

ORIGINAL ARTICLE

THE EMERGENT CONCERN OF SEROPOSITIVE STATUS OF HEPATITIS-B VIRUS AND HEPATITIS-C VIRUS IN THE PREGNANT FEMALES ATTENDING A TERTIARY CARE HOSPITAL

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Background: Viral hepatitis is a global problem affecting millions of people including pregnant females. Viral hepatitis during pregnancy is associated with both maternal and neonatal mortality and morbidity. This study was an attempt to assess the seropositive status of hepatitis-B and C infection among pregnant women in Karachi, Pakistan. **Methods:** This cross sectional observational study was conducted at Sir Syed College of Medical Sciences and Trust Hospital, Karachi from January to September 2012. Patients were recruited by consecutive sampling. At the booking visit, blood was drawn and tested for HbsAg and Anti HCV by Eliza method. **Results:** Among the screened population, 2% were reactive for HBV and 13.3% were found reactive for HCV. All HbsAg and HCV positive pregnant patients had one or more than one delivery. **Conclusion:** In our study sample, high frequency of HBV and HCV is suggestive of the importance of antenatal screening of these viral diseases, which has impact on the mother as well as the new born baby. HCV was more common as compared to HBV which is quite alarming.

Keywords: Hepatitis-B Virus, Hepatitis-C Virus, Pregnancy, Liver disease, prevalence, risk factor.

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INTRODUCTION

Hepatitis is inflammation of liver characterized by the presence of inflammatory cells in the tissue of the organ. It may occur with limited or no symptoms, but often leads to jaundice, anorexia and malaise. Hepatitis is acute when it lasts less than six months and chronic when it persists longer than 6 months.¹ Infections with hepatitis-B and C viruses have become a global problem of public health importance leading to chronic hepatic disorders including hepatocellular carcinoma.² Like rest of the developing world, Pakistan is facing high endemicity of hepatitis-B and C with a prevalence of 3-4% and 5% respectively. Estimates indicate that over nine million people in Pakistan are suffering from hepatitis-B virus (HBV) with the reported carrier rate of 3-5%, and more than 10 million are victims of hepatitis-C virus (HCV).³⁻⁵ Pakistan falls in the intermediate category of HBV infection¹, according to the classification of countries for viral hepatitis.⁶

HBV and HCV are contagious diseases that can be transmitted vertically from mothers to their neonates or horizontally by blood products and body secretions.⁷ Keeping in view the high fertility rate of Pakistan, the high rate of perinatal and vertical transmission of HBV & HCV can be well assessed.⁸ Viral hepatitis during pregnancy is closely related to high risks of maternal complications including premature contractions, placenta praevia, and preterm delivery, and placental separation, premature rupture of membranes, vaginal bleeding, preterm labour, gestational diabetes and mortality.⁷ Ten percent of

infants born to women with acute HBV infection during the first trimester of pregnancy are HbsAg-positive at birth and 80-90% of neonates become HbsAg positive without prophylactic therapy if acute maternal infection develops during the third trimester of pregnancy.⁹

One of the effective strategies for preventing further spread of viral hepatitis is the identification of carriers of hepatitis-B and C virus. So this study was conducted in the department of Obstetrics and Gynaecology at Sir Syed College for Medical Sciences and Trust hospital, Karachi to determine the frequency of HBV and HCV in the obstetrical population and their past obstetrical determinants.

MATERIAL AND METHODS

In this cross-sectional study 300 pregnant women were enrolled during the study period from January to September 2012 using consecutive sampling technique. While providing antenatal services, these women were screened for hepatitis-B and C viral infections by ELISA method. Informed verbal consent was obtained from every pregnant lady, and all the data was entered on a *pro forma*. Data was analysed using statistical software SPSS version 17.

RESULTS

A total of 300 pregnant, booked and un-booked women were screened for HBV and HCV. The mean age of the women was 30 years. HCV seropositivity was detected in 40 (13.3%) pregnant women while 6

(2%) women were seropositive for HBV as shown in table-1.

