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Original Article

Study on Maternal & Fetal Outcome of Jaundice with Pregnancy

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Abstract

Background: Pregnancy with jaundice is regarded as high risk pregnancy so it is considered very important sign during antenatal check up. It complicates pregnancies and is one of the important causes of maternal and neonatal morbidity and mortality worldwide. Viral hepatitis is the most frequent cause of jaundice associated with pregnant woman.

Objective: To assess the maternal & fetal outcome of jaundice in pregnant women

Methods: This study was a cross sectional study carried out Department of Obstetrics and Gynaecology, Dhaka National Medical College Hospital, Dhaka From April 2016 to September 2017. All diagnosed cases of pregnancy with jaundice full filing the inclusion and exclusion criteria in the department of Obstetrics and Gynecology, Dhaka National Medical College Hospital, Dhaka. Total 50 sample were taken in this study.

Results: Fifty pregnant women the mean age was 24.40±4.32 years. The causes of jaundice during pregnancy were viral hepatitis (82%), obstetrics cholestasis (10%) and HELLP syndrome (8%). The total infective pathology due to hepatitis E (HEV) being the major cause of infection i.e. 42%, followed by Hepatitis Hepatitis B in 32%, Hepatitis C (HCV) in 2%. However, 8% of the mothers were infected with mixed viral hepatitis. Among them 12% underwent caesarean section. Among the neonates of the 47 mothers who recovered, 16% had a neonatal death and 34% had low birth weight.

Conclusion: This study shows hepatitis B (HBV) infection during third trimester of pregnancy associated with more serious complication than other types of viral hepatitis. It is recommended that women in the reproductive age group (before the first pregnancy) should receive full course of hepatitis B vaccine. Public awareness, complete immunization against viral hepatitis, better sanitation facilities, safe drinking water, increased availability of antenatal care for early detection and well equipped hospitals for intensive care.

Introduction

Jaundice in pregnancy is an important medical disorder seen more often in the developing countries. Clinical jaundice is established when the serum bilirubin level exceeds 2mg% (normal 0.2-0.8 mg%).[1] Approximately 3-5% of pregnant women have jaundice in pregnancy, whilst relatively rare, has potentially serious consequences for maternal and fetal health.[1,2]

There are several causes of jaundice in pregnancy with infections due to hepatitis viruses A, B, C, D and E. Incidence of hepatitis varies greatly around the world: in developed countries, the incidence is around 0.1%, whereas in developing countries it can range from 3-20% or higher. The course of most viral hepatitis infections (A, B, C, D) is unaltered by pregnancy, although in developing countries there is a higher incidence of infant mortality with fulminant hepatitis. The exception is hepatitis E where pregnant women who contact the disease exhibit fatality rates of 10-20%.[3]

Jaundice in pregnancy can be caused by viral hepatitis, intrahepatic cholestasis of pregnancy, choledocholithiases, HELLP syndrome (hemolysis, elevated liver enzymes, and a low platelet count), severe preeclampsia, and acute fatty liver of pregnancy. Acute fatty liver of pregnancy occurs in approximately 1 in 13,000 pregnancies. More than 90% of patients with acute fatty liver of pregnancy have jaundice and disseminated intravascular coagulopathy.[4]

The various maternal complications associated with viral hepatitis are preterm labour, obstetric haemorrhage, fulminant hepatitis, hepatic encephalopathy, renal failure, DIC and death. The

various foetal complications are intrauterine death, prematurity and risk of vertically transmitting the hepatitis infection.[5]

Medical termination of pregnancy does not always alter the prognosis of the patient. The foetal outcome includes increased incidence of abortion, premature labour and intrauterine death leading to increased foetal wastage. Perinatal mortality (including stillborns and death of the baby within seven days following delivery) of pregnancies with jaundice in developing countries range form 20% to as high as 70%.[6]

Materials & Methods

This study was a cross sectional study carried out Department of Obstetrics and Gynaecology, Dhaka National Medical College Hospital, Dhaka From April 2016 to September 2017. All diagnosed cases of pregnancy with jaundice full filing the inclusion and exclusion criteria in the department of Obstetrics and Gynecology, Dhaka National Medical College Hospital, Dhaka. Total 50 sample were taken in this study. Data was collected using a structured questionnaire (research instrument) containing all the variables of interest. Data were processed and analyzed with the help of computer program SPSS (Statistical package for Social Science) with version 20.

