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Study of Maternal and Fetal Outcome in Jaundice Complicating Pregnancy at a Tertiary Care Centre - An Observational Study

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Abstract: ***Aim: To study materanal and fetal outcomes in jaundice complicating pregnancy. Methods: The incidence of jaundice in India varies from 0.4 to 0.9/1000. Deliverie. Jaundice affects a small percentage (1 - 4 per 1000) of pregnant women worldwide. Jaundice in pregnancy carries adverse outcomes for both the fetus and the mother. It accounts for 60% perinatal and 14% of maternal deaths. Jaundice in pregnancy carries a grave prognosis for both the mother and the fetus, and is responsible for 10% of maternal deaths. Liver disease in pregnancy is an important medical disorder seen more often in developing countries than in developed ones. 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. The aim of this study is to identify the various etiologies and distribution of jaundice with reference to age, parity and trimesters and also to determine the fetomaternal outcome among the pregnant women affected by jaundice treated at a, TERTIARY CARE CENTRE. Conclusion: Jaundice in pregnancy should be managed with multi - disciplinary team so that early diagnosis and aggressive management can prevent and reduce foeto–maternal morbidity and mortality. The development of jaundice during pregnancy is an important health hazard and needs careful monitoring during antepartum, peripartum and postpartum period***

Keywords: Jaundice, HELLP, DIC, Hepatitis

1. Introduction

The word “jaundice” is derived from French word “June” meaning yellow. By definition, jaundice is yellow discoloration of skin & sclera because of increase in S. Bilirubin.1 It is detected clinically at concentration of during pregnancy are affected by increase in serum estrogen and progesterone levels.

The incidence of jaundice in pregnancy varies throughout the world. It is around 0.1% in developed countries and ranges from 3 - 20% or higher in developing countries. Incidence of jaundice in pregnancy is 0.4 - 0.9/1000 in India.2 Viral hepatitis is the most common cause of jaundice in pregnancy. 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%.

Pregnancy - related jaundice can have harmful effects on the mother and foetus, including maternal and perinatal death, which account for 60% and 14%, respectively.

It is nevertheless brought on by a variety of factors, some of which are connected and others of which are coincidental, such as aberrant liver function specific to pregnancy, prehepatic causes, hepatic reasons, and post - hepatic causes of jaundice.

Although jaundice during pregnancy is uncommon, it can have dangerous materno - fetal consequences. This study sought to understand the clinico - etiological, biochemical, and maternal - fetal outcomes in pregnant women who experienced jaundice as well as the relationship between jaundice in pregnancy

2. Methods

Study design: Observational study

Study period: 1 year from April 3e2021 to April 2022

Study population
All pregnant women with jaundice presenting to IPD and emergency department during my study period.

Inclusion Criteria:
All pregnant women booked or unbooked, who presented with recent onset of jaundice to OPD and emergency department of obstetrics and gynecology
Patients consenting for study.

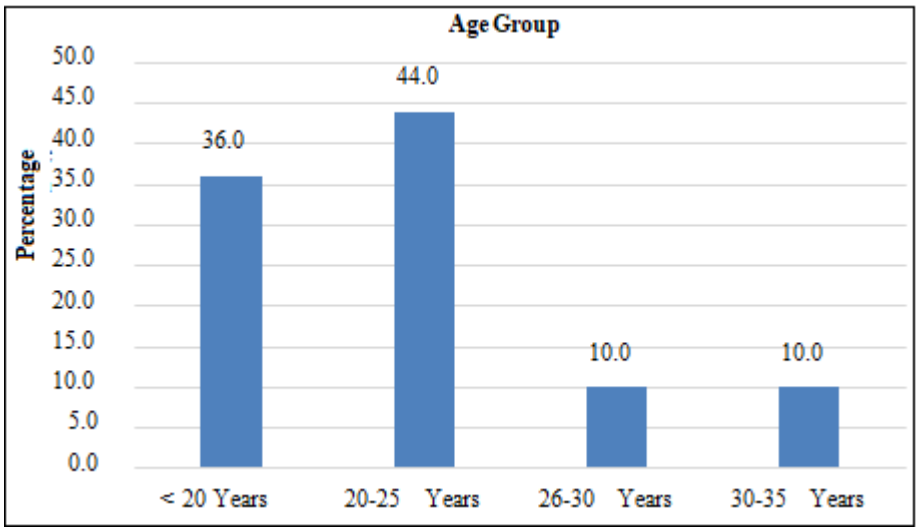
Sample size and sample technique -

Sample size - 50 cases.

