

**Study of Cases of Pregnancy with Jaundice in a Tertiary Care Hospital****Snehalata<sup>1</sup>, Priyanka Gahlout<sup>2</sup>, Abha Rani Sinha<sup>3</sup>**<sup>1</sup>Senior Resident, Department of Obstetrics and Gynaecology, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar<sup>2</sup>Senior Resident, Department of Obstetrics and Gynaecology, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar<sup>3</sup>Professor and Head of Department, Department of Obstetrics and Gynaecology, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar

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**Abstract:****Background:** As a high-risk pregnancy with a poor prognosis for both the mother and the fetus, jaundice in pregnancy presents both the hepatologist and the obstetrician with an interesting and pressing challenge. The purpose of this study is to assess the prevalence, underlying causes, and fetomaternal outcome of jaundice during pregnancy in a tertiary care setting.**Methods:** The study included all antenatal patients with jaundice who were admitted to the Department of Obstetrics and Gynecology at the SKMCH, Muzaffarpur, Bihar, between May 2022 and April 2023.**Results:** In the current study, the incidence of jaundice during pregnancy was determined to be 0.65%. Viral hepatitis was the most frequent cause of jaundice. Patients with abnormal liver enzyme levels and patients in the age range of 25 to 29 who were primigravidas and from lower socioeconomic backgrounds most frequently presented with yellowish discoloration of the sclera and/or urine. DIC and PPH were two of the most frequently occurring causes of morbidity. The primary factors contributing to perinatal outcome and morbidity were neonatal hyperbilirubinemia, perinatal death, meconium-tainted liquor, and fetal discomfort. Both maternal and perinatal death rates were 21% and 23%, respectively.**Conclusion:** Pregnancy-related jaundice produces negative fetal and maternal outcomes. Increased health consciousness, education, routine antenatal care, and early referrals can lead to early jaundice in pregnancy diagnosis and treatment, lowering fetal and mother morbidity and mortality.**Keywords:** Jaundice, fetomaternal outcome, pregnancy.

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**Introduction**

The term "jaundice" refers to the yellowing of the skin and mucous membranes as a result of an increase in serum bilirubin. Being a physiological condition, pregnancy causes many changes in the hepatobiliary physiology and metabolism that, if they surpass a predetermined threshold, may result in a life-threatening pathological picture that could have serious consequences for both the mother and the unborn child.

This presents a significant challenge to the obstetrician who is treating the patient. Since it primarily affects women between the ages of 25 and 29 who are also primigravida patients, a significant portion of society is at risk as a result of this disease, which calls for considerable attention and care. Infective hepatitis afflicted 58% of patients, and it also caused 21% of cases of mortality globally, which is troubling for any healthcare system. Pregnancy-related jaundice presents a dire prognosis for both

the mother and the fetus [1]. Numerous pregnant women, including those who already had liver diseases at the time of conception, such as those with cirrhosis or chronic active hepatitis, were included in our study group. Another group of study participants included those who had concurrent diagnoses of liver diseases, such as those with viral hepatitis (58%), drug-induced hepatitis, and cholecystitis.

These findings might be accidental, but they're not all of them. The HELLP (10% instances) syndrome is another example of a liver condition that exclusively happens during pregnancy. There is a wide range of illnesses that can be listed, some of which are unique to pregnancy, such as acute fatty liver of pregnancy, recurrent cholestatic jaundice in pregnancy, and jaundice complicating toxemia of pregnancy, and others that are discovered to be concurrent with pregnancy due to infectious pathology, such as viral hepatitis or due to gallstones,

or the reason may be medication given during pregnancy [2].

### Material and Methods

From May 2022 to April 2023, the study was carried out in the Department of Obstetrics and Gynecology, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar. This study covered all of the patients who were either diagnosed upon admission or who were later diagnosed in this facility after investigations.

At the beginning of the condition, a systematic approach to the diagnosis was taken based on the presenting symptomatology. The study comprised 100 antenatal patients with jaundice (serum bilirubin > 3 mg%). The patients were prospectively monitored throughout the antenatal, intranatal, and postnatal

periods, and the outcomes were documented and analyzed.

Investigations included routine CBC, urine, blood sugar, liver function tests (LFT), viral markers (hepatitis A, HBsAg for hepatitis B, hepatitis C), hepatitis E, and coagulation profile were sent after a complete and detailed history and thorough clinical examination.