Results

Table-I : Age distribution of the patients (n=50)

Characteristics	No. of patients	Percentage (%)
Age in years		
≤20	9	18
21-25	25	50
26-30	11	22
31-35	5	10
Mean±SD	24.40±4.32	

Table-II: Distribution of jaundice (n=50)

Jaundice	No. of patients	Percentage (%)
Mild	4	8
Moderate	33	66
Severe	13	26
Total	**50**	**100.0**

Table-III: Distribution of patients according to causes of jaundice during pregnancy (n=50)

Causes	No. of patients	Percentage (%)
Viral hepatitis	41	82
HAV	0	00
HBV	16	32
HEV	21	42
HCV	1	2
Mixed viral hepatitis	3	6
Obstetric cholestasis	5	10
HELLP syndrome	4	8
Total	**50**	**100**

Table-IV : Distribution of mode of delivery (n=50)

Mode of delivery	No. of patients	Percentage (%)
Normal	44	88
LUCS	6	12
Total	**50**	**100.0**

Table-V: Distribution of maternal outcome

Outcome	No. of patients	Percentage (%)
Improved well	48	96
Maternal death	2	4
Total	**50**	**100.0**

Table-VI: Distribution of maternal complication and viral hepatitis in study population (n=18)

Maternal complication	HAV	HBV	HEV	HCV	Mixed
	No(%)	No(%)	No(%)	No(%)	No(%)
PPH (n=14)	3(21.42%)	7(50.0)	1(7.14)	1(7.14)	2(14.28)
Fulminant hepatic failure (n=2)	0(00)	0(00)	0(00)	0(00)	2(100)
Heart failure (n=2)	0(00)	2(100)	0(00)	0(00)	0(00)

Table-VII: Birth weight

Fetal outcome	No. of patients	Percentage (%)
<2.5 kg	17	34
>2.5 kg	33	66
Total	**50**	**100.0**

Table-VIII: Distribution of fetal outcome (n=50)

Fetal outcome	No. of patients	Percentage (%)
Survives well	42	84
Perinatal death	8	16
Total	**50**	**100.0**

Discussion

Hepatitis in pregnant women may be consequent to infection with hepatitis viruses A, B, C, D and E. Hepatitis E is the most common infecting accounting for 50- 70 % of all patients with sporadic viral hepatitis. Studies from the developed countries conclude that pregnant state perse has no adverse effect on the course of hepatitis, provided nutrition is adequate. However increase in fetomaternal mortality has been reported mainly from the developing countries.[7,8]

The age of women included in the study was in the range of 19-35 years. The mean age of the patients in the study group was 24.40⊠4.32 years. Similar study was conducted in our hospital by Patra et al.[9] in the year 2003-2005 on 220 pregnant women presenting with jaundice caused by acute viral hepatitis had found mean age to be 24.3±3.3 yrs. The mean age of the patients in our study is comparable to another Indian study conducted by Kumar et al.[10] who studied prevalence of HEV and its complication in 62 pregnant women with acute viral hepatitis in their third trimester admitted in Delhi tertiary hospital in the year 2003 was seen to be 24.13±3.6 yrs. It is consistent with other international studies conducted by Miranda et al.[11] (23.8±6 yrs) who studied seroprevalence of HBV and HIV and associated risk behaviors among 1608 attending antenatal attendees of Vitoria, Brazil in the year 1999 and by Surya et al.[12] (27±5yrs) who screened 2,450 pregnant mothers.

This study shows 32% of cases with clinical jaundice were infected with Hepatitis B. Prevalence of HBV infection in pregnant women with acute viral hepatitis reported is consistent with other Indian studies. An earlier study conducted in our hospital by Nguyen et al.[13] in the year 2003-2005 on 220 pregnant women presenting with jaundice caused by acute viral hepatitis had found 33% prevalence of HBV.

