DOI: https://doi.org/10.53350/pjmhs22163286

ORIGINAL ARTICLE

Fetomaternal Outcome in Females with Hepatitis Virus

UZMA YAQOOB[1], ASIF HANIF[2], SADAF GHULAM RASOOL[3], TAHIRA ASHRAF[4], FATIMA TU ZAHRA[5], SAJIDA PARVEEN[6]
[1]*Professor of Obs and Gynecology Sughra Shafi Medical Complex Narowal*
[2]*Asst. Prof. Biostatistics, Gulab Devi Post Graduate Medical Institute*
[3]*Senior registrar Sughra shafi medical complex Narowal*
[4]*Biostatistician, CMH Medical and Dental College, Lahore*
[5]*Research assistant Statistical consultancy and training centre, Lahore*
[6]*Women medical officer*
Corresponding author: Uzma Yaqoob, Email: uzma.yaqub@gmail.com

ABSTRACT

Objective: This study was designed to see fetomaternal outcome in pregnant females with hepatitis virus infection.
Methodology: This cross sectional study was designed at Lady Atchison hospital Lahore from March 2015 to September 2015. Using nonprobability purposive sampling, we enrolled 104 cases with hepatitis virus infection, in which 80(76.9%) cases had HCV and 24(23.1%) had Hepatitis B virus. Pregnant females 18-40 years old with gestational age > 24 weeks (on dating scan), having any parity with positive diagnosis of HCV or HBV through Eliza were enrolled to see their fetomaternal outcome. The collected information was entered and analyzed in SPSS version 20.
Results: The mean age of mothers was 27.35±4.339 years and mean gestational age at time of delivery was 36.1±3.51 weeks with minimum and maximum of 27 and 41 weeks. The mean birth weight was 2.792 ±1.41 kg whereas the mean APGAR score was 6.56±1.92 at 6 minutes. Intrauterine Deaths were observed in 10(9.6%) women. Preterm labour was seen in 24(23.1%) women. Fetal distress was found in 36 (34.6%) women. Emergency C section was done for 72 (30.8%) women. Postpartum haemorrhage was seen in 2 (1.9%) women. A total of 34 (32.7%) premature babies were born.
Conslusion: Pregnant females with hepatitis infection had increased risk of intrauterine death, fetal distress and emergency caesarean delivery. Moreover, high percentage of low birth weight, pre-mature births and preterm labour was also observed.
Keywords: Hepatitis Virus, C-section, low birth weight, premature births and preterm labour.

INTRODUCTION

Hepatitis virus is one of major chronic diseases, considered to be a big problem among several countries as it severely affects a large population of people worldwide. Annually 170,000,000 people are infected by this virus with 3-4 million new cases each year. [1] In 65-75% of cases there are no obvious symptoms and the virus is revealed during the routine lab investigations as the disease burden is high in our population [2] Viral Hepatitis especially affects pregnant women causing jaundice. [3] Hepatitis C in pregnant women is a cause of many maternal complications that may eventually lead to death of mother as it has been reported as a leading cause of maternal death due to hepatic failure.[2] One of the main complications of Hepatitis C in pregnant women is an increased risk of caesarean delivery .[4] Moreover, hepatitis infection is associated with increased risk of miscarriage, preterm labor, still birth, antepartum hemorrhage, disseminated intravascular coagulopathy (DIC), fulminant hepatic failure (FHF), acute Renal Failure (ARF). and later development of hepatocellular carcinoma. Fetal complications include prematurity, low birth weight, intrauterine demise (IUD) and vertical transmission. [5]

Hepatitis virus can be vertically transmitted through the pregnant women to the child that can ultimately lead to an increased population of people suffering from Hepatitis C or Hepatitis B in a specific community. Most common causes of mother to child transmission of this virus are infant's exposure to infected blood of mother and exposure through genital secretions during delivery.[4]

Hepatitis C among pregnant women needs serious attention as its increasing prevalence among pregnant women and increased rates of transmission to next generation may cause health threats to our future generations. Hence there is an utmost need to research on this topic and to develop such plans that can decrease this health risk for pregnant women and for our future generations. This goal can be achieved by contribution of both government and private institutions to make such policies and rules that can increase awareness of preventive measures in general public. Strict rules must be implemented and steps should be taken to adopt preventive measures and follow these policies like use of sterilized and disposible instruments. [6] This study was designed to see fetomaternal outcome of females with hepatitis virus in Pakistan.

