International Journal Dental and Medical Sciences Research
Volume 3, Issue 5, pp: 1383-1388 www.ijdmsrjournal.com ISSN: 2582-6018

A Clinical Study of Fetomaternal Outcome in Patients of Jaundice in Pregnancy

DR SUSHMA R SHAH, DR SVIJA GHANCHI, DR AMI V MEHTA,
DR PAYAL P PANCHAL, DR RAFIK GHANCHI, DR AAYUSHI SUTHAR,
DR CHARMI PRAJAPATI, DR SWETA MEHTA

Date of Submission: 12-11-2021 Date of Acceptance: 28-11-2021

I. INTRODUCTION

Jaundice is defined 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 membrane[(1)] . Jaundice in pregnancy carries a grave prognosis for both the fetus and the mother, and is responsible for 10% of maternal deaths[(1)]. The incidence of jaundice in India varies from 0.4 to 0.9/1000 deliveries. It is around 0.1% in developed countries and ranges from 3-20% or higher in developing countries[(1)].

Prevalence of Hep A and E is comparatively more common in India especially in lower socioeconomic class ,densely inhabited areas of urban slums lacking basic hygiene with seasonal increase incidence during summer and monsoon. Hepatic dysfunction complicates around 3-5% of pregnancies.

Commonest cause of jaundice in pregnancy is viral hepatitis . The most common viruses responsible for viral hepatitis are hepatitis A (HAV), hepatitis B (HBV), hepatitis C (HCV), hepatitis E virus (HEV). Jaundice is the most common symptom of acute hepatitis. In developing countries like India, hepatitis E is the commonest cause of fulminant hepatic failure in pregnancy, mostly occurring in the third trimester of pregnancy leading to high maternal mortality ranging from 15-45%[(2)].

II. MATERIAL AND METHODS

A retrospective observational study of 50 patients of jaundice with pregnancy in the department of obstetrics and gynecology at VS general hospital & Chinai Maternity Hospital Ahmedabad Gujarat from October 2018 to December 2020.

Inclusion criteria:
Pregnant women having recent onset of jaundice with altered liver function test.

Exclusion criteria:
- HbsAg positive
-history of alcoholism
-multifetal pregnancy
-chronic liver diseases
-hemolytic anemia
-congenital hepatobiliary diseases
-cardiac and renal diseases

A detailed history retrieved from data including patient's age, socioeconomic status , booking status ,and details of menstrual history to arrive at the expected date of delivery was obtained.physical examination and relevant investigation included platelet count, liver function tests, Viral markers, coagulation profile and ultrasound abdomen and fetus were carried out as and when required.

Also we took data of all babies. Baby was alive or dead, sex,gestational age at birth, weight, apgar score.

III. RESULTS

There were total 16000 deliveries conducted between October 2018 to December 2020. Of these 50 were admitted as diagnosed cases of jaundice. The incidence of jaundice in present study was calculated to be 0.31%. Satia MN et al showed 0.81% incidence of jaundice[(3)].

TABLE-1
DEMOGRAPHIC PROFILE

AGE GROUP(YEARS)	NO. OF CASES	PERCENTAGE
<20	4	4%
20-29	38	76%
>=30	8	16%
AREA		
RURAL	38	76%
URBAN	12	24%
PATIENTS		
REGISTERED	15	30%
REFERRED	35	70%
SOCIOECONOMIC CLASS		
LOWER MIDDLE	8	16%
UPPER LOWER	18	36%
LOWER	24	48%
GRAVIDITY		
PRIMIGRAVIDA	13	26%
MULTIGRAVIDA	37	74%
PERIOD OF GESTATION		
1ST TRIMESTER	3	6%
2ND TRIMESTER	7	14%
3RD TRIMESTER	40	80%

Out of the 50 patients, 76 % of the patients belonged to the age group of 20-29 years of age. This could also be due to most of the reproductive women in our set up belonging to this age group. 76% patients residing in rural area and 70% patients were referred as emergency from other hospitals, because our institute is a tertiary care teaching center. (And this is also because of most of the patients were from rural area and from lower socioeconomic class where probably the importance of antenatal registration and visits is not well established). 26% patients were primigravidas and 74% patients were multigravidae. Out of 50 cases 40 cases presented with jaundice during the 3rd trimester.

