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MATERNAL AND FETAL OUTCOMES OF JAUNDICE IN PREGNANCY AT THE UNIVERSITY COLLEGE HOSPITAL, IBADAN

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ABSTRACT

Objective: This study is aimed at determining pregnancy outcome of cases of jaundice in pregnancy over a 10 year period at the University College Hospital, Ibadan.

Methodology: All case records of patients with jaundice in pregnancy over a 10-year period from 1st January 1992 through 31st December 2001 were retrieved from the medical records office of the hospital and analysed.

Results: During the ten-year study period, there were 16,566 registered pregnancies in the hospital, and 52 cases of jaundice in pregnancy were seen, giving an overall incidence of 0.3% or 1 in 318 deliveries. However, 48 case records were retrievable. Viral hepatitis was the commonest cause accounting for 58.3% of cases. It was followed by malaria and sickle-cell anaemia with 20.8% and 16.7% respectively. Other causes include sepsis 14.6%, cholestasis 6.3%, and Pre-eclampsia 2.1%. Preterm delivery occurred in 39.6%, while intrauterine fetal death (IUFD) occurred in 8.3% of cases, all occurring in the third trimester. A case of early neonatal death was recorded. There was no maternal death and the mean hospital stay was 18 days (range 4-45 days) during admission.

Conclusion: Viral hepatitis, malaria and sickle-cell anaemia are the leading causes of jaundice in pregnancy. These should be promptly diagnosed, investigated and appropriate management instituted as most of the perinatal deaths can be avoided by close fetal monitoring especially in the third trimester and with recourse to early delivery before fetal demise occurs.

Key Words: Jaundice in pregnancy, viral hepatitis, pre-term labour, HELLP syndrome, pregnancy outcomes.
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INTRODUCTION

Jaundice is not common in obstetric patients, occurring about once in 2000 pregnancies¹, although there is a much higher frequency in countries where the general incidence of hepatitis is high. Most of the diseases causing jaundice in non-pregnant patients can also coincidentally occur in pregnancy; however some diseases are specifically associated with pregnancy. Such diseases include; hyperemesis gravidarum; recurrent intrahepatic cholestasis of pregnancy; acute fatty liver of pregnancy; pre-eclampsia/eclampsia and HELLP (Haemolysis, elevated liver enzymes and low platelets) syndrome¹⁻³. Viral hepatitis is the commonest cause of jaundice in pregnancy^{1,2}, however the course of acute hepatitis is not affected by pregnancy^{2,3}, except for hepatitis E and disseminated herpes simplex infection in which maternal and fetal mortality are significantly increased. Maternal mortality is up to 10-20% for hepatitis E^{4,5} and 50% for disseminated herpes simplex infection without treatment⁵, especially

when contacted during the third trimester have been reported³. The general view is that jaundice due to intrahepatic cholestasis is benign to the mother and the fetus¹ but increased risk of preterm delivery and postpartum haemorrhage have been described¹. Maternal complications that may result include; hepatic encephalopathy, ascites, hypoglycaemia, renal failure, haematemesis, pre-eclampsia and post partum haemorrhage⁵. Studies on jaundice in pregnancy are not many in our environment, thus the need to embark on this study to determine the maternal and fetal outcome of jaundice in pregnancy.

MATERIALS AND METHODS

The study was a retrospective analysis of cases of jaundice in pregnancy at the University College Hospital, Ibadan, Nigeria. All the records of pregnancies seen at Obstetrics and Gynaecology Department over a 10-year period, from 1st January 1992 through 31st December 2001 were searched for cases diagnosed as jaundice in pregnancy. Their case notes were subsequently retrieved from the medical records office of the hospital for analysis. Data concerning age, parity, gestational age at presentation, documented aetiological factors, fetal and maternal

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outcomes were obtained and analyzed using frequency tables and simple percentages.

