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Research Article

Jaundice: Causes, Maternal and Foetal Outcomes Amongst Sudanese Pregnant Ladies

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Abstract

Objective:

To study the causes of Jaundice among pregnant women at Omdurman Maternity Hospital (O.M.H.) from January 2021 to June 2021.

Methodology:

This study is a descriptive, prospective, hospital-based study of the causes of maternal and fetal outcomes in jaundiced pregnant women over a month's duration conducted at Omdurman Maternity Hospital (O.M.H.).

Results:

Among a total of 17, 197 women admitted, 88 were pregnant women with Jaundice during the period of the study, showing an incidence of (0.51%). In addition, (33%) of our cases were primigravida, (79.5%) were diagnosed in the third trimester, and the most prevalent cause of Jaundice was hepatitis B (44.3%), followed by Preeclampsia (20.5%). Hepatic Encephalopathy was the most common complication among the patients (8%), followed by peripartum haemorrhage (5.7%). The maternal Mortality was (10.2%), and the perinatal mortality rate was (14.5%) in this study.

Conclusion:

Jaundice in pregnancy affects a small percentage of pregnant women yet is associated with high morbidity and Mortality. In a country like Sudan, beginning with health education with the establishment of regular antenatal care for detecting early disease manifestations can contribute to reduce maternal and perinatal Mortality and Morbidity due to Jaundice in pregnancy.

Keywords:

Jaundice, Pregnancy outcomes, Maternal and Fetal outcomes,Sudanese Pregnant ladies.

Introduction

Jaundice is defined as yellowish discolouration of the mucous membranes, skin and the sclera of the eyes when serum bilirubin levels exceed >3mg/dl. In pregnancy, causes of Jaundice can be pregnancy-related and coincidental. The pregnancy-related causes are hyperemesis gravidarum, intrahepatic cholestasis, acute fatty liver, haemolysis, elevated liver enzymes and low platelets H.E.L.L.P. syndrome. Acute and chronic hepatic disorders are coincidental causes, among which viral Hepatitis is more common. Jaundice is more common in low socio-economic groups. [1]

Objective

To study the causes of jaundice and maternal and fetal outcomes among pregnant women at Omdurman Maternity Hospital (O.M.H.) during the period from January 2021 up to June 2021.

Materials and methods

This study is a descriptive, prospective, and hospital-based study of the causes and maternal and fetal outcomes in jaundiced pregnant women over a month's duration conducted at Omdurman Maternity Hospital (O.M.H.) Sudan. Data were collected after the hospital agreement using a well-structured closed-ended questionnaire designed for this study and directly interviewing the participants and other relevant documents. We used the Statistical Packages for Social Sciences (S.P.S.S.) to analyse the data, and the results were presented as tables and figures. This research was done in adherence with local ethical guidelines.

Results

From January 2021 to June 2021, there were 17,197 deliveries, and 88 pregnant ladies with Jaundice or abnormal liver function tests participated in the study period. Hence, the incidence of Jaundice with pregnancy in this study was (0.51%). The age of the participants in this study ranged from 16 years to 41 years. (33%) of cases were primigravida. Data showed that (69.3%) of participants had never been diagnosed with Jaundice. In most of the cases, (79.5%) were diagnosed with Jaundice in the third trimester. The most common cause was found to be Hepatitis B, followed by Preeclampsia and then H.E.L.L.P.

syndrome in (44.3%), (20.5%) and (12.5%), respectively.

