found that age group 20-30 years had 30 and >30 years had 28 patients. Parity was primi in 26 and multi in 32 patients. SES was upper in 14, middle in 23 and lower in 21 patients. Jyothi et al[12]in their study the maternal and fetal outcomes of 101 cases of jaundice in pregnancy were reviewed. The incidence of jaundice in pregnancy was 2.32%. Primigravidas constituted 46.53%. Women aged 20-30 years constituted 86.13%. Unbooked cases included 60.39%. Serum bilirubin was >10 mg/dl at admission in 1.98%. Out of the 101 women, 4 remained undelivered. Labor was spontaneous in 53.52%, vaginal delivery in 55.67%. However, 38.63% newborns required NICU care. Perinatal mortality was 8.91% (3.96% stillbirths and 4.95% early neonatal deaths. The causes for jaundice were viral hepatitis (30.69%), HELLP syndrome (30.69%), intrahepatic cholestasis (15.84%), acute fatty liver of pregnancy (13.86%) and the rest in combination constituted 8.91%. Maternal mortality was 3 in 101. The various maternal complications were DIC (44.55%), septicemia (10.89%), ARDS (7.92%), acute renal failure (8.91%) and MODS (3.96%). ICU was needed in 14.85% of mothers and blood component therapy in 70.29% cases. All deaths were within 3 weeks of admission.

We observed that the mode of delivery was LSCS in 35 and vaginal in 23. Labour onset was spontaneous in 26 and induced in 32. Admission-delivery interval was <10 days in 43 and >10 days in 15. ICU admission was seen in 11 patients. Changede P et al[13] in their study most of the cases of jaundice in pregnancy were seen in primigravida (51%) and age group of 20–30 years (58%). Fifty-three percentage of cases were referred or transferred from periphery hospitals. Hepatitis E was the most common cause (42%) of jaundice in pregnancy. Complications like disseminated intravenous coagulopathy, postpartum haemorrhage, hepatic encephalopathy and hepatoportal hypertension were seen in 65% of cases. Maternal mortality rate and perinatal mortality rate were as high as 40 and 37%, respectively.

We found that LBW was seen in 44, born alive in 56, still birth in 2, IUGR in 8 and NICU admission in 25 patients. Nagaria et al[14] in their study there were 6780 deliveries; the incidence of jaundice being 0.81%. Most common cause identified was viral hepatitis 34 cases (62%), 24 cases being hepatitis E, followed by cholestasis of pregnancy 13 cases (23.6%) and the rest 8 cases were due to other causes like leptospirosis, malaria, HELLP syndrome, drug induced and chronic liver disease due to portal hypertension.72.7% belonged from the rural set up. 45 patients were referred from peripheral hospitals. Maximum patients were primigravidas and were between the age group 25-29 years of age. 70% babies were low birth weight. 50% babies had intrauterine growth restriction. There were 12 maternal deaths,7 due to hepatitis E. Total vaginal deliveries were 37, 9 patients underwent lower segment caesarean section and 1 patient had instrumental (vacuum) delivery. Most common maternal complication was DIC and postpartum haemorrhage. 18 patients required ICU care, out of which 13 patients were Hepatitis E positive. Ventilator support was required in 73% of the patients admitted to the intensive care unit.

The limitation of the study is the small sample size.

CONCLUSION

Authors found that for the 2 stillbirths, we can conclude that, both the patients were unbooked. One was a case of severe pre-eclampsia with hellp syndrome. The other patient had Obstetric cholestasis with grade 3 meconium.

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