Sampling technique – Consecutive sampling

3. Observation and Results

In the present study, as per Distribution according to age group, There are 18 (36%) pts < 20years, 22 (44%) pts from 20 - 25 years, 5 (10%) pts from 26 - 30 years, 5 (10%) pts from 30 - 35 years.



In the present study, there are 4 (8%) pts in first trimester, 11 (22%) pts in second trimester and 35 (70%) pts in third trimester.

According to type of parity, 30 (60%) pts are primi, 13 (26%) pts are gravida 2, 3 (6%) pts are gravida 3, 2 (4%) pts are gravida 4 and 2 (4%) pts are gravida 5.

Pregnancy outcome	Frequency	Percent
Delivered	44	88
Undelivered	6	12
Total	50	100

In the present study, according to Mode of Delivery, there are 1 (2.3%) Induced Labour, 17 (38.5%) LN with EPI, 10 (22.7%) LSCS, 2 (4.5%) Repeat LSCS, 10 (22.7%) NVD, 2 (4.5%) Forceps, 2 (4.5%) Pregnancy conserved. In the present study, Analysis of etiology showed 1 (2%) acute cholecystitis, 5 (10%) AFLP, 16 (32%) HELLP, 5 (10%) Hyperemesis, 7 (14%) ICP, 2 (4%) Sepsis, 4 (8%) Sickle cell and 10 (20%) Viral. In this study there were 5 cases of Hepatitis B, 4 cases of Hepatitis E and only 1 case of Hepatitis A.

In the present study, according to Maturity of baby, 31 (62%) babies were born Term, 12 (24%) babies were preterm, 7 (14%) were nil.

In the present study, according to sex of the baby, there were 22 (51.2%) female babies, 21 (48.8%) male babies

In the present study, there are 12 preterm, 6 still birth, 25 babies required NICU admission

In the present study, analysis of Hb (g/dl) values showed that 23 (46%) pts were having < 8, 14 (28%) pts had 8.8 – 9.9, 6 (12%) pts had 9 - 9.99, 2 (4%) pts had 10 - 11, 5 (10%) pts had >11, platelet count is decreased (↓) - > 1 Lac in 15 (32%) pts, Decreased (↓↓) – 0.5 to 1 Lacs in 15 (30%), Decreased (↓↓↓) <50, 000 in 4 (8%).

	Parameter	Number (n)	Percentage (%)
S11	Total bilirubin (mg/dl)		
	In normal range	1	2
	Elevated (↑)	24	48
	Elevated (↑↑)	17	34
	Elevated (↑↑↑)	8	16
2	InDirect bilirubin (mg/dl)		
	In normal range	14	26
	Elevated (↑)	25	50
	Elevated (↑↑)	9	18
	Elevated (↑↑↑)	2	4
3	Direct bilirubin (mg/dl)		
	In normal range	0	0
	Elevated (↑)	50	100
4	SGOT		
	In normal range	0	0
	Elevated (↑)	5	10
	Elevated (↑↑)	45	90
5	SGPT		
	In normal range	0	0
	Elevated (↑)	50	100
6	LDH		
	In normal range	34	68
	elevated	16	32
9	Prothrombin time and INR		
	In normal range	23	46
	Elevated (↑↑)	27	54

USG showed abruption in 1 (2%), IUD in 2 (4%), fatty liver in 3 (6%), gall stones in 4 (8%), GB wall edema in 1 (2%), hepatomegaly in 5 (10%), splenomegaly in 3 (6%).

Maternal complications

Parameter	Frequency	Percentage
Abruption	1	2
Atonic	6	12
AKI	1	2
Expired	6	12
Ketoacidosis	2	4
DIC	4	8
Nil	30	60
Total	50	100

4. Discussion

Because liver illnesses are understudied and can cause difficulties for the mother and the foetus, they constitute a unique clinical challenge for gynaecologists and liver specialists.5[0] Three to ten percent of pregnant women experience liver impairment

Pregnancy - related jaundice can have harmful effects on the mother and foetus, including maternal and perinatal death, which account for 60% and 14%, respectively

