

## Jaundice in Pregnancy

Dr. Nidhi Nayak<sup>1</sup>, Dr. Prerak Modi<sup>2</sup>

1(Third year resident, Department of Obstetrics and Gynecology, civil hospital, ahmedabad)

2(Assistant Professor, Department of Obstetrics and Gynecology, civil hospital, ahmedabad)

---

### **Abstract:**

**Background:** Jaundice is the excess accumulation of bile pigments in the bloodstream and bodily tissues that causes a yellow to orange and sometimes even greenish discoloration of the skin, the whites of the eyes, and the mucous membranes. Jaundice in pregnancy causes significant maternal as well as perinatal mortality and morbidity 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. The present study analyses the cause and fetomaternal outcome in pregnancies in lower and middle socioeconomic classes which are affected with jaundice.

**Materials and methods:** All the indore patients in the department of obstetrics and gynecology, civil hospital, Ahmedabad with pregnancy with jaundice with bilirubin > 3mg% were included in this study. The study period was January 2019 to December 2019. All such patients were prospectively followed throughout the pregnancy and intrapartum period and their outcomes were studied. All the patients underwent clinical examination, complete blood count, liver function tests, viral hepatitis markers, coagulation profile, hepatobiliary, abdominal and foetal ultrasonography. Apart from these when required additional investigation to know exact etiology of liver disease were carried out.

**Results:** Jaundice in pregnancy is rare medical disorder affecting maternal and perinatal outcome. The most common cause of jaundice was viral hepatitis. Viral hepatitis due to Hepatitis E has grave prognosis with high maternal mortality. There is a high risk of preterm delivery, fetal distress, intra uterine death and meconium aspiration leading to high perinatal mortality.

**Conclusion:** Jaundice and pregnancy is a fatal combination. Both maternal and fetal complications are high with jaundice in pregnancy. Early diagnosis and timely management of pregnancy with jaundice at tertiary care centre helps in reducing maternal and perinatal morbidity and mortality.

**Key words:** hyperbilirubinemia, HELLP syndrome, viral hepatitis, DIC

---

Date of Submission: 18-07-2020

Date of Acceptance: 02-08-2020

---

### I. Introduction

The word 'Jaundice' is derived from the French word 'Jaune' meaning yellow.

Jaundice is a clinical manifestation of increased serum levels of bilirubin, either direct or indirect. When serum bilirubin level is more than 2mg/dl, it is clinically manifested as jaundice. Increased serum bilirubin causes yellowish discoloration of sclera, mucous membranes and urine. The incidence of jaundice in India varies from 0.4 to 0.9/1000 deliveries. Most common cause of jaundice in pregnancy is acute viral hepatitis. The incidence in the developing countries can range from 3 to 20%. The course of most viral hepatitis infections is unaltered in pregnancy with the exception of hepatitis E, where pregnant women have very high mortality rates of 10-20%. The hepatic function during pregnancy are affected by increased serum estrogen and progesterone levels. Physical findings such as palmer erythema, spider angiomas which may suggest liver disease, may be found normally during pregnancy. Jaundice in pregnancy has a grave prognosis for both the fetus and the mother and when present it is a fatal combination and it significantly endangers fetal and maternal well being. Complications like DIC, Thrombocytopenia, Renal failure, PPH and maternal mortality rates are high with the disease. The present study analyses the cause and fetomaternal outcome in pregnancies in lower and middle socioeconomic classes which are affected with jaundice.

### AIMS AND OBJECTIVES

- 1) To study the outcome of jaundice on maternal health in pregnancy
- 2) To study the effect of jaundice on fetus in pregnancy
- 3) To study the maternal and perinatal mortality associated with jaundice in pregnancy
- 4) To study the complications of jaundice in pregnancy

- 5) To study the outcome of labour in pregnancy complicated with jaundice

## II. Materials And Methods

This prospective study was carried out at Civil Hospital Ahmedabad from. During this period 10257 deliveries were conducted in our institute. Total 80 indoor patients with increased serum bilirubin ( $>3\text{mg}\%$ ) were included in the study.