MATERIALS AND METHODS

This cross sectional study was designed at Lady Willington Atchison hospital Lahore from March 2015 till September 2015. Using non-probability purposive sampling, we enrolled 104 cases with hepatitis virus in which 80 (76.9%) cases had HCV and 24 (23.1%) had Hep virus B. Pregnant females of age 18-40 years with gestational age > 24 weeks (on dating scan), having any parity with positive diagnosis of HCV or HBV through Eliza were enrolled to see their feto-maternal outcome. Females with diagnosis of bad obstetric history i.e previous diagnosis of gestational diabetes or pre-diabetes, a previous pregnancy which resulted in a child with a macrosomia (high birth weight: >90th centile or >4000 g (8 lbs 12.8 oz) or subjects with history of poor obstetric outcome due to preeclampsia or pregnancy induced hypertension and previous history of genetic disorder (assessed on patients history) were excluded from study. The collected information was entered in SPSS version 20 and analysed through it. Mean ± SD was calculated for age, gestational age (weeks), birth weight and Apgar score. Frequency and percentages were calculated for categorical data variables like intrauterine death, Preterm labour, fetal distress, Emergency C / S, Post-partum haemorrhage and Prematurity. Data was entered analysed SPSS version 20. Mean ±S.D was used to present quantitative data (maternal age, gestational age, birth weight and Apgar score) and frequency (%) was applied for categorical variables like fetomaternal outcome.

RESULTS

Out of 104 pregnant women hepatitis B was seen in 24 (23.1%) and hepatitis C in 80 (76.9%) women. The mean age of mothers was 27.35±4.339 years with range of 15 years. There were 18(17.3%) women who were primigravida, 56(53.8%) had 1-3 parity and 30(28.8%) had more than 3 parity. The mean gestational age was 36.1±3.51 weeks with minimum and maximum of 27 and 41 weeks. Among total, 10(9.61%) females had intrauterine death, fetal distress was seen in 36(34.6%) women, 72(30.8%) women needed emergency C-section, 24(23.1%) babies were born preterm, 34(32.7%) were premature and 32(30.77%) neonates had low birth weight. The mean birth weight was 2.792 ±1.41 kg At one minute and 2 minutes mean APGAR score was 5.27±1.54 and 6.56±1.92 respectively. Postpartum haemorrhage was seen in 2(1.9%) women.

Table-1: Descriptive statistics of quantitative variables

	Mean	S.D	Minimum	Maximum
Mother's age (years)	27.35	4.34	20	35
Gestational Duration (week)	36.10	3.51	27.0	41.0
Birth weight (kg)	2.79	1.41	1.0	4.0
APGR score at one mint	5.27	1.54	3	8
APGAR score at two mint	6.56	1.91	3	9