TABLE - 2
CLINICAL FEATURES

International Journal Dental and Medical Sciences Research
Volume 3, Issue 5, pp: 1383-1388 www.ijdmsrjournal.com ISSN: 2582-6018

SYMPTOMS	NUMBER OF CASES	PERCENTAGE
YELLOW COLOURED URINE	42	84 %
FEVER	18	36%
LOSS OF APPETITE	22	44%
NAUSEA AND VOMITING	36	72%
UPPER ABDOMINAL PAIN	17	34%
ITCHING OVER BODY	03	6%
CLAY COLORED STOOL	03	6%
ABDOMINAL DISTENTION	07	14%
SIGNS		
ICTERUS	48	96%
HEPATOMEGALY	05	10%
SPLENOMEGALY	04	08%
SCRATCH MARKS	03	06%
ASCITES	02	04%

On analysing the presenting symptoms, 84% had yellow coloured urine associated with nausea and vomiting (72%). Also other predominant symptoms were abdominal pain with loss of appetite and fever. Icterus was the most common clinical finding in 48 patients (96%) the same as compared to Mitta et al. Also 100 % patients had icterus [(4)] .

TABLE -3
LIVER FUNCTION TEST

SERUM BILIRUBIN	NUMBER OF CASES	PERCENTAGE
2-5	15	30%
6-10	23	46%
11-15	08	16%
16-20	04	08%
SGPT (IU/L)		
<200	21	42%
200-500	26	52%
>500	03	06%
ALP(IU/L)		
<400	39	78%
400-800	09	18%
>800	02	04%

The level of serum bilirubin varied between 2.8 to 18.4 mg/dl. 8% patients had high serum bilirubin more than 16 mg/dl. Most of the patients had SGPT between 200-500 and all of them were cases of viral hepatitis. Maximum number of patients 39 (78%) had serum alkaline phosphatase less than 400 and only 2(4%)patients had serum alkaline phosphatase more than 800.

TABLE-4
ETIOLOGY OF JAUNDICE IN ANTENATAL PATIENTS.

VIRAL HEPATITIS	NUMBER OF CASES (n=50)	PERCENTAGE
A	3	6%
B	4	8%
C	0	0
D	0	0

E	23	46%
PRE-ECLAMPSIA,ECLAMPSIA, HELLP SYNDROME	16	32%
INTRAHEPATIC JAUNDICE	3	6%
AFLP	1	2%

In Our study, the most common cause of jaundice is infectious viral hepatitis, it was seen in 58% patients . Hepatitis E was the most common cause, accounting for 46% patients of total cases and 76.66% of the infective viral hepatitis. Second most common cause of jaundice is preeclampsia, eclampsia, HELLP Syndrome accounting for 32% patients . Cholestatic jaundice is responsible for 6% cases of jaundice. AFLP is responsible for 2% cases of jaundice.

TABLE-5
MATERNAL COMPLICATION IN PATIENTS OF JAUNDICE

COMPLICATIONS	CASES	PERCENTAGE
DIC	12	24 %
ECLAMPSIA	6	12%
THROMBOCYTOPENIA	11	22 %
ATONIC PPH	10	20%
HEPATIC ENCEPHALOPATHY	4	8 %
MULTIORGAN FAILURE	3	6 %
MORTALITY	5	10%

In present study the most common complications were DIC and thrombocytopenia occurring in 24 % and 22 % of the cases respectively. Study by Ambreen et al showed that DIC was the most common complication accounting for 20.7% patients, similar to the study [5].

Nath J et al showed hepatic encephalopathy as a major complication present in 17% of cases which is 8 % in present study [6].

TABLE-6
PREGNANCY OUTCOME IN PATIENTS OF JAUNDICE

OUTCOME		TOTAL NO OF PATIENTS (50)
VAGINAL	PRETERM	19 (38%)
	TERM	12 (24%)
LSCS	PRETERM	8 (16 %)
	TERM	7 (14%)
ABORTION		3 (6%)
EXPIRED UNDELIVERED		1 (2%)

In Our study 62% patients of cases had vaginal delivery while the rest 30% patients had LSCS as the mode of delivery. 54 % patients had preterm delivery and 38% patients had term delivery. And 6% of cases had abortion.