Other hepatitis viral markers positive in pregnant women with clinical jaundice were anti HEV. The prevalence of HEV antibody was found to be 42% in Four studies from New Delhi[10,14] reported prevalence of HEV as 37%, 45.2%, 47.4% and 60%. Jaiswal et al.[14] in central India and Aziz et al.[15] in Pakistan reported that HEV is responsible for 58% and 62% of cases of acute viral hepatitis in pregnant women, respectively. Khuroo et al.[16] in Saudi Arabia reported 49.6% prevalence after evaluating 76 pregnant women with hepatitis.

This study HCV was found to be 2% in cases of pregnant women with clinical evidence of hepatitis in our study. This is in accordance with the earlier studies of Patra et al.9 (5%) in the same institution. However, in the past studies from India have not implicated HCV prevalence in pregnant women with acute viral hepatitis. Beniwal et al.[17] (n=97) and Singh et al.[18] (n=50) both in tertiary care Delhi hospital found zero prevalence, probably the number of cases studied was too low. Study outside India conducted by Khuroo et al.[16] from Saudi Arabia also reported low prevalence of HCV (1.7%).

Low prevalence in pregnant women has been observed studies outside India by Khuroo et al.[16] in Saudi Arabia (1.5%) and Aziz et al.[115] in Pakistan (4%). It was seen that six patients of the 100 pregnant women with clinical evidence of hepatitis were co infected with another hepatitis virus. Four out of 37 (10.8%) HBsAg positive mothers were co infected with Hepatitis D viruses and 2 out of 37 (5.4%) HBsAg positive mothers were co infected with HCV. Similar coinfection study on pregnant women in Delhi by Kumar et al.[10] showed HBV and HCV coinfection to be 4.8%. Studies outside India in Saudi Arabia and Africa[14] have reported HBV and HDV coinfection as 1.5% and as 15.6%.

Out of 50 mothers, 94% recovered completely. Among these 12% underwent caesarean section. The majority pregnant mothers had vaginal delivery. Postpartum haemorrahge is a common maternal complication of hepatitis in pregnancy and is observed in studies by Beniwal et al.[17] (14.9%) after studying 48 pregnant women with acute viral hepatitis. Mirghani et al.[19] (20.8%) in a case control study on 50 pregnant women with acute viral hepatitis at a Sudan hospital. It is the important complication observed in Indian studies also by Veronica et al.[20] (56%) conducted at Ludhiana tertiary hospital on 65 pregnant women with jaundice.

Foetal Outcome eight out of 50 pregnant women with clinical evidence of hepatitis in the study group were died. All of these mothers had Hepatitis E infection and underwent encephalopathy and died. The findings are consistent with studies by Mirghani et al.19 (6.3%), Medhat et al.[21] (8.3%), and Kumar et al.[22] (3.8%). Out of ninety-four mothers who recovered from viral hepatitis, 5 (5.3%) had lost their neonates. Medhat et al.[21]

observed 6.3% of neonatal deaths whereas Tripti et al.[23] observed it to be 11.8%. Low birth weight was found in 30.8% of neonates. Low birth weight in infants born to mothers with acute viral hepatitis has been reported by Kumar et al.[22] (7.6%) and Veronica et al.[20] (20%).

Conclusion

This study also shows hepatitis B infection was the commonest cause of maternal mortality in jaundice with pregnancy followed by, in postpartum hemorrhage (PPH) fulminnat hepatic failure with severe anemia. The study suggests that it is mostly restricted to last trimester and is associated with preterm labour and significant perinatal death. It also indicates that there is increased prevalence of Hepatitis B virus infection in pregnant women in Bangladesh. Thus to conclude, public awareness and complete immunization against viral hepatitis, better sanitation facilities, safe drinking water and increased availability of antenatal care for early detection and well equipped hospitals for intensive care will go long way in the reduction of viral hepatitis in pregnancy and also its associated maternal and perinatal mortality and morbidity.

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