**Study design:** prospective study.

**Study location:** this was a tertiary care teaching hospital based study done in Department of Obstetrics and Gynecology, Civil Hospital Ahmedabad.

**Study duration:** January 2019 to December 2019.

**Sample size:** 80 patients

**Subjects and selection method:** This study population was drawn from 10250 deliveries carried out at Civil Hospital Ahmedabad from January 2019 to December 2019 who had serum bilirubin levels more than  $3\text{mg}\%$ .

**Inclusion criteria:** Patients giving consent to participate in the study. Indoor patients with serum bilirubin more than  $3\text{mg}\%$ . Patients without other comorbidities.

**Exclusion criteria:** Patients not giving consent for participation in the study. Patients with other significant comorbidities.

### Procedure methodology:

Total admissions of patients with jaundice in pregnancy were 170 and total deaths due to jaundice in pregnancy were 33. Out of that; 80 indoor pregnant patients were included with increase serum bilirubin ( $>3\text{mg}\%$ ).

All such patients were prospectively followed throughout the pregnancy and intrapartum period and their outcomes were studied after written and informed consent.

The most common presenting symptom was abdominal pain. This was followed by yellowish discoloration of urine, sclera and skin, nausea and vomiting, fever, itching, altered sensorium, swelling of feet. More than one symptom was found in each patient

All the patients underwent clinical examination, complete blood count, liver function tests, viral hepatitis markers, coagulation profile, hepatobiliary, abdominal and foetal ultrasonography. Apart from these when required additional investigation to know exact etiology of liver disease were carried out.

Supportive management of patients with jaundice was done with oral or iv. glucose, oral lactulose, enema, oral sorbitol, inj vit K, oral or i.v. antibiotics.

Advice from internal medicine and gastroenterology department was taken for better and comprehensive management of the patients.

Critically ill patients were managed in intensive care unit.

## III. Observations

### • AGE DISTRIBUTION

AGE ( in yrs)	No. of patients	Percentage(%)
<20	4	5
20-24	42	52.5
25-29	22	27.5
$\geq 30$	12	15

Above table shows that maximum number of patients belonged to age group 20-29(80%).

### • GRAVIDITY OF PATIENTS AT TIME OF ADMISSION

Gravida	No. of patients	Percentage(%)
Primi gravid	44	55
Second gravid	21	26.25
Multi gravida	15	18.75

This table shows that 55% of the patients were primi gravida.

- TRIMESTER OF PREGNANCY**

Trimester	No. of patients	Percentage(%)
Second	3	3.75
Third	77	96.25

In this study 96.25% of the patients were from third trimester.

- RESULTS OF INVESTIGATIONS**

Investigation		Number	Percentage
Hemoglobin	<8 gm/dl	19	23.75
	8-10 gm/dl	25	31.25
	>10 gm/dl	36	45
Total WBC Counts	Raised	46	57.5
	Normal	34	42.5
Platelet Counts	<1,00,000 cu/mm	15	18.75
	>=1,00,000 cu/mm	65	81.25

Above table shows that, 65% of patients had anemia (hemoglobin<10), WBC was raised in 57.5%. Thrombocytopenia was found in 18.75% of patients.

- LIVER FUNCTION TEST**

Investigation		Number	Percentage(%)
Serum bilirubin	<5 mg/dl	23	28.75
	5-10 mg/dl	16	20
	10-15 mg/dl	14	17.5
	15-20 mg/dl	27	33.75
SGPT	<100 U/L	26	32.5
	100-1000 U/L	46	57.5
	>1000 U/L	8	10
SGOT	<100 U/L	24	26.5
	100-1000 U/L	49	61.25
	>1000 U/L	7	8.75
Serum alkaline phosphatase	Raised	57	71.25
	Normal	23	28.75

In this study serum bilirubin was more than 5mg/dl in 71.25% of patients and more than 15mg/dl in 33.75% of patients. SGPT>100 in 67.5% of cases. SGOT>100 in 61.25%. Serum ALP was raised in 71.25% of cases.