TABLE-7
PERINATAL OUTCOME IN PATIENTS AFFECTED WITH JAUNDICE

Outcome of pregnancy	No. of case(n=46)	Percentage %
1. PRETERM	**27**	**54%**
LIVE	15	55.5%
STILL BIRTH	2	7.4%
EARLY NEONATAL DEATH	10	37.O3%
2. TERM	**19**	**38 %**
LIVE	16	84.2%

International Journal Dental and Medical Sciences Research
Volume 3, Issue 5, pp: 1383-1388 www.ijdmsrjournal.com ISSN: 2582-6018

STILL BIRTH	3	15.7%
EARLY NEONATAL DEATH	0	0.0%

Present study shows that out of 46 deliveries, preterm delivery rate was 54% out of which 55.5% were alive, 7.4% had stillbirth and the rest 37.03% had early neonatal death. Term delivery rate was 38% out of which 84.2 % were alive, 15.7 % had stillbirth and there was no case of early neonatal death in term babies.

TABLE -8
FETAL OUTCOME IN JAUNDICE PATIENTS

BABY WEIGHT (KG)	NUMBER OF BABIES	NEONATAL DEATH	PERCENTAGE
<1.5	14	07	57. 14%
1.5-2.5	20	06	30%
2.6-3.5	11	01	9. 09%
>3.5	01	00	00

In present study , LBW was found in 68% of babies and among them 87% mortality.

IV. DISCUSSION

Jaundice in pregnancy is very high risk pregnancy and requires tertiary centre care for management of mother and newborn . Overall incidence of jaundice in India is 0.5-4/1000 deliveries[1]. The incidence of jaundice in our study is 0.31%. And Satia MN et al showed 0.81% incidence of jaundice[3].

Most of the patients 76 % belonged to the age group 20-29 years, this could be due to early marriage and early child bearing in our country. 70 % patients were emergency admission and most of them from rural areas 38(76 %). This could be due to lack of knowledge regarding regular antenatal visits & severe impact of jaundice in pregnancy.

The maximum incidence of jaundice was in the 3rd trimester and the complications were also high. Harshad et al and other studies have stated that the maximum incidence of jaundice was in the 3rd trimester and morbidity and mortality were also higher during the 3rd trimester [7,8].

In the our study, high levels of S.bilirubin, and SGPT levels more than 500 IU/ml were associated with viral hepatitis. Harshad et al also reported that marked elevation of bilirubin and transaminases (10 fold) occured in viral hepatitis whereas patients with pregnancy associated liver disease like HELLP, Intrahepatic cholestasis of pregnancy and hyperemesis had only 2-3 fold elevation [7].

In our study the most common cause of jaundice is infectious viral hepatitis, it is seen in 58 % of the patients, similar to study by Acharya N et al who reported 60% patients with infective viral hepatitis[9].

Hepatitis E virus was the most common cause, accounting for 46 % of total cases of jaundice and 76.66 % of infective viral hepatitis. Study by Acharya N et al had Hepatitis E as a cause of jaundice in 50 % of the total cases and 83.33% of viral hepatitis cases[9].

Second most common cause of jaundice in our study was preeclampsia, eclampsia, HELLP syndrome accounting for 32 %. Most common complications in present study were DIC and thrombocytopenia occurring in 24 % and 22% of cases respectively.

Maternal mortality was 10% (5 out of 50 patients) were present in our study. In study highest mortality was due to DIC associated with hepatic encephalopathy and multiorgan failure. Other causes were severe eclampsia with pph. In the present study ,highest mortality was due to infective viral hepatitis . Mortality due to infective viral hepatitis was accounting for 60% of total mortality of the present study. All these cases were of hepatitis E.

In present study 62 % patients delivered vaginally, 30 % patients by caesarean section, 2 % patients expired undelivered and 6 % aborted. In a study by Mitta P et al 61.5% patients delivered vaginally, 30.76% patients by caesarean section and 2.5% aborted [4].

Out of 50 patients 27 (54 %) patients had preterm delivery and 19 (38 %) patients delivered at term, whereas 35% patients had preterm delivery and 62.5% patients had term delivery in a study conducted by Mitta P et al which is contradictory to present study[4].

Present study shows that out of 46 deliveries, preterm delivery rate was 54% and term

delivery rate was 38%. study by sharma Set al reported 26.7% preterm deliveries [10]. Limbani N et al reported 61% preterm deliveries [11].

