

A Clinical Study On Jaundice In Pregnancy With Special Emphasis On Fetomaternal Outcome

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Abstract:

Aim Of The Study: This study was undertaken to evaluate the fetomaternal outcome in pregnancies complicated by jaundice.

Materials & Methods: Antenatal patients with jaundice attending TMMCRC, Moradabad, U.P. between January 2011 to January 2014 were included in the study.

Results: 100 patients had jaundice in pregnancy. The incidence was 0.95 %. Most common cause of jaundice was viral hepatitis (49%). Most common complications were hepatic encephalopathy, DIC, ICU stay, thrombocytopenia. The mortality rate was 10 %.The perinatal mortality rate was 19 %.

Conclusion: Jaundice in pregnancy has adverse fetomaternal outcome. Improvement in health awareness, education & routine and regular antenatal checkups ,early referrals can result in early diagnosis and treatment of jaundice in pregnancy thus reducing the fetal and maternal morbidity and mortality.

Key Words: jaundice, pregnancy, fetomaternal outcome, mortality, morbidity

I. Introduction:

Jaundice is defined as yellowish discolouration of skin & mucous membranes due to increase in serum bilirubin. Pregnancy being a physiological condition sees many alterations in the hepatobiliary physiology and metabolism. Upto 3 % of pregnancies are complicated by liver disorders (1). Jaundice in pregnancy carries adverse fetomaternal outcome and accounts for almost 60 % of perinatal & 14 % of maternal mortality (2).

The normal physiological changes in pregnancy eg palmar erythema, spider naevus, cherry angiomas, lithogenic bile, cholestasis etc may mimic liver disease , but can be attributed to increased serum oestrogen & progesterone (3). These changes not only alter the course of both acute & chronic liver disease in pregnancy , but may also affect the fetomaternal outcome. Hence the present study was conducted to analyse the etiological factors and fetomaternal outcome of jaundice in pregnancy.

II. Materials & Methods:

The study was conducted in Teerthanker Mahaveer Medical College & Research Centre (TMMRC), Moradabad, U.P. in north India from January 2011 to January 2014 (three calendar years). 100 antenatal patients with jaundice (serum bilirubin > 3 mg %) were included in the study, prospectively followed in antenatal, intranatal and postnatal period & results were recorded and analyzed . After proper and detailed history and thorough clinical examination , investigations including routine ANC profile –ABO-Rh , CBC, Urine, Blood sugars, Liver Function Tests (LFT), Viral markers (Hepatitis A, HBsAg for hepatitis B, Hepatitis C (HCV), hepatitis E), coagulation profile, hepatobiliary-abdominal & obstetric ultrasound were done. The patients were managed by team collaboration of Obstetrics, Internal medicine, Gastroenterology, Anaesthesia & Critical care & Gastroscopy departments.

III. Results & Observations :

The incidence of jaundice in pregnancy was 100 in 10500 deliveries (0.95 %)

The most common age groups were between 25-29 years followed by 21-24 years. Most patients were unbooked (79 %) , belonged to lower socio-economic stratum (65 %) , hailed from rural setup (68 %) and primigravidas (38 %).

Table 1. Age distribution

Age (years)	No. of patients	Percentage (%)
≤ 20	4	4.0
21 – 24	36	36.0
25 – 29	39	39.0
≥ 30	21	21.0

Table 2. Obstetric History

Gravidity	No. of patients	Percentage (%)
Primigravida	38	38.0
Gravida 2-3	35	35.0
Gravida ≥ 4	37	37.0

Table 3. Booking status

Booking status	No. of patients	Percentage (%)
Booked	21	21.0
Unbooked	79	79.0

Table 4. Clinical presentation

Symptoms & signs	No. of pts	Percentage (%)
Nausea, vomiting	38	38
Loss of appetite	36	36
Yellow discoloration of urine	23	23
Pain abdomen	29	29
Pallor	89	89
Icterus	100	100
Haematemesis	6	6
Hepatomegaly	11	11
Splenomegaly	6	6
Abdominal tenderness	19	19
Edema	21	21
Petechial haemorrhages	6	6
Bleeding per vaginum	7	7
Pre eclampsia	14	14
Eclampsia	7	7
Unconsciousness/coma	16	16

Table 5. Socioeconomic background

Socio-economic status	No. of patients	Percentage (%)
Lower	65	65.0
Middle	29	29.0
Upper	6	6.0

Table 6. LFT at admission

Serum bilirubin (mg %)	No. of pts	Maternal death	Percentage (%)
< 5	29	0	0
5-9	35	1	2.85
10-14	21	2	9.54
≥ 15	15	7	46.6
Serum ALT (IU/ml)	No. of pts	Maternal death	Percentage (%)
< 35	15	0	0
36-999	70	8	11.42
≥ 1000	15	2	13.3

Table 7. Coagulation profile

Test		No. of pts	Percentage (%)
PT	Normal	72	72
	Raised	28	28
aPTT	Normal	72	72
	Raised	28	28
FDP (fibrin degradation product)	Normal	72	72
	Raised	28	28
D-dimer	Normal	79	79
	Raised	21	21

Table 8. Infective hepatitis

Viral hepatitis type	No. of pts (total = 49)	Percentage (%)
Hepatitis A	23	23
Hepatitis B (HBsAg +ve)	17	17
Hepatitis C (HCV +ve)	6	6
Hepatitis E	3	3