### Results

In our study, the prevalence of jaundice during pregnancy was 0.65%. The age groups from 25 to 29 were the most prevalent, followed by those from 21 to 24. The majority of patients (79%) were un-scheduled; 65% belonged to a lower socioeconomic position; 68% were from rural areas; and 46% were primigravidas (table 1).

**Table 1: Demographical Profile**

Parameters	No. of patients	Percentage
Age (in years)		
• <20	04	4%
• 21-24	36	36%
• 25-29	39	39%
• ≥30	21	21%
Gravida		
• Primi Gravida	46	46%
• Second Gravida	29	29%
• Multi Gravida	25	25%
Booked/Emergency		
• Booked	21	21%
• Emergency	79	79%
Socioeconomic status		
• Lower	65	65%
• Middle	29	29%
• Upper	06	6%

The most frequent presenting symptoms in the vast majority of patients were yellow discoloration of the sclera and urine, followed by abdominal pain, nausea/vomiting, and fever. However, only a small number of patients also had pruritus (itching). Additionally, 9 patients (table 2) presented with extremely acute severe fulminant illness and impaired sensorium.

**Table 2: Most common presenting symptoms**

Symptoms	No. of patients in present study (n=100)
Yellowish discolouration of sclera and/or urine	91
Abdominal pain	80
Nausea/Vomiting	32
Fever	25
Itching	12
Altered sensorium	9

Nearly half of the patients (44%) had elevated blood bilirubin levels above 10 mg/dl, and the majority of patients had abnormal liver tests such ALP and SGPT (table 3).

**Table 3: Liver Function Test (LFT) on admission**

Investigation	No. of patients	Percentage
Serum bilirubin		
• <5 mg/dl	26	26%
• 5-10 mg/dl	30	30%
• 10-15 mg/dl	12	12%
• 15-20 mg/dl	17	17%
• >20 mg/dl	15	15%
SGPT		
• <100 U/L	13	13%
• 100-1000 U/L	62	62%
• >1000 U/L	25	25%
SGOT		
• <100 U/L	23	23%
• 100-1000 U/L	57	57%
• >1000 U/L	20	20%
ALP		
• Raised	83	83%
• Normal	17	17%

Infective hepatitis and, out of it, hepatitis A & E shared the most common component among the several etiological variables involved in the pathophysiology of jaundice in pregnancy. Hepatitis E was its most lethal etiological contributor. Though solely detected in pregnancy, preeclampsia, eclampsia, and HELLP syndrome accounted for roughly 10% of cases and significantly contributed

to patient morbidities. In fact, the haemolytic blood picture was linked to and contributed to the development of jaundice in pregnant women. Even though the study was carried out in a tertiary care facility with all the necessary resources to undertake any type of inquiry as needed and quickly, 15% of the cases were discovered to be idiopathic (table 4).

**Table 4: Etiological Factors**

Etiological Factors	No. of patients	Percentage
Infective hepatitis	58	58%
Hepatitis A	20	20%
Hepatitis B	3	3%
Hepatitis C	0	0%
Hepatitis E	35	35%
Cholestatic jaundice of pregnancy	8	8%
Haemolytic jaundice	5	5%
Pre eclampsia, eclampsia, HELLP syndrome	10	10%
Others (gallbladder pathology and cirrhosis)	4	4%
Idiopathic	15	15%

In our study group, the most frequent problems were DIC, postpartum hemorrhage, and hepatic encephalopathy, which affected 13%, 10%, and 9% of patients, respectively (table 5). In the current study, there were 21 maternal deaths (table 6).

**Table 5: Maternal morbidity**

Complications	No. of patients	Percentage
Disseminated intravascular coagulation	13	13%
Renal failure	7	7%
Septicaemia	3	3%
Hepatic encephalopathy	9	9%
Postpartum haemorrhage	10	10%
ICU admission	2	2%

**Table 6: Maternal outcome**

Outcome	No. of patients	Percentage
Discharged	79	79%
Expired	21	21%

**Table 7: Relationship of maternal death and perinatal death to initial maternal serum bilirubin level**

Bilirubin	Total No. of patients	Total No. of maternal death	Total No. of perinatal death
<5 mg/dl	26	0	1
5-10 mg/dl	30	2	2
10-15 mg/dl	12	3	4
15-20 mg/dl	17	7	7
>20 mg/dl	15	9	9

