



STUDY OF MATERNAL AND FETAL OUTCOME IN PREGNANT PATIENTS WITH JAUNDICE

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ABSTRACT **Introduction-** Jaundice in pregnancy is an important medical disorder, more commonly seen in developing countries than developed ones. It has multi-factorial etiology. All liver diseases occurring during pregnancy can lead to increased maternal and fetal morbidity and mortality.

Objective- To study the maternal and fetal outcome in pregnant patients with jaundice

Method- It was a hospital based clinical study. It was a cross sectional study. 170 cases were studied. Patients were followed till delivery to study the maternal, fetal and neonatal outcome.

Result- Incidence of jaundice was 0.68% per year. Both maternal and fetal complications are very high with jaundice in pregnancy.

Conclusion- Jaundice in pregnancy is a grave combination. It affects both fetal and maternal outcome. The most common cause of jaundice was viral hepatitis. Viral hepatitis due to HEV has grave prognosis. There is a high risk of preterm delivery, fetal distress and IUFD. Early diagnosis and timely management of pregnancy at tertiary care center helps in reducing maternal and perinatal morbidity and mortality.

KEYWORDS :

INTRODUCTION-

The word "Jaundice" is derived from the French word "Jaune" meaning yellow. Jaundice in pregnancy, whilst relatively rare, has potentially serious consequences for maternal and fetal health.¹ It has multi-factorial etiology. All liver diseases occurring during pregnancy can lead to increased maternal and fetal morbidity and mortality.^{2,3} In jaundice in pregnancy of any etiology (haemolytic, viral etc.) liver functions are grossly affected. The hormonal, hemodynamic and immunological changes unique to pregnancy not only alter the course of both acute and chronic liver disease in pregnancy, but they may in turn affect the outcome of pregnancy. Physical findings such as palmer erythema, spider angiomas which may suggest liver disease, may be found normally during pregnancy. However, up to 3% of all pregnancies are complicated by liver disorders.

Jaundice in pregnancy carries a grave prognosis for both the foetus and the mother and when present it is a fatal combination and it significantly endangers foetal and maternal wellbeing. Complications like DIC, thrombocytopenia, renal failure, PPH and maternal mortality rates are high with the disease. It is responsible for about 60% of perinatal mortality and about 14% of maternal mortality in India.

The present study analyses the cause and fetomaternal outcome in pregnancies which are affected with jaundice.

MATERIALS AND METHODS

AIMS AND OBJECTIVES

1. To study the incidence of jaundice in pregnancy.
2. To study the outcome of jaundice on maternal health in pregnancy.
3. To study effect of jaundice on foetus in pregnancy.
 - a. Study design: Cross-sectional study
 - b. Place of study: Government Medical college and Hospital
 - c. Study period: 24 months (Sep 2014 to Sep 2016)
 - d. Ethics Consideration:

The final study protocol, including the final version of the subject information sheet and consent forms were approved by the Ethics Committee of the medical college before enrolment of any subject into the study.

e. Consent: Subjects were given adequate verbal and written information about the nature, purpose and benefit of the study. Written informed consent was obtained.

f. Participants:

A. INCLUSION CRITERIA

1. All patients presenting with jaundice (discoloration of sclera, high

colored urine, pruritus) and prodromal gastrointestinal symptoms of hepatitis (as fever with right upper quadrant pain, anorexia, malaise, myalgia, arthralgia and vomiting).

2. All patients with increased serum bilirubin. (>2.5-3mg/dl) (Normal 0.2- 1.2 mg/dl)⁴

B. EXCLUSION CRITERIA

1. Previously diagnosed cases of chronic liver diseases.
- g. Sample size:

Sample size (N) = $Z^2P(1-P)/E^2$

Z= percentage point corresponding to significance level. For significance level 5%, Z is 1.96.

P is the incidence of jaundice in pregnancy is 0.4%⁵

E is corresponding maximum error and is 0.2 (relative error)

Therefore the maximum sample size required was 12450.

h. Data collection: Total admissions of patients with jaundice in pregnancy admitted at our tertiary care hospital during this period were 170. Total deaths due to jaundice in pregnancy were 22.

RESULT

TABLE 1: INCIDENCE OF JAUNDICE IN PREGNANCY

Total number of patients in 2 years	24957
Patients with jaundice	170
Incidence	0.68% per year

TABLE 2: PREGNANCY OUTCOME

OUTCOME	NUMBER	PERCENTAGE	
Delivered 160(94.11%)	Vaginal delivery	130	76.47
	LSCS	30	17.64
Undelivered 10(5.88%)	Expired	7	4.11
	Discharged against medical advice and did not come for follow up	3	1.76

Outcome	No. of death	Percentage %	
Antepartum	7	4.11	
Postpartum	15	8.82	
Mode of delivery	Vaginal	13	7.64
	LSCS	2	1.17
Total	22	12.94	