Table 9. Etiological factors of Jaundice in pregnancy

Serial no.	Etiological factors	No. of pts	Percentage (%)
1	Infective hepatitis	49	49.0
	Hepatitis A	23	23
	Hepatitis B	17	17
	Hepatitis C	6	6
	Hepatitis E	3	3
2	Cholestatic jaundice of pregnancy	15	15
3	Pre eclampsia, eclampsia, HELLP Syndrome	20	20
4	Malaria induced haemolytic jaundice	5	5
5	Others	11	11
	Gall bladder disease (cholelithiasis)	10	10
	Cirrhosis of liver	1	1

Table 10. maternal morbidity & mortality

complication	No. of pts	Percentage (%)
Hepatic encephalopathy	17	17.0
DIC	14	14.0
Thrombocytopenia	9	9.0
Sepsis	7	7.0
Wound infection	6	6.0
Chest infections	6	6.0
ICU stay	14	14.0
Ventillatory support	11	11.0
Renal failure	5	5.0
Death	10	10.0

Table 11. Cause of maternal mortality

Cause	No. of pts	Case fatality ratio (CFR)
Viral hepatitis	7	49.0 %
Malaria (hemolytic jaundice)	2	40.0 %
PE,Eclampsia , HELLP Syndrome	1	5.0 %

Table 12. Mode of delivery

Mode of delivery	No. of pts	Percentage (%)
Vaginal delivery	72	74.2
• Spontaneous	58	59.7
• instrumental delivery	14	14.4
o forceps	9	
o ventouse	5	
Caesarean section	25	25.7

Table 13. Fetal outcomes

Outcome	No. of pts	Percentage (%)
Preterm birth	59/87 live births	67.8
Term delivery	28/87 live births	32.1
IUFD (intrauterine fetal death)	10	10.0
Undelivered (mother died)	3	3.0
LBW (<2.5 kg)	35/97 deliveries	36.0
Normal birth weight (>2.5 kg)	52/97 deliveries	53.6
NICU admission	58/87 live births	66.6
• LBW	30	51.7
• MAS (meconium aspiration syndrome)	14	24.1
• Sepsis	11	18.9
• Others	3	5.1
Perinatal deaths	16/97	16.4
• Stillborn	10	10.3
• Early Neonatal Death	6	6.1
Cause of neonatal death		
• Severe birth asphyxia	4	66.6
• Prematurity	2	33.3

IV. Discussion :

The incidence of jaundice in pregnancy in our study was 0.95 % , which is comparable to the results as cited by Kamalajayaram & Rama Devi et al who stated it as 0.46 % (6), Rao K.B & Rudra G et al – 0.2 % (8). The figures are on the higher side in our study which can be attributed to the fact that ours is a tertiary care referral centre with a very vast area of patient drainage. In our study the most common maternal complications were hepatic encephalopathy (17 %), DIC (14 %), ICU stay (14 %), ventilatory support requirement (11 %), thrombocytopenia (9 %), sepsis (7 %), wound infection (6 %), renal failure (5 %), which were comparable to those stated by Tripti Nagaria et al – encephalopathy (26.7 %), DIC (21.8 %), thrombocytopenia (21 %), septicaemia (4.8 %) (2). The maternal mortality in our study was 10 % , and that in the study by Tripti Nagaria et al was 14.4 % (2) , Kamalajayaram & Rama Devi et al in 1988 -12.4 % (6), Rao & Rudra et al – 2001 – 15.8 % (8), Roy Choudhary et al- 1990-13.37 % (9), Bera & Sengupta et al – 2002- 19.9 % (7), Sapre & Joshi et al- 2009-4.99 % (10) & Trivedi et al -2003 – 29.3 % (11). The fetal morbidity and mortality figures in our study are comparable to those by the above authors . In our study, 67.8 % were born preterm, 32.1 % at term, 10 were intrauterine deaths, 3 remained undelivered as the mothers died before their birth, 36 % were of low birth weight, 66.6 % required NICU admissions with LBW and meconium aspiration syndrome being the commonest indications. There were 16 perinatal deaths which included 10 stillbirths & 6 early neonatal deaths (attributed to severe birth asphyxia & prematurity). These are comparable to those stated by Tripti Nagaria et al -50 % stillbirth, 11.76 % neonatal deaths, 61.76 % total perinatal deaths , and 67 % NICU admissions (2). After comparing the results observed in our study and those seen in other studies as above, one can say that jaundice in pregnancy has high maternal and fetal morbidity & mortality. Most of the patients hailed from rural areas with lower socioeconomic background, lack education and health awareness, unregistered, unbooked patients with no antenatal care, reported late to the hospital or were referred late from the peripheries.

V. Conclusion:

Jaundice, which complicates 1 in every 1000 pregnancies in India, is associated with adverse maternal and fetal prognosis. Viral hepatitis is the most common cause of jaundice in pregnancy. Generating public awareness about the various routes of transmission of the different types of infective hepatitis, improving sanitary conditions & habits, imparting health education and knowledge of preventive measures, routine and regular antenatal checkups and viral markers as a part of routine antenatal screening can help in reducing the burden of jaundice in pregnancy .

Jaundice in pregnancy should be managed as a team with collaboration of Obstetrics, Internal Medicine, Gastroenterology, Anaesthesia & Critical Care so that early diagnosis and aggressive management can prevent and reduce fetomaternal morbidity & mortality.

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