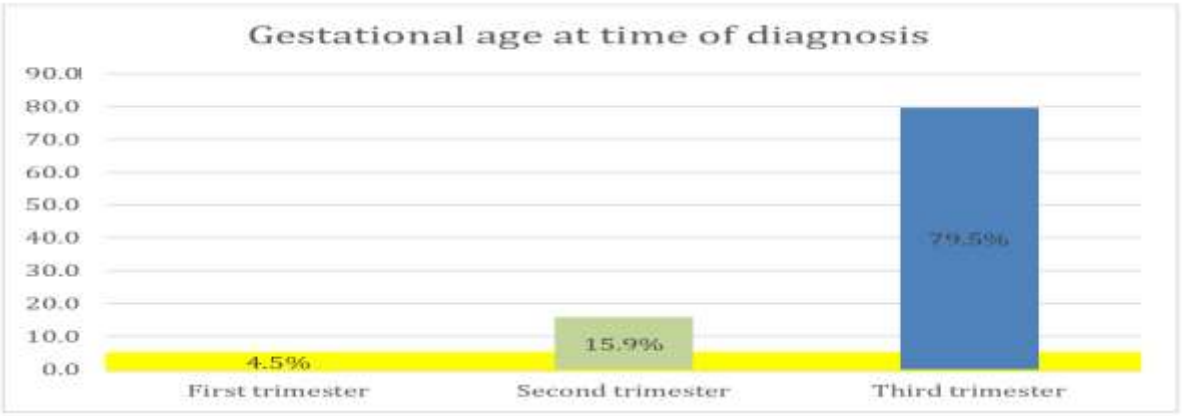
Pregnancy Outcome

Thirty-nine cases (46.8%) had vaginal deliveries, and 44 cases (52.8%) had caesarean section. Among them, 37 cases (42.5%) had emergency caesarean, and 7 (8%) had elective caesarean. Hepatic encephalopathy was a complication in 7 cases (8%) and peripartum haemorrhage in 5 cases (5.7%), followed by Placental Abruption in 3 cases (3.4%) and D.I.C. in 2 cases (2.3%). Out of the 26 (70.5%) patients admitted to the H.D.U.,17 were discharged in good condition, and Mortality was seen in 9 cases. Mortality was seen in 2 out of 3 cases of Acute fatty liver during pregnancy, accounting for a 66.7% mortality rate.

Fetal Outcome

Results of fetal outcome showed miscarriage in 4 cases (4.6%), stillbirth in 8 cases (9.1%), alive babies with NICU admission in 12 cases (13.8%), and 63 cases (72.4%) had live babies in healthy condition. Preterm deliveries were seen in (27.3%), and a low birth weight of less than 2.5kg was seen in (20.5%). A good Apgar of 7-9 score (79.5%) was seen. NICU admission was seen in (13.8%) of the neonates. Among the admitted neonates, the mortality rate was seen at (33.3%).

Figure 1: The bar chart reveals the percentages of patients with Jaundice according to the Gestational Age of diagnosis



Discussion

The incidence of jaundice in developed countries complicates (0.1%) of pregnancies and (3-20%) in developing countries [2,3], While in other studies, the incidence reached around 1.7%. [4] In the current study, the participants were multigravida, primigravida and grand multiparous in (47.7%), (33%) and (19.3%), respectively. This can be compared with a study that showed (60%) of the participants were multigravidas. [5] Also, we couldn't find any association between maternal mortality and maternal age. The different sample sizes and the mean age group of participants can explain these variations. Moreover, (69.3%) of the participants did not have a history of jaundice, like in another study. [6] In addition, (79.5%) of participants had jaundice in the third trimester, and this can be explained by Preeclampsia and H.E.L.L.P. syndrome, which usually develops in the third trimester.