In present study , LBW was found in 68% of babies and Satia MN et al reported 70% LBW babies in their study [3].and among them there was 87% mortality. Shukla et al reported 30.8% mortality in low birth weight babies [8].

All patients with jaundice were given special intensive care treatment. In mild disease Bed rest and diet comprised the main factors in the management of these patients. A nutritious diet containing about 3000 Kcal daily was provided. High protein diet was recommended. Critically ill patients were admitted in intensive care units and parenteral nutrition was given. Broad-spectrum antibiotics, mainly third generation cephalosporins (which were not hepatotoxic) and metronidazole were given to prevent sepsis. Blood and blood products transfusion was required in 55 % of the cases who had an abnormal coagulation profile.Ursodeoxycholic acid (UDCA) was given to all the patients as it improves pruritus. In obstetric cholestasis, the proposed mechanism of action of UDCA is displacement of more hydrophobic endogenous bile salts from the bile acid pool. This may protect the hepatocyte membrane from the damaging toxicity of bile salts; enhance bile acid clearance across the placenta from the fetus[12].

V. CONCLUSION

Jaundice in pregnancy significantly endangers maternal and fetal wellbeing. Viral hepatitis is the most common cause of jaundice in pregnancy. Increasing public awareness about the various routes of transmission of the different types of infective hepatitis, improving sanitary conditions and habits, imparting health education and knowledge of preventive measures, routine and regular antenatal check ups and viral markers as a part of routine antenatal screening will facilitate in reducing the burden of jaundice in pregnancy. Many of the Patients come to the hospital with poor general condition making further management more difficult.early diagnosis and multidisciplinary approach of management in pregnancy with jaundice at a tertiary care center with good nicu is helpful in reducing maternal and perinatal mortality and morbidity.

REFERENCES

[1]. Tripti N, Sarita A. Fetomaternal outcome in jaundice during pregnancy. J Obstet Gynecol India. 2005;55:424-27.

[2]. Khuroo MS. Hepatitis E The enterically transmitted non-A, non-B hepatitis. J Gastroenterol. 1991;10:96- 100.

[3]. Satia MN, et al. Jandhyala M. A study of fetomaternal outcomes in cases of jaundice at a tertiary care centre. Int J Reprod Contracept Obstet Gynecol. 2016;5:2352-7.

[4]. Mitta P. et al. Fetomaternal outcome in jaundice complicating pregnancy. J Dental Med Sci. 2016;15:72-6.

[5]. Ambreen A, Ahmed F, Sheikh A. Jaundice in pregnancy: a clinical study at Fatima Memorial System. J South Asian Fed Obst Gynae. 2015;7(1):22-5.

[6]. Nath J, Bajpayi G, Sharma R. A clinical study on jaundice in pregnancy with special emphasis on fetomaternal outcome. IOSR J Dental Medical Sci. 2015;14:116-9.

[7]. Harshad D, Walter KK, Ross D, Lakshmi P.Pregnancy-associated acute liver disease and acute viral hepatitis: differentiation, course and outcomes. Journal Hepatology. 2008;49:930-5.

[8]. Shukla S. et al. A Prospective study on acute viral hepatitis in pregnancy; seroprevalence, and fetomaternal outcome of 100 cases. J Biosci Tech, 2011;2(3):279-86.

[9]. Acharya N, Acharya S, Shukla S. et al. Study of jaundice in pregnancy. Global J Med Research Gynecol Obst. 2013;13(2):216-20.

[10]. Sharma S et al. Maternal and fetal outcome in jaundice complicating pregnancy: a prospective study Int J Reprod Contracept Obstet Gynecol.2016 Apr;5(4):1084-1087

[11]. Limbani N, Patel J, Patel B et al Outcome of pregnancy in cases of jaundice International Journal of Scientific Research V August 2014 VOLUME: 3|Issue: 8 | ISSN No 2277 - 8179

[12]. Serrano MA, Rites D, Larena MG, Monte MJ, Bravo MP, Oliviera N. Beneficial effect of. ursodeoxycholic acid on alterations induced by cholestasis of pregnancy in bile acid transport across the human placenta. J Hepatol. 1998;28: 829-39.