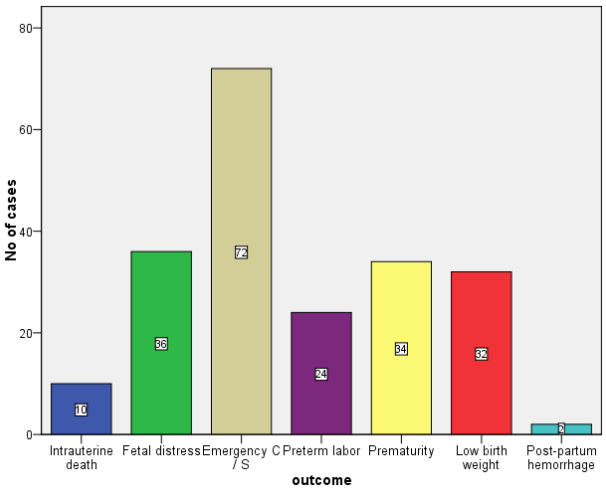

Fig-1: Fetomaternal outcome

DISCUSSION

Pregnancy is generally considered to be an immunosuppressed state; however, the impact of pregnancy on mothers with viral hepatitis and the impact of viral hepatitis on fetuses/infants are not the same for all types of hepatitis[7]. Hepatitis B virus infection is a global problem and world has 350 million carriers of chronic hepatitis B. Over 50% of these have acquired their infection vertically from their mothers, mother to child transmission (MTCT). Majority (90%) of vertically acquired infection results into chronic infection, due to induction of an immune tolerant state. Hence, management of chronic HBV during pregnancy and strategies to prevent MTCT would go a long way in global control of HBV infection and the morbidity and mortality associated with it[8].This is the reason why we conducted this study.. In this study the mean age of mothers was 27.35±4.339 years with range of 15 years. Very close mean age of mothers was observed in another study being 29.71 ± 5.3 years [9]. In another study the mean age of HEV infected women was 23.3±3.9 years and with HAV infection 22±2.3 years[5]

Out of 104 Pregnant women in our study, Hepatitis B was seen in 24(23.1%) and Hepatitis C in 80(76.9%) women. In the study of Sahai et al. the incidence of HBV, HCV and HEV was 7.4%, 1.5%,and 77.9% respectively[10] The incidence of HBV and HCV infection is higher in our study the reason is that our sample is composed of the women who had hepatitis B and C only whereas the above study had a large proportion of women infected with HEV. In a study 21 (84%) women were found to be infected with HEV and 4 (16%) women with HAV whereas, in another study Hepatitis B virus (HBV) infection was the most common cause of non–HEV acute viral hepatitis 72 patients (33%) [11].

In this study there were 18(17.3%) women who were primigravida 56(53.8%) had 1-3 parity and 30(28.8%) had more than 3 parity. In Jain et al. study most of the women were primigravida (58% in HEV and 30% in non HEV)[5]. Shinde et al. reported that In their study 71.1% (37/52) of the patients were primigravida and 28.8% (15/52) patients were multigravida, by natural occurrence[12]. The mean gestational duration was 36.1±3.51 weeks with minimum and maximum of 27 and 41 weeks. Jain et al. reported the mean gestational age HEV-31.33±3.5 weeks and in nonHEV patients-36±2weeks [5]. In the study of Patra et al. mean gestational age was 34.2 ±2.6[11].Similarly Shinde et al. reported mean (SD) gestational age when infection occurred was 27.5±7.2)weeks[12]. Our results are similar to Jain et al and patra et al but higher than Shnide et al study.

A total of 34(32.7%) premature babies were born in this study. Recently a study reported (29%) Preterm deliveries in women infected with Hepatitis viral infection[5] which is lower than our study. Another study reported that 84.62% of patients had preterm delivery and 15.38% of patients delivered at term[13] Another study showed pre-term delivery in 23% (12/52) cases [12] Preterm delivery was noted in 71.1% cases in the study of Parveen et al.[14] whereas Nadar et al. revealed in their study that39(65%) had preterm delivery and 16(26.66%) were delivered at term[15]. Moreover, in our study there were 10 (9.6%) intrauterine deaths. The percentage of IUD in other studies have been reported to be 13.33%, [9] 35.29% [5] 21.1% [12] and 11(5.5%) [16]

In the study of jain et al. the frequency of low birth weight babies was (84.61%). [5] compared to 76.92% in another study [13]. In study by Parveen et al, 55.8% babies were of low birth weight [14] In our study emergency C section was done on 72 (30.8%) women. In a study out of 52 patients, 86.54% of patients delivered vaginally and 13.46% of patients were delivered by Lowere segment C section [13].In another study 115 (57.5%) participants had lower segment caesarean section (LSCS)[16]. Finally, in our study one minute the mean APGAR score was 5.27±1.54 with minimum and maximum score of 3 and 8 respectively. At two minutes the mean APGAR score was 6.56±1.92. In one study 35.3% newborns had low Apgar score [14].