- MARKERS OF HEPATITIS**

Marker	No. of patients	Percentage(%)
HBsAg positive	5	6.25
HAV positive	0	0
HEV positive	41	51.25
HCV positive	0	0
Total	46	57.5

In this study 6.25% of patients were HBsAg positive and 51.25% were HEV positive.

- COAGULATION PROFILE**

Test		No. of patients	Percentage(%)
PT	Normal	53	66.25
	Raised	27	33.75
aPTT	Normal	53	66.25
	Raised	27	33.75
FDP	Normal	53	66.25
	Raised	27	33.75
d-Dimer	Normal	53	66.25
	Raised	27	33.75

In 33.75% of the cases coagulation profile were abnormal.

- CAUSES OF JAUNDICE IN PREGNANCY**

CAUSE	NUMBER	PERCENTAGE
Infective Hepatitis	A	0
	B	5
	C	0
	E	41
Cholestatic jaundice of pregnancy		15
Pre-eclampsia, Eclampsia, HELLP Syndrome		14
Hemolytic jaundice		3
Malaria		3

	Beta-thalassemia intermedia	1	1.25
	Septicemia	1	1.25

Most common cause of jaundice was infective hepatitis seen in 57.5% of patients. Amongst those with infective hepatitis, 51.25% patients had HEV infection. Mitra et al also reported that, the most common cause of jaundice during pregnancy is viral hepatitis. Second most common cause was cholestasis of pregnancy seen in 18.75% of cases. Pre-eclampsia, eclampsia and HELLP syndrome accounted for 17.5% of cases. Malaria induced hemolytic jaundice was seen in 3.75% of cases. In this study one case was of haemolytic jaundice due to beta thalassemia intermedia and 1 case of septicemia.

- PREGNANCY OUTCOME**

OUTCOME			NO. OF DEATH
Ante partum			7
Post partum			19
Mode of delivery	Vaginal	59	15
	LSCS	13	4
Total			26

Above table shows that, in our study 73.75% patients delivered vaginally, 16.25% by cesarean section, 7% patients expired before any obstetric outcome and 1.25% patient did not come for follow up after discharge. Out of 26(32.5%) patients who died, 19(23.75%) expired after delivery and 7(8.75%) expired antenatally. Common indications of LSCS were fetal distress (MSL), Previous CS and non progress of labour.

- PERINATAL OUTCOME**

Outcome		Number	Percentage(%)
Preterm delivery	Live birth	36	45
	Still birth	1	21.25
Full term delivery	Live birth	15	18.75
	Still birth	4	5

- Above table shows that, out of 90% of the patients delivered, 66.25% had preterm delivery and 23.75% of patients delivered at term.

**FETAL BIRTH WEIGHT**

Outcomes in terms of birth weight	No. of patients	Percentage(%)
LBW<2 kg	32	40
Normal weight>2 kg	40	50

Above table shows that, in our LBW was found in 40% of babies.

- MATERNAL MORBIDITY AND MORTALITY**

Complication	Number	Percentage(%)
Encephalopathy	20	25
Thrombocytopenia	5	6.25
Renal failure	3	3.75
Post partum hemorrhage	6	7.5
Wound complication	3	3.75
Septicemia	5	6.25
Eclampsia, HELLP	8	10
Shock	1	1.25
Death	26	32.5
DIC	11	13.75

In this study most complications were hepatic encephalopathy and DIC occurring in 25% and 13.75% of cases respectively.

- RELATION OF MATERNAL DEATHS AND CAUSE OF JAUNDICE**

Cause	No. of death	Case Fatality Rate(%)
Viral hepatitis	14	30.4
Cholestatic jaundice	1	6.6
Pre eclampsia, eclampsia and HELLP syndrome	10	71.4
Septicemia	1	100

All the deaths because of viral hepatitis were attributed to hepatitis E virus. So, case fatality rate of hepatitis E virus is 34.14%.

#### IV. Discussion

The incidence of jaundice in pregnancy, in India, ranges from 0.4-0.9/1,000 deliveries.

In this study 80 cases of jaundice with pregnancy were studied during the period of January 2019 to December 2019 in our institute.