It is nevertheless brought on by a variety of factors, some of which are connected and others of which are coincidental, such as aberrant liver function specific to pregnancy, prehepatic causes, hepatic reasons, and post - hepatic causes of jaundice. HELLP syndrome, preeclampsia, acute fatty liver, hyperemesis gravidarum, and intrahepatic cholestasis of pregnancy are all conditions that have abnormal liver function that are specific to pregnancy. Hepatic diseases (viral hepatitis), hemolytic anaemia, drug - induced hepatitis, Wilson's illness, and Budd - Chiari syndrome are examples of pre - hepatic origins. CBD blockages, pancreatitis, choledochal cysts, and gallstones are examples of post - hepatic causes

Sharma S et al observed that the peak age of incidence was 21 - 25 years (66.6%). Devi KS et al observed that 92.54% of patients were between 20 - 35 years of age. Krishnamoorthy J et al observed that 74% of patients was between 20 - 29 years of age and maximum cases were Primigravida. Jyothi GS et al observed that women aged 20 - 30 years constituted 86.13%. Changede P et al observed that 58% belonged to age group of 20–30 years. Ambreen A et al and Kondareddy T et al observed that the disease was more common in younger age group

In the present study, there are 4 (8%) pts in first trimester, 11 (22%) pts in second trimester and 35 (70%) pts in third trimester. Hassan N et alobserved that most of cases had onset of symptoms between 32 - 36 weeks. Sharma S et alobserved that all cases were in third trimester of pregnancy. Choudhary N et al observed that 77.59% cases were in third trimester of pregnancy

In the present study, according to Pregnancy Outcome, there are 44 (88%) delivered, 6 (12%) undelivered. Jyothi GS observed that 4 remained undelivered. Choudhary N et al observed that 8 were undelivered

There are 1 (2.3%) Induced Labour, 17 (38.5%) LN with EPI, 10 (22.7%) LSCS, 2 (4.5%) Repeat LSCS, 10 (22.7%) NVD, 2 (4.5%) Forceps, 2 (4.5%) Pregnancy conserved. Tiwari R et al observed that the mode of delivery in 42% cases was lower segment caesarean section, 46% cases had normal vaginal delivery, while 12% cases had undergone abortion

Analysis of etiology showed 1 (2%) acute cholecystitis, 5 (10%) AFLP, 16 (32%) HELLP, 5 (10%) Hyperemesis, 7 (14%) ICP, 2 (4%) Sepsis, 4 (8%) Sickle cell and 10 (20%) Viral.

Kishore R et al[33] observed that HELLP syndrome was the commonest cause of jaundice in pregnancy (36.7%), followed by viral hepatitis (32.7%)

In the present study, 31 (62%) babies were born Term, 12 (24%) babies were preterm. Tiwari R et alobserved that 38% cases delivered full - term live baby and 78 (26%) cases delivered preterm live baby

In the present study, there are 12 preterm, 6 still birth, 25 babies required NICU admission. Kishore R et al observed that best fetal outcome was seen in viral hepatitis (live birth rate 67.6%), whereas worst noted with AFLP (fetal death rate 66.6%).

Kanwal S et al observed that still birth was 20% (20/40%) in which fresh still birth and macerated still birth was 15% and 5% which were not statistically significant while all were late neonatal death and which was significantly high in jaundice pregnant cases.

Maternal complications seen were abruption in 1 (2%) case, atonic in 6 (12%), AKI in 1 (2%), ketoacidosis in 2 (4%), DIC in 4 (8%) and 6 (12%) were expired. Causes of death were HELLP in 2 (4%), viral in 2 (4%), AFLP in 1 (2%) and sepsis in 1 (2%).

Tiwari R et al observed that mortality was due to HELLP - Hemolysis Elevated Liver enzymes and Platelet count in two cases and due to acute fatty liver in one case. Kishore R et alobserved that higher total serum bilirubin, higher serum AST, anemia and deranged INR had significant correlation with maternal mortality

5. Conclusion

Jaundice in pregnancy should be managed as a team with the collaboration of the department of obstetrics, internal medicine, gastroenterology, anaesthesia and critical care so that early diagnosis and aggressive management can prevent and reduce foeto– maternal morbidity and mortality. The development of jaundice during pregnancy is an important health hazard and needs careful monitoring during antepartum, peripartum and postpartum period. As prevention is better than cure, primary prevention by various health programmes and health education to pregnant women will help to live in a healthy environment.

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