

PREVALENCE OF HBS AG & ANTI HCV IN PREGNANT LADIES ATTENDING ANTENATAL CLINIC AT SHEIKH ZAYED MEDICAL COMPLEX, RAHIM YAR KHAN

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Background: Hepatitis B & C viruses are related to chronic liver disease, cirrhosis and hepatocellular carcinoma. Their modes of transmission are mainly parenteral and vertical (HBV). Attempt has been made to assess the prevalence of these viruses in pregnant women, who attended antenatal clinic at Sheikh Zayed Medical Complex, Rahim Yar Khan.

Subjects & Methods: Four hundred & fifty pregnant women, who came for their antenatal checkup at OPD Sheikh Zayed Medical Complex Rahim Yar Khan, were included in the study. To avoid duplication, the women on their next visits were not included. Study duration was from 1st January to 30th June 2006. All the cases were screened for HBsAg & Anti HCV by 3rd generation ELISA method. Positive cases for HBsAg were advised to have active as well as passive immunization of their new born babies within 24 hours, (preferably within 12 hours) of birth. Anti HCV positive ladies were guided to proceed for HCV-RNA detection by PCR technique to diagnose the active disease.

Results: Out of 450 cases, 82 (18.2%) were Anti HCV positive, 54 cases (12.0%) were found HBsAg positive. Combined infection of both HBV & HCV was found in 13 (2.9%) cases.

Conclusion: HBV & HCV infections are alarmingly high in the screened group of population in the area. Proper evaluation of modes of transmission is needed for control and prevention. All pregnant ladies should be screened at least for HBsAg and neonates, born to HBsAg positive mothers, should be subjected to active as well as passive immunization to minimize the vertical transmission of HBV. All anti-HCV positive ladies who are negative for HBsAg should be vaccinated for Hepatitis B to avoid co-infection, which is multifold dangerous for liver, as compared to single HBV or HCV infection.

Introduction

The Hepatitis B virus is a double stranded DNA virus. The global prevalence of HBV infection is the highest (>8%) in Asia as compared to the lowest (<2%) in western Europe¹. The primary vehicles for transmission are blood, blood products and body fluids. The categories at risk are those, receiving blood transfusions, undergoing dialysis, IV drug abusers, homosexuals and cases of needle-stick accidents among health care workers.

The spread of virus from infected mother to a neonate during birth is known as vertical transmission, which is common, leading to carrier state for life in most cases. In the carrier state the patient may remain asymptomatic and without liver damage but in cases of chronic HBV replication, progressive liver damage is mandatory. The estimated carrier rate of HBV is about 350 millions world wide, while liver damage due to its infection is also a serious global problem. Both HBV & HCV have significant

role in the development of hepatocellular carcinoma². Hepatitis C virus is a single stranded RNA virus having flavi-virus like properties. It was first identified in 1988³. Transmission is almost similar as HBV. Sexual and vertical transmission is comparatively low, and seen in individuals having high level of HCV-RNA in their blood. Multiple sex partners may increase the risk of HCV infection. Still in many cases, source of infection is unknown. Its incubation period is 67 weeks. It is considered to be the major cause of chronic liver disease (70-75% go to chronic state of hepatitis and 15-20% may develop cirrhosis) and hepatocellular carcinoma^{4,5}. Its prevalence varies from 0.5-29% in general population around the world⁶. In India it has been reported to be 5.1%, whereas in Pakistan it varies from 0.5 to 25.7%⁷. Main objective of our study was to assess the frequency of HBsAg & Anti HCV in the pregnant ladies and to highlight the magnitude of the problem, so that safety measures can be devised to

prevent the spread of these infections.

Materials & Methods

This study was conducted in the Department of Pathology, Sheikh Zayed Medical College, Rahim Yar Khan. Study period was from 1st January to 30th June 2006. A total number of 450 pregnant women, who came in OPD Sheikh Zayed Hospital Rahim Yar Khan for their antenatal checkup, were included in the study. Blood samples were drawn by 5 cc disposable syringes and labeled properly. Almost all the women were apparently symptom free for liver disease. Care was taken not to take their samples during next visits to avoid duplication.