80% of the patients belonged to age group 20-29 years. Majority of the patients were primi gravid (55%) and most commonly patients were affected in the third trimester (96.25%). Most common presenting symptom was abdominal pain in 73.5%. This was followed by yellowish discoloration of urine, sclera and skin in 60%, nausea and vomiting in 17.5%, fever in 17.5%, itching in 15%, altered sensorium in 12.5%, swelling of feet in 3.75%. More than one symptom was found in each patient. Serum bilirubin was more than 5mg/dl in 71.25% of patients and more than 15mg/dl in 33.75% of patients, SGPT >100 in 67.5% of cases. SGOT >100 in 61.25%. Serum ALP was raised in 71.25% of cases.

Most common cause of jaundice in pregnancy was viral hepatitis accounting for 57.5% of cases followed by cholestatic jaundice accounting for 18.75%, pre eclampsia, eclampsia and HELLP syndrome in 17.5% of cases, hemolytic jaundice was present in 5% of cases and septicemia in 1.25% of cases. Among the viral hepatitis most common infection was of Hepatitis E virus accounting for 51.25%.

Most common maternal complication was Hepatic Encephalopathy (25%) followed by DIC(13.75%), Eclampsia, HELLP(10%), postpartum hemorrhage(7.5%), thrombocytopenia(6.25%), septicemia(6.25%), wound complications(3.75%), renal failure(3.75%), shock(1.25%). Maternal mortality was 32.5%. 80% maternal mortality occurred when initial bilirubin was more than 20mg%. 73.75% patients delivered vaginally, 16.25% by cesarean section, 7% patients expired before any obstetric outcome. 66.25% had preterm delivery and 23.75% of patients delivered at term. Perinatal mortality rate was 50.98%.

Thus jaundice and pregnancy is a fatal combination. Viral hepatitis is one of the most common and potentially serious infectious that can occur in pregnant women. Both maternal and fetal complications are high with jaundice in pregnancy. Early diagnosis and timely management of pregnancy with jaundice at tertiary care centre helps in reducing maternal and perinatal morbidity and mortality. General public should be made aware regarding the routes of transmission of viral hepatitis.

#### V. Conclusion

Jaundice and pregnancy is a fatal combination. Both maternal and fetal complications are high with jaundice in pregnancy. Early diagnosis and timely management of pregnancy with jaundice at tertiary care centre helps in reducing maternal and perinatal morbidity and mortality.

#### References

- [1]. Strand, Ronaldo T. Infectious aetiology of jaundice among pregnant women in Angola. *Scand J Infect Dis* 2003;35(6-7): 401-3
- [2]. Siemens, F.C. The pregnant patient with acute liver disease. *Ned Tijdschr Geneesk* 2002;146(31):1433-7
- [3]. Suruchi Shukla et al. A Prospective Study on Acute Viral Hepatitis in Pregnancy; Seroprevalence, and Fetomaternal Outcome of 100 cases *J Biosci Tech*, Vol 2(3), 2011,279-286
- [4]. Patra. S. Kumar, A. Trivedi. Maternal and fetal outcomes in pregnant women with acute hepatitis E virus infection. *Ann Intern Med* 2007;147:28-33
- [5]. Oladokun, A. Otegbayo and J.A. Adeniyi, Viral hepatitis in the aetiogenesis of jaundice in pregnancy at the University College Hospital, Ibadan. *Afr J Med MedSci* 2007;36(2):115-8
- [6]. Arun Kumar Mitra. Liver disorders during pregnancy and their management. *The Antiseptic* 2008; 105(4): 193-196
- [7]. American Academy of Pediatrics and the American College of Obstetrics and Gynecologists: *Guidelines of Perinatal Care*, 8<sup>th</sup> ed. Elk Grove Village, AAP, 2017
- [8]. American College of Obstetrics and Gynecologists: *Viral hepatitis in pregnancy. Practice Bulletin No.86*, October 2007, Reaffirmed 2016

Dr. Nidhi Nayak, et. al. "Jaundice in Pregnancy." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(8), 2020, pp. 10-14.