RESULTS

During the ten-year study period, there were 16,566 deliveries in the hospital, and 52 cases of jaundice in pregnancy were seen; giving an overall incidence of 0.3% or 1 in 318 deliveries. However, 48 case records were retrieved and analysed. The age of the patients ranged between 18 years and 38 years. Most (52%) were nulliparous. (Table 1). There were 85.5% of cases with no previous history of jaundice, while 14.5% had jaundice in the past but had cleared prior to the pregnancy under review. Viral hepatitis was recorded as the cause in 57.1% of those with past history of jaundice. Majority of cases (66.7%) occurred in the third trimester, with a mean gestational age of 30 weeks and a range of 8 to 41 weeks. Symptoms and signs associated with jaundice in pregnancy included fever (70.8%), this was followed by headache (47.9%), and body aches (47.9%). Others included body weakness (41.7%), passage of dark coloured urine (25%), and vomiting (20.8%). Pruritus occurred in 10.4% of cases. The liver was enlarged in 60.4% of cases, with a mean enlargement of 6cm and a range of 2-10 cm at presentation. Viral hepatitis was the commonest cause accounting for 58.3% of cases. It was followed by malaria and sickle-cell anaemia with 20.8% and 16.7% respectively. Other causes include sepsis (14.6%), cholestasis (6.3%), and pre-eclampsia accounted for 2.1%. The alkaline phosphatase was elevated (>150i.u/L) in 77.1% of cases, and the transaminases were elevated in considerable number of patients with 58.3% showing elevation of aspartate transaminase (AST) (>40 iu/l), with a mean of 417 iu/l (range 42-2418 iu/l). Bilirubin was raised above 1mg/dl in 77.5% of cases. Hepatitis B surface antigen was positive in 20.8% of cases. Table 2 shows the complications associated with jaundice in pregnancy. Anaemia was recorded in 73% of patients, with 34% presenting with packed cell volume of less than 19% (severe anaemia), and 60% required blood transfusion. Preterm delivery occurred in 39.6%. Also 40.9% babies were delivered with birth weight less than 2.5kg (low birth weight). There were 36.4% of the babies with Apgar scores greater than 7 at one minute. 78.9% had spontaneous vaginal delivery, 10.5% had breech delivery, while 5.3% was delivered by caesarean section, on account of two previous caesarean sections. Intrauterine fetal death (IUFD) occurred in 8.3%, all occurring in the third trimester. A case of early neonatal death was recorded. There was no maternal death but the mean hospital stay was 18 days (range 4-45 days).

Table 1: Demographic Characteristic of the Patients.

	Number (No)	Percentage (%)
Age (Years)		
Age Group	Number	%
15 – 24	13	27.1
25 – 34	31	64.6
>35	4	8.3
Total	48	100.0
Parity		
Parity	Number	%
0	25	52
1 – 2	14	29
3 – 4	9	19
Total	48	100
Pre-Pregnancy/Previous History of Jaundice		
	Number	%
Yes	7	14.5
No	41	85.5
Total	48	100.0
Gestational Age at Presentation		
Trimester (wks)	No	%
First (0 – 13)	1	2.1
Second (14 – 26)	15	31.2
Third (=27)	32	66.7
Total	48	100.0

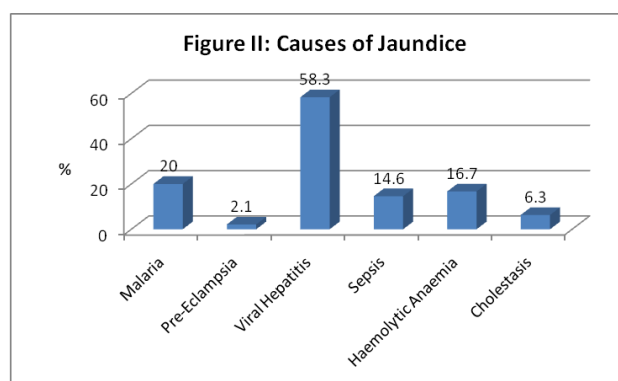
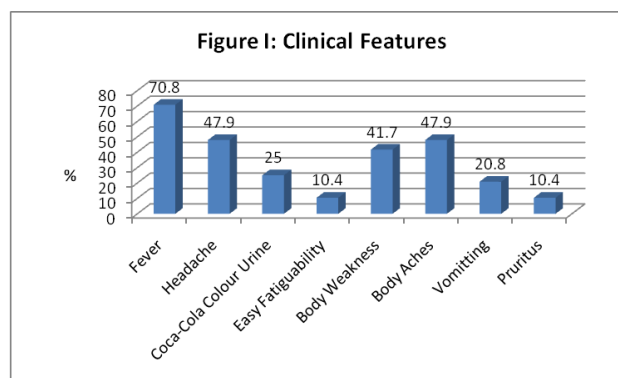


Table 2: Maternal / Fetal Complication(s) /Outcomes.

Complication	No	%
Anaemia (Pcv < 30%)	35	72.9
* Severe (Pcv < 19%)	12(34.3%)	
* Moderate (19 – 25)	18(51.4%)	
* Mild (26 – 29)	5 (14.3%)	
Iufd	4	8.3
Heart Failure	1	2.1
Gestational Age at Delivery	No	%
Preterm Delivery (<37 Wks)	19	39.6
Term Delivery (37 – 42)	29	60.4
Total	48	100.0
Birth Weights Pattern		
Birth Weights (Kg)	No	%
≥ 2.5	26	59.1
1.5 – 2.4	18	40.9
Total	44	100.0
Apgar Scores at 1 Minute		
Score	No	%
8 – 10	16	36.4
4 – 7	28	63.6
Total	44	100.0

1.(4 Cases of Iufd were recorded which occurred at term).

