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Research Article

Jaundice in pregnancy: a clinical study at JSS hospital, Mysore, Karnataka, India

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ABSTRACT

Background: Jaundice in pregnancy is an important medical disorder seen more often in developing countries than in developed ones. It could be peculiar to the pregnancy viz., acute fatty liver of pregnancy, recurrent cholestatic jaundice in pregnancy and jaundice complicating toxemia of pregnancy. It can be concurrent with pregnancy such as due to infective pathology like viral hepatitis or due to gallstones or other causes. Jaundice in pregnancy carries a grave prognosis for both the fetus and the mother, and is responsible for 10% of maternal deaths. The present study analyzes the causes and the fetomaternal outcome in pregnancies affected with jaundice.
Methods: An analysis of fetomaternal outcome of 15 pregnant women admitted with jaundice during August 2014 to September 2015 is made.
Results: The incidence of jaundice in our study is 0.39/1000 deliveries, with the disease more common in younger age group. Majorities are unbooked and were in their third trimester of pregnancy. Viral hepatitis found to be the commonest cause. Perinatal mortality was 25% and prematurity accounted for majority of deaths. Maternal mortality was 20%. Main Causes of death was hepatic encephalopathy with renal failure, disseminated intravascular coagulation, postpartum hemorrhage and sepsis.
Conclusions: Jaundice and pregnancy is a deadly combination resulting in a very high perinatal as well as maternal morbidity and mortality, and requires an early diagnosis and careful management.

Keywords: Jaundice in pregnancy, Hepatic encephalopathy, Viral hepatitis in pregnancy

INTRODUCTION

Jaundice in pregnancy is an important medical disorder seen more often in developing countries than in developed ones. It complicates 3 to 5% of pregnancies and is one of the important causes of maternal and neonatal morbidity and mortality worldwide.[1] In developed countries, the incidence is around 0.1% where as in developing countries it can range from 3 to 20% or higher.[2]

It could be peculiar to the pregnancy that is acute fatty liver of pregnancy, recurrent cholestatic jaundice in pregnancy and jaundice complicating toxaemia of pregnancy.

It can be concurrent with pregnancy such as due to infective pathology like viral hepatitis or due to gallstones or it could be due to drugs administered during pregnancy.[3]

Jaundice in pregnancy carries a grave prognosis for both the fetus and the mother, and is responsible for 10% of maternal deaths. The present study analyses the causes and the fetomaternal outcome in pregnancies affected with jaundice.

The objective of this study was to the present study analyses the causes and the fetomaternal outcome in pregnancies affected with jaundice.

METHODS

The study site JSS Medical College and Hospital, Mysore, Karnataka, India. And the period of this study was an analysis of fetomaternal outcome of pregnant women admitted with jaundice during August 2014 to September 2015 is made. And the sources of data was Antenatal cases, JSS Hospital, Mysore, Karnataka, India

Inclusion criteria

All women booked or unbooked, who presented with recent onset of jaundice

A detailed history was taken and general, systemic and obstetric examinations were carried out.

Investigations included liver function tests, serum bilirubin, SGOT, SGPT, alkaline phosphatase, prothrombin time (PT), partial thromboplastin time (PTT), bleeding time (BT), clotting time (CT) and platelet count and viral markers which were carried out as and when required

The maternal outcome was noted in terms of the mode of termination of pregnancy, maternal complications and maternal end result.

Fetal outcome was assessed by perinatal morbidity and mortality, need for admission in nursery, and neonatal end result.

RESULTS

During the period from August 2014 to September 2015, 3773 deliveries were conducted in the department. Fifteen pregnant women were admitted with jaundice during the period, giving an incidence of 0.39/1000 deliveries.

Table 1: Etiology of jaundice in pregnancy.

Causes of jaundice	Number (n=15)	Percentage
Viral hepatitis A	1	6.7%
Viral hepatitis B	2	13.3%
Viral hepatitis C	-	-
Viral hepatitis E	3	20%
Sepsis	2	13.3%
HELLP	1	6.7%
Obstetric	4	27%
cholestasis	1	6.7%
AFLP	1	6.7%
Hereditary spherocytosis		

Of those 15 women, 73% (11/15) were unbooked. Most of the unbooked patients were referred being tertiary hospital.

80% (12/15) were between 20 and 30 years of age and 20% were between 30 and 40 years of age.

Table 2: Results of investigations.

Investigations	Number(n=15)	Percentage
Serum bilirubin		
<10mg%	9	60%
10-15mg%	4	26.6%
15-20 mg%	1	6.7%
>20 mg%	1	6.7%
SGOT and SGPT		
<100 IU/mL	3	20%
100-500 IU/mL	7	46.7%
500-1000 IU/mL	4	26.7%
1000 IU/mL	1	6.7%
Alkaline phosphatase raised	7	46.7%

Table 3: Pregnancy outcome.