The most common cause of jaundice in pregnancy in our study was viral hepatitis B at (44.3%), with Preeclampsia being the second one at (20.5%). In comparison, Hepatitis E was the most common cause of viral hepatitis in a study. [5] In our study, Hepatitis A was 2 cases (2.3%). Worldwide, the most common cause of jaundice in pregnancy is viral hepatitis. [7,8] The course of most types of viral hepatitis is not affected by pregnancy except hepatitis E, which may be fulminant. [9] Multidisciplinary team management is needed in the care of this group. [10] However, H.E.L.L.P. syndrome was the cause of (12.5%), which can be compared to another study. [11]

Approximately, (25%) of participants had complications due to jaundice in pregnancy in this study. The two significant complications for our participants were Hepatic Encephalopathy and peripartum haemorrhage in (8%) and (5.7%), respectively. Furthermore, in this study, 9 participants died (10.2%); three of them were due to severe malaria complicated by hepatorenal failure. Mortality of A.F.L.P. in our study was seen in 2 cases out of 3 cases. A.F.L.P. complicated by Hepatic Encephalopathy is an infrequent complication occurring in 1 in 20000 pregnancies. [9, 10] A.F.L.P. occurs in the third trimester or early postpartum period, with a mortality rate dropped to 20% worldwide now. [10] In our study, mortality was seen in one case of Preeclampsia and H.E.L.L.P. syndrome out of 18 cases of Preeclampsia and 11 cases of H.E.L.L.P. syndrome. The mortality rate of Preeclampsia was (5.6%), while it reached (9.1%) in H.E.L.L.P. syndrome.

Table 1: shows the complications among the participants

Complications	**No of cases**	**Percentage**
DIC	2	2.3%
Abruption	3	3.4%
Peripartum haemorrhage	5	5.7%
Hepatic encephalopathy	7	7.9%
Hepatorenal failure	1	1.1%
Oesophageal varices	0	0
Others	4	4.5

Table 2: shows the association between Maternal death and the causes of jaundice

Causes of Jaundice	Alive	Mortality rate
Hyperemesis	66.7% (2)	33.3% (1)
Preeclampsia	94.4% (17)	5.6% (1)
HELLP	90.9% (10)	9.1% (1)
AFLP	33.3% (1)	66.7% (2)
Haemolytic anaemia	100% (2)	0% (0)
Malaria	66.7% (6)	33.3% (3)
Viral hepatitis	100% (41)	0.0% (0)
Unexplained	0% (0)	100% (1)

Conversely, most deliveries in our study were term deliveries (72.7%), with the remainder being preterm or miscarriages. Most neonates have a birth weight of more than 2.5 kg (53.8%).

The stillbirth rate, including fresh stillbirth and IUFD in this study, was (9.1%), which is comparable to other studies. [12] In our study, two cases of severe malaria and two cases of hepatic encephalopathy ended with IUFD in the third trimester. Similarly, the case with severe intractable hyperemesis gravidarum had a miscarriage. Early neonatal death was seen in one of the cases with NICU admission due to iatrogenic preterm delivery following severe preeclampsia. The perinatal mortality rate in this study (including macerated stillbirth, fresh stillbirth and early neonatal death) was 14.5%, compared to a similar study. [13]

Table 3 shows the Fetal outcomes

Fetal Outcome	**Frequency**	**Percent**
Miscarriage	4	4.6%
Macerated still birth	5	5.7%
Fresh still birth	3	3.4%
Alive with NICU admission	12	13.8%
Alive in good condition	63	72.4%

Recommendation

Jaundice in pregnancy should be managed as a team with an obstetrician, physician, gastroenterologist, anaesthetist and neonatologist. Improvement in health education, regular antenatal check-ups and early referrals can all result in early diagnosis and treatment of jaundice during pregnancy, thus reducing maternal and fetal morbidity and mortality. Further studies investigating the same should be done in different hospitals in Sudan with longer time to reflect the prevalence and causes of jaundice along with the maternal and fetal outcomes.

Conclusion

Jaundice in pregnancy affects a small percentage of pregnant women yet is associated with high morbidity and mortality. Acute viral hepatitis B was the most common cause, whereas Hepatic Encephalopathy was the most common complication. In a country like Sudan, beginning with health education with the establishment of regular antenatal care for detecting early disease manifestations can contribute to lowering maternal and perinatal mortality and morbidity due to jaundice in pregnancy.

Conflict of interest:

The authors declare No conflict of interest.

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