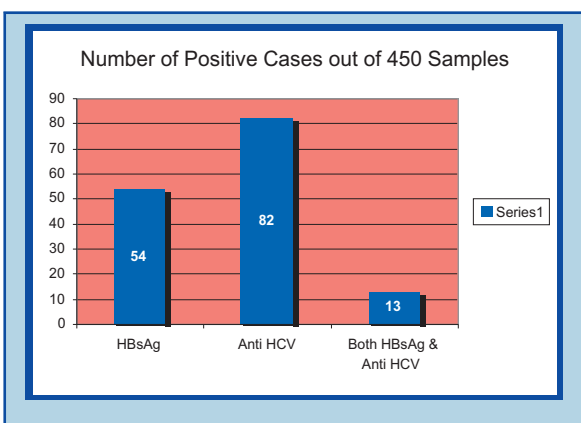
The serum samples were analyzed for HBsAg and anti HCV by ELISA technique, (being most reliable), and results were tabulated.

All positive cases for HBsAg were contacted again and advised to get their coming newborns actively immunized by HBV vaccine (1st dose) as well as passively (HBIG) within 12-24 hours of birth, preferably within 12 hours. Mothers were also advised to complete the remaining vaccination course of their babies. All the anti HCV positive females were guided for their HCV RNA detection by PCR technique to evaluate active disease. They were also advised to get HBV vaccination done after delivery, so that co infection by HBV may be prevented.

Results

Out of all 450 samples, 54 (12%) were found positive for HBsAg. Anti HCV antibodies were found in 82 (18.2%) pregnant ladies, which is alarmingly high. Co-infection of both HBV & HCV was observed in 13 (2.9%) of the cases which is also significant. The results are shown in Figure-1

Figure-1: Prevalence of HBsAg & anti-HCV in pregnant ladies.



Discussion

Hepatitis especially Hepatitis C is rapidly spreading disease in our community. Its high prevalence rate needs more effective evaluation regarding its modes of transmission. It is the most common cause of chronic liver disease, cirrhosis & hepatocellular carcinoma worldwide^{8,9}.

A study in Faisalabad on healthy blood donors reported 20.89% anti HCV positive cases¹⁰, the data of which is slightly above, that of our study.

Bhopal et al⁷ have reported 16.31% of the general surgical patients positive for anti HCV in Rawalpindi, which is relatively closer to our data.

Tariq et al¹¹ observed very high prevalence rate of anti HCV (25.7%) in northern Pakistan which might be due to their sampling from high risk groups. In contrast, the seroprevalence of Hepatitis C was 2.52% and Hepatitis B was 2.45% in a study performed on healthy blood donors at Fauji Foundation Hospital Rawalpindi¹². In a study by Hayashmi et.al¹³ in Japan, 19.71% prevalence of Anti HCV in the rural area was observed, which is very closely related to our study.

HBsAg was also detected in a fair member (12%) of the study group, which is quite high. If they are not properly screened and immunoprophylaxis is not given to their neonates, they are at risk of developing chronic carrier state of HBV or ultimately to cirrhosis and hepatocellular carcinoma.

Conclusion

Vertical transmission is the usual mode of hepatitis B transmission and blood transfusion for hepatitis C (more than 90% of cases) worldwide¹⁴. Keeping in view, increasing number of cases in pregnant ladies, heroic measures are needed to limit the spread of infection. Street barbers, dentists and ear piercers may be registered with local health authorities, so that they follow a safety protocol. Print and electronic media can also play a pivotal role along with launching an awareness campaign. Such programmes at frequent intervals may be encouraging for public knowledge and at the same time will discourage the malpractice related to risk factors.

Local studies done in our population show blood transfusion, reuse of syringes and IV drug abuse, as main risk factors for transmission of Hepatitis B & C viruses. Moreover, ear piercing and blood transfusions are among the leading predisposing factors for transmission of Hepatitis B & C in females¹⁵.

Vertical transmission of HBV is significantly high, which is a major contributing factor in its high prevalence. We can reduce upto 85%

which is a major contributing factor in its high prevalence. We can reduce upto 85% transmission of HBV just by immunizing all the neonates, born to HBsAg positive mothers, as a result of which, carrier rate of HBV may be significantly reduced. This is only possible by co-ordination of Health authorities, health

care workers, and awareness campaigns in general public.

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