Outcome	Number (n=15)	Percentage
Mode of delivery	12	80%
Vaginal	7	46.7%
Caesarean section	5	33.33%
Undelivered		
Improved and discharged	1	6.7%
Left against medical advice	-	-
Expired undelivered	1	6.7%
Aborted	1	6.7%

Table 4: Perinatal outcome.

Outcome	Number (n=12)	Percentage
Born alive	11/12	91.6%
Stillborn	1/12	8.33%
Early neonatal deaths	2/12	16.67%
Total perinatal deaths	3/12	25%
Pre term deliveries	6/11	54.5%
Term deliveries	5/11	45.5%
Admission to NICU	6/11	54.5%
Reason for NICU admission		
Prematurity	5/6	83.3%
Birth asphyxia	1/6	16.6%
Cause of neonatal death		
Birth asphyxia	0/2	0
Prematurity	2/2	100%

Relation with serum bilirubin level

Maternal mortality was directly related to the level of serum bilirubin as shown in Table. Trivedi et al also observed the same.[9]

Table 5: Maternal complications.

Maternal complications	Number(n=15)	Percentage
Encephalopathy	2	13.33%
Disseminated intravascular		
coagulation	3	20%
Renal failure	2	13.33%
Eclampsia	0	0
Shock	2	13.33%
Postpartum haemorrhage	2	13.33%
Pyrexia	1	6.66%
Death	3	20%

Table 6: Relation of maternal death to initial serum bilirubin level.

Initial serum bilirubin level	Number of deaths	Percentage
< 10 mg (n=9)	-	-
10-15 mg% (n=4)	1	25%
15-20 mg% (n=1)	1	100%
> 20 mg% (n= 1)	1	100%

Table 7: Comparison with reported maternal deaths due to jaundice.

Authors	Year	Maternal mortality (%)
Kamalajayaram and Devi R[4]	1988	12.4
Rao and Rudra[5]	2001	15.8
Roychowdhary et al[6]	1990	13.37
Bera and Sengupta[7]	1992	19.9
Sapre and Joshi[8]	1999	04.99
Trivedi et al[9]	2003	29
Tripti N, Sarita A	2003	14.4
Present study	2014-2015	20

DISCUSSION

The incidence of jaundice in India varies from 0.4 to 0.9/ 1000 deliveries. Our incidence is 0.39/1000 deliveries. Singh et al reported 1.03/1000 incidence while Kamalajayaram and Devi R reported 0.4/1000 incidence.[4,10]

The common causes of jaundice in pregnancy in our study were viral hepatitis (40%), intrahepatic cholestasis (27%), sepsis (13.3%), HELLP (6.7%), acute fatty liver of pregnancy (6.7%) and hereditary spherocytosis (6.7%). Cholestatic jaundice is also common during pregnancy, in which serum bilirubin levels of up to 6 mg% are seen with either minimal or no increase in serum enzyme levels. In our study, 27% of the cases had serum bilirubin levels of up to 6 mg% with minimal rise in enzyme levels. It is associated with prematurity and a perinatal mortality rate. No maternal mortality found in our study.

There are 2 cases with sepsis and 1 case HELLP with established complications were reported. In our study one case of hereditary spherocytosis and was associated with prematurity. Jaundice in pregnancy is associated with high maternal and perinatal mortality rates. Our perinatal mortality rate was 25%, and prematurity accounted for majority of the deaths. High perinatal mortality rate of 45.45% was observed by Singh et al and 22.2% was observed by Ambreen A et al.[10]

Our maternal mortality was 20% (3/15). A similar high mortality is reported by various authors. Kamalajayaram and Devi R reported 33.3% maternal mortality and Singh et al reported 10%.[4] Hepatorenal failure, encephalopathy. DIC and postpartum hemorrhage were responsible for the deaths. Various studies also report jaundice as one of the major indirect cause of maternal death, responsible for 5 to 30% of all maternal deaths (Table).[2,4-8] Maternal deaths were directly proportional to the level of the serum bilirubin. Trivedi et al also observed the same.[9] Maternal deaths were directly proportional to the level of the serum bilirubin. The factors responsible for a high maternal mortality in our country may be poor nutrition, prevalence of anemia, delay in seeking medical advice, and delay in referral to the hospital. Many of the patients when brought to the hospital are already in moribund condition and often, do not respond to treatment

CONCLUSION

Jaundice and pregnancy is a deadly combination resulting in a very high perinatal as well as maternal morbidity and mortality, and requires an early diagnosis and careful management.

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