A high proportion (48.7%) of pregnant women was grand-multipara having more than two deliveries. Tables 2 and 3 describe the past obstetric determinants and mode of delivery in HBV and HCV positive cases respectively. Unfortunately, due to financial constraints, the neonates of these mothers could not be screened for vertical transmission of these viruses. Liver function tests (transaminases) were mostly within the normal limits except in the case of two patients that had deranged liver functions and required urgent delivery.

Table-1: Frequency of HBV and HCV positive cases (n=300)

HBV	Frequency	%
Nonreactive	294	98
Reactive	6	2.0
HCV		
Nonreactive	260	86.7
Reactive	40	13.3

Table-2: Past obstetric determinants in HBV and HCV positive cases (n=46)

Determinants	HCV cases	%	HBV cases	%
SVD	15	37.5	Nil	nil
LSCS	8	20	1	16.7
Dilatation and Evacuation	8	20	2	33.3
Injection	8	20	nil	nil
Blood transfusion	1	2.5	3	50.0
Total	40	100	6	100

Table-3: Mode of delivery in HCV and HBV positive cases: (n = 46)

Mode of delivery	HCV positive cases (n)	%	HBV positive cases (n)	%
SVD	23	57.5	1	16.7
Outlet Forceps	1	2.5	Nil	nil
LSCS	8	20	4	66.6
Dilation & Evacuation	5	12.5	Nil	nil
Lost to Follow up	3	7.5	1	16.7
Total	40	100	6	100

DISCUSSION

Viral hepatitis is the commonest cause of hepatic dysfunction in pregnancy. In pregnant women of Pakistan, Hepatitis-B and C infections are reported to be 2.5% and 6.7% respectively.¹⁰

Our study revealed the proportion of HbsAg in the pregnant women of 2%. This is relatively high compared to a study in Swat where it was 1.37%¹⁰ but is quite similar to a study carried out by Rana *et al* where HbsAg seropositivity was 1.8%.¹¹ Our proportion of HbsAg seropositivity is much lower than the study by Azad in Khairpur where HbsAg was positive in 6% of the cases.¹²

High proportion (13.3%) of pregnant women was found seropositive for HCV in this study. This result was found in consonance with the study carried out at Lahore where HCV prevalence was 13.5%.¹³

Also the results of our study are much lower than the study carried out at a university hospital at Hyderabad where in a similar pregnant population, the prevalence of HBV was 12.6% and Anti HCV was 16.5%.¹⁴

Among HCV positive women, there were 15 (37.5%) patients with previous vaginal deliveries at local clinics or maternity homes followed by lower segment caesarean section (8.20%). History of multiple injections was positive in 8 (20%) patients, while one (2.5%) had blood transfusion in the past. These results are quite comparable to a study by Taseer *et al* where 5 patients had received blood transfusion and 13 women had received multiple injections.¹⁵

The literature reveals that patients who had received blood transfusion have nine times greater chance to develop HCV than those with no history of blood transfusion. Similarly patients with surgical intervention have twice more chance to have HCV.¹⁶ Due to several reasons such as increased population, lack of literacy, malpractice of blood transfusion and a high number of intravenous drug users, Pakistan ranks amongst the nations severely debilitated by HBV and HCV infections.¹⁷

Lack of education and poor knowledge about the spread of disease that is HBV and HCV infection are the main factors responsible for its transmission. The poverty prevailing in our society has forced the innocent people to visit the quacks' clinics where due to substandard medical services they fall prey to these viruses.

CONCLUSION

HCV infection is higher than HBV infection in pregnant women, which is an alarming situation. Such a high infection rate is a big threat for vertical transmission to the new-borns thus contributing to the rising incidence of viral hepatitis. The high rate of seropositivity of HBV and HCV in the pregnant female population suggests the importance of antenatal screening for these viral infections.

RECOMMENDATIONS

Keeping in view the high prevalence and the predisposing factors in the country, it is recommended that regular screening for HBV and HCV infections must be incorporated in antenatal care services. Moreover, screening of new-borns born to HBV and HCV seropositive mothers should also be done as a part of hepatitis preventive and control program.

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