DISCUSSION

Jaundice in obstetric patients still remains uncommon. The incidence of 0.3% (1 in 318 deliveries) in this study is higher than the reported incidence of 1 in 2000 in Britain¹. Higher incidence of viral hepatitis in our environment may be responsible for this, especially with viral hepatitis accounting for most cases of jaundice in this study.

The relationship of parity to the incidence is particularly remarkable in this study with 52% of cases occurring in nulliparus women; such relationship is found in particular with acute fatty liver of pregnancy, in which women carrying their first babies are most affected⁶. The gestational ages at presentation of most jaundice related diseases specific to pregnancy are almost exclusively limited to the third trimester of pregnancy^{6,7}. This is also reflected in this study in which 66.7% of cases presented in the third trimester, however non-specific cause of jaundice in pregnancy like viral hepatitis and malaria can occur at any gestational age. Viral hepatitis has been reported as the commonest cause of jaundice in pregnancy.^{1,2,3} This study also confirms this with viral hepatitis accounting for 58.3% of cases. Other diagnoses include Malaria which accounted for 20.8%. This is important in our environment. However studies

from developed countries are silent about the contribution of malaria to jaundice in pregnancy. Other specific causes of jaundice in pregnancy like acute fatty liver of pregnancy, recurrent cholestasis jaundice of pregnancy, HELLP syndrome (Haemolysis elevated his enzymes and low platelets) are not prominent among the diagnoses in this study, this may be due to the fact that most of the diagnoses are based mainly on clinical features rather than histological & laboratory diagnosis. The study shows that jaundice in pregnancy is associated with considerable changes in the levels of liver enzymes and bilirubin. Pregnancy itself has been found to alter some of normal levels of certain components of liver function test. Serum albumin usually decrease from a mean of 4.2g/dl in non-pregnant women to a 3.1g/dl near the end of gestation due to increased plasma volume. Serum alkaline phosphate concentrations rise above the normal range for non-pregnant women during the fifth month of pregnancy and continue to rise to values two to four times normal by the end of gestation because of the leakage of placental alkaline phosphatase into the maternal blood.^{2,6} The elevated values (>150 i.u/L) in 77.1% of cases in this study is not unexpected. However elevated values of transaminases (>40 iu/L) as seen in this study (58.3%) with a mean value of 417iu/L for aspartate transaminase and 31.5% with a mean of 197iu/L for alanine transaminase are reflections of hepatobiliary pathology as the values are usually unchanged in pregnancy. Though 20.8% of patients showed positive Hepatitis B surface antigen, previous studies have shown that the presence of hepatitis B surface antigen in pregnant women does not pose additional risk to the pregnancy since they are usually asymptomatic^{6,7,8}. This study demonstrated that anaemia is a major complication of pregnancies complicated by jaundice with 72.9% showing packed cell volume (PCV) of lower than 30%, and 60% requiring blood transfusion. This finding may not be unconnected with the degree of haemolysis that gives rise to hyperbilirubinaemia especially in cases of malaria and sickle-cell anaemia. Intrauterine death as recorded in 8.3% of patients is one of the tragedies that attend pregnancy complicated by jaundice related diseases. Such cases have been reported², thus close monitoring should be done especially in the third trimester when most of the intrauterine death occurs^{2,3,6}. In this study, 40.9% of the babies have a birth weight of less than 2.5kg; Similar results have been reported in cases of jaundice in pregnancy.⁹ The prognosis of the foetus depends on a number of factors which include the underlying cause of jaundice; the gestational age at presentation and the timing of delivery^{1,2}. The overall perinatal mortality rate of 10.4% in this study can be reduced further by close fetal surveillance and monitoring especially in the third trimester with early delivery⁹. No maternal death was recorded in the

study. However the length of hospital stay during the illness, a mean of 18 days (range 4-45 days) may be a measure of maternal morbidity.

CONCLUSION

Though jaundice in pregnancy is not common, when it occurs it is associated with high perinatal mortality and maternal morbidity. The cause(s) of jaundice in pregnancy should be promptly diagnosed and investigated and appropriate decision taken as to the line of management, as most of the perinatal deaths can be avoided by close fetal monitoring especially in the third trimester and with recourse to early delivery before fetal demise occurs.

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