TABLE 3: PERINATAL OUTCOME

OUTCOME	NUMBER	PERCENTAGE %		
Preterm delivery (<37 weeks) 115 (67.64%)	Live birth	98	57.64	
	IUFD	17	10	
	Meconium	Yes	13	7.64
		No	102	60
	Weight	2.5 kg & >2.5 kg	21	12.35
		<2.5 kg	94	55.29
Admission in NICU	45	26.47		
Full term delivery (37 weeks & >37 weeks) 20(11.76%)	Live birth	18	10.58	
	IUFD	02	1.17	
	Meconium	Yes	01	0.58
		No	19	11.17
	Weight	>2.5 kg	05	2.94
		<2.5 kg	15	8.82
Admission to NICU	05	2.94		

TABLE 4: MATERNAL MORBIDITY AND MORTALITY

COMPLICATION	NUMBER	PERCENTAGE %
DIC	23	13.52
Encephalopathy	46	27.05
Thrombocytopenia	07	4.11
Renal failure	05	2.94
Postpartum Haemorrhage	12	7.05
Wound complication	05	2.94
Septicaemia	05	2.94
Preeclampsia, HELLP	07	4.11
Shock	04	2.35
Death	22	12.94

DISCUSSION

Jaundice is a rare complication in pregnancy, but when it occurs it does so in a dramatic and tragic fashion for both mother and infants. Incidence of jaundice varies from 0.1% to 3%. In our study, the incidence of jaundice in pregnancy is 0.68% per year. As per study done by Dr. Neema Acharya et al⁵ it was 0.4%. Majority of patients in this study were due to viral hepatitis. Out of that, 20% of patients were HBsAg positive and 39.41% were HEV positive. In 1997, Kar et al⁶ found that HEV is major cause of hepatitis in pregnancy. Complications associated with viral hepatitis were, anaemia (50%), IUGR (14.3%), IUFD (7.1%) and early neonatal death (3.57%).

In our study, most common cause of jaundice was infective hepatitis as seen in 64.70% of the patients. Among those with infective hepatitis, 39.41% patients had HEV infection. Shukla et al⁷ also reported 57% prevalence of viral hepatitis in all cases of jaundice. Safary et al⁸ and Kumar et al⁹ have reported 35-50% incidence of HEV. Mode of delivery depends upon severity of the disease and associated comorbidities. In this study, most patients went in spontaneous labour and those with severe preeclampsia & HELLP syndrome had labour induction. Other patients with infective hepatitis were managed conservatively till term and delivered at term. In our study 76.47% patients were delivered vaginally and 17.64% by caesarean section. 4.11% of patients expired before any obstetric outcome and 1.76% patients discharged and did not come for follow up. Out of 12.93% patients who died, 8.82% expired after delivery and 4.11% expired antenatally. Parveen T et al¹⁰ in 2015 observed that, maternal mortality due to jaundice was 8.69%. In our study 67.64% had preterm delivery and 20% had term delivery. 8.82% had MSL as compared to Ray et al¹¹ has reported 45% incidence of MSL. In this study, the perinatal mortality was 25.29% as compared to Tripti et al¹² Rathii et al¹³ and Sarkar et al¹⁴ have reported mortality of 61.76%, 35.4%, 41% respectively.

Early referrals, prompt delivery and availability of NICU have led to reduction in perinatal mortality in our study. Jaundice and associated co morbidities lead to many complications in mother like encephalopathy, DIC, renal failure, postpartum haemorrhage, wound complications, septicaemia, eclampsia, HELLP syndrome, etc. All deaths because of infective hepatitis were attributed to HEV, so, case fatality rate for HEV is 17.91% as compared to Rathii et al¹³ and Yeul et al¹⁵ reported 27% and 12% respectively. Early diagnosis, timely management and availability of intensive care facilities reduced maternal mortality. In our study maternal mortality due to jaundice is

12.94%. Various studies have reported 12-29% maternal mortality due to jaundice in pregnancy as Kamalijayaram and Ramadevi¹⁶ in 1988 noted 12.4% mortality, Roychowdhary et al¹⁷ in 1990 noted 13.35% mortality, Bera and Sengupta¹⁸ in 1992 observed 19.9% mortality, Sapre and Joshi¹⁹ in 1999 noted 4.9% mortality, Trivedi et al²⁰ in 2003 noted 29.3% mortality, and Nagaria & Agrawal¹² in 2014-16 noted 14.4% mortality.

CONCLUSION

Jaundice in pregnancy is a grave combination. It affects fetal and maternal outcome. The most common cause of jaundice was viral hepatitis. Viral hepatitis due to HEV has grave prognosis with high maternal mortality. There is a high risk of preterm delivery, fetal distress, and IUFD and meconium aspiration leading to high maternal mortality. Higher bilirubin levels are associated with higher maternal mortality.

Jaundice and pregnancy is a fatal combination. Both maternal and fetal complications are very high with jaundice in pregnancy. Prevention of hepatitis is very important especially in developing countries. Public health education helps in creating awareness regarding different modes of transmission of hepatitis and thereby reducing the incidence of jaundice in pregnancy due to hepatitis. Antenatal screening for HBsAg and immunization of all new-born and those at risk of hepatitis B is advocated. Other causes of jaundice in pregnancy like haemolytic jaundice and HELLP syndrome can be managed aggressively at a tertiary care center. Early diagnosis and timely management of pregnancy of jaundice at tertiary care center helps in reducing maternal and perinatal morbidity and mortality.

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