Hence, the role of hepatitis infection in determining the feto-maternal outcome cannot be ignored. Pregnant women giving birth with hepatitis infection generally have poor foetal outcomes such as low birth weight, preterm birth and low APGAR score. Similarly, maternal complications at time of delivery can worsen. IUD may be fatal for mothers too. Therefore, it is important to take preventive measures to reduce incidence of HBV and HCV at larger level.

CONCLUSION

Pregnant females with hepatitis infection had increased risk of intrauterine death, fetal distress and emergency caesarean delivery. Moreover, high percentage of low birth weight, pre-mature and preterm births was also observed. Therefore, role of hepatitis in worsening the feto-maternal outcome cannot be ignored and should be tackled by devising preventive strategies at government level so that hospital work load and disease burden in the community can be minimised thereby producing a healthy nation.

REFERENCES

1. Haider G, Zehra N, Munir AA. Hepatitis C: frequency, risk factors and pregnancy outcome. J Surg Pak (International) 2009;14(1):33-7.
2. Shaikh F, Naqvi SQH, Jilani K, Memon RAD. Prevalence and risk factors for Hepatitis C virus during pregnancy. Gomal Journal of Medical Sciences 2009;7(2).
3. Aziz AB, Hamid S, Iqbal S, Islam W, Karim S. Prevalence and severity of viral hepatitis in Pakistani pregnant women: a five year hospital based study. JOURNAL-PAKISTAN MEDICAL ASSOCIATION 1997;47:198-201.
4. Yousfani S, Mumtaz F, Memon A, Memon MA, Sikandar R. Antenatal screening for hepatitis B and C virus carrier state at a university hospital. JLUMHS 2006;5:24-7.
5. Jain PG, Sapre S. Fetomaternal Outcome in Acute Viral Hepatitis. Indian Journal of Obstetrics and Gynecology Research 2016;3(3):264-6.
6. Irshad MK, Chaudhry AG, Ahmed A. Hepatitis Prevalence among Pregnant Women of Wah Cant. A Case Study of Al-Moeed Hospital. Science International 2014;26(1).
7. Kwon H, Lok A. Viral Hepatitis and Pregnency. Clinical Liver Disease, 2014;4(3):55-7.

8. Kumar A. Hepatitis B virus infection and pregnancy: a practical approach. Indian journal of gastroenterology 2012;31(2):43-54.
9. Ahmed RE, Karsany MS, Adam I. Brief report: acute viral hepatitis and poor maternal and perinatal outcomes in pregnant Sudanese women. Journal of medical virology 2008;80(10):1747-8.
10. Sahai S, Mishra V, Ganga D, Jatav O. Viral Hepatitis in Pregnancy—A study of its Effect on Maternal and Foetal Outcome. J Assoc Physicians India 2015;63:28-33.
11. Patra S, Kumar A, Trivedi SS, Puri M, Sarin SK. Maternal and fetal outcomes in pregnant women with acute hepatitis E virus infection. Annals of internal medicine 2007;147(1):28-33.
12. Shinde N, Patil T, Deshpande A, Gulhane R, Patil M, Bansod Y. Clinical profile, maternal and fetal outcomes of acute hepatitis e in pregnancy. Annals of medical and health sciences research 2014;4(8):133-9.
13. Raval BM, Mehta AV, Vala MB, Munshi SP, Dobariya PV, Mehta AR. HEV Jaundice-a Leading Cause of Maternal & perinatal Morbidity and Mortality. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS);1(15):81-4.
14. Parveen T, Begum F, Akhter N. Feto-Maternal Outcome of Jaundice in Pregnancy in a Tertiary Care Hospital. Mymensingh medical journal: MMJ 2015;24(3):528-36.
15. Nadar S, Shah MA, Jamil S, Habib H. MATERNAL & FOETAL OUTCOME IN PREGNANT LADIES HAVING ACUTE HEPATITIS E. Gomal Journal of Medical Sciences 2015;13(1).
16. Naru T, Yousuf F, Malik A, Naz S, Ismail H. Comparison of foeto-maternal outcome in pregnant women with hepatitis E—A review of 12 years.