**Table 8: Neonatal outcome in terms of perinatal morbidity and mortality**

Outcome	No. of patients
Preterm Labour	18
Intra-uterine growth restriction	11
Meconium stained liquor	23
Fetal distress	22
Antepartum fetal death	11
Intrapartum fetal death	5
Neonatal hyperbilirubinemia	28
Perinatal mortality	22

The participants in the current study group showed that jaundice during pregnancy not only threatens the health of pregnant women but also has a negative impact on the antepartum, intrapartum, and postpartum fetal outcome. Preterm labor was present in 18% of the patients, and a doppler study in 11% of those patients suggested intrauterine growth retardation, which led to a poor newborn prognosis and a higher prevalence of NICU admissions. Meconium-stained alcohol was present in 23% of instances during the intrapartum period, and 22% of newborns experienced intrapartum suffering that even resulted in antepartum and intrapartum death, which made up 11% and 5% of the patients, respectively. 28% of infants experienced icterus, or neonatal hyperbilirubinemia, necessitating either single or double surface phototherapy as well as monitoring of bilirubin levels. In the current study, perinatal mortality was 23% (table 8).

### Discussion

In India, there are 1 to 4 cases of jaundice for per 1,000 pregnancies. The incidence of jaundice in pregnancy was 0.65% in our study, higher than the results reported by Kamalajayaram and Rama Devi et al.7 (0.46%) and Rao KB and Rudra G et al.9 (0.2%), most likely as a result of the fact that we are a state-run tertiary care apex institute with a large influx of patients from the city, the state, as well as from areas nearby. Yellowish discoloration of the sclera and urine, together with nausea, vomiting, and stomach pain, were among the most typical signs of jaundice in pregnant women. Around 9% of patients also had altered sensorium. The majority (91%) of patients in the current study had yellowish

discoloration of their urine or sclera, which was nearly identical to studies by Patra et al (92.72%) [4].

The primary culprits that can be held responsible for jaundice in pregnancy include infectious hepatitis A, B, C, D, or E type. During pregnancy, cholestatic jaundice is also typical. Additionally, 13% of the cases had idiopathic causes. Patients who presented with advanced disease stages, altered liver markers and enzymes, and known complications like eclampsia, HELLP syndrome, renal failure, and hepatic encephalopathy required admission to the intensive care unit and management by a multidisciplinary team from the obstetrics and medicine departments. When they were brought to the hospital, many of the patients already had morbid conditions, and frequently to their dismay, they did not react to treatment.

We had a 21% maternal mortality rate. Several authors reported a comparable high fatality rate. Maternal mortality was reported to be 33.3% by Kamalajayaram and Rama Devi [7], 10% by Singh et al.6 and 29.3% by Trivedi et al.8. The causes of death were acute fulminant liver failure, renal failure (7%), hepatic encephalopathy (9%), DIC (13%) and postpartum hemorrhage (10%). The most common and harmful kind of viral hepatitis is HEV infection.

The amount of serum bilirubin was inversely correlated with maternal mortality. In the current study, the mean blood bilirubin level was 8.79 mg/dl, whereas Patra et al. (2007) [4] reported it to be 11.96 mg/dl. According to the data, jaundice during pregnancy is associated with significant rates of

morbidity and mortality for both the mother and the fetus. Out of 100 patients, 79 were from rural areas, had lower socioeconomic status, were unregistered, unbooked patients without antenatal care, arrived at the hospital late, or had late referrals from the periphery.

There were 23 perinatal deaths (23%), and when compared to the findings of other studies that were similar to ours, preterm was found to be the primary cause of death. Singh et al. [6] reported a high rate of perinatal mortality of 45.45%; preterm was the primary factor in these deaths.

### Conclusion

With extremely high maternal and perinatal morbidity and mortality, jaundice during pregnancy is a fatal illness. In our investigation, viral hepatitis A and E were the most frequent causes of jaundice. And we are all aware that viral hepatitis, particularly types A and E, can be avoided by raising public awareness of the several ways it is spread, promoting better hygiene and good habits, providing health education, and being aware of preventive measures. Mortality could be avoided with regular antenatal care, early diagnosis at a low bilirubin level, early transfer to a higher center, necessary urgent and timely therapies, and a multidisciplinary approach. Many patients are already morbidly ill when they are brought to the hospital, and they frequently don't respond to treatment. With the help of obstetrics, internal medicine, anesthesia, and critical care, jaundice in pregnancy should be addressed as a team so that early identification and active in-

tervention can avoid and reduce fetomaternal morbidity and death.

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