

## Frequency Of Anti-Hcv, Hbsag In Pregnant Women At Dr Zahida Shaheen Maternity Home, Bahawalnagr.

### Authors:

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### Background:

Viral hepatitis is a global issue. Among the hepatitis viruses hepatitis B and C are important in South Asia including Pakistan. There are various modes of transmission of these viruses. Vertical transmission is also gaining importance. Antepartum screening for HBV and HCV would help the infected women for appropriate antiviral therapy at appropriate time as well as for taking proper care of the newborns. The present study was designed to see the frequency of HBsAg and anti-HCV in pregnant women who attended antenatal clinic at Dr. Zahida Shaheen Maternity Home, Bahawalnagar, Punjab.

**Methods:** This was a cross-sectional study carried out using non-probability purposive sampling technique.

Five hundred pregnant women, who came to Dr Zahida Shaheen for their antenatal checkup, 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 2016.

Informed consent was taken. A specially designed proforma was filled in.

All the cases were screened for HBsAg & Anti HCV by Immunochromatographic technique method.

### Results:

Out of 500 cases, 85 (17%) were Anti HCV positive, while 40 cases (8%) were found HBsAg positive. Combined infection of both HBV & HCV was found in 5 (1%) cases.

Majority of the positive cases were in the age group 21–35 years. Anti-HCV and HBsAg were common in multi-para group. All anti-HCV and HBsAg positive women were house-wives. Most of them were belonging to rural areas having poor socio-economic status. Among HBsAg and anti-HCV positive women, majority had history of previous surgery, history of multiple injections, or received blood transfusion.

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.

### **Conclusion:**

- HBV & HCV infections are alarmingly high in the screened group of population in our area.
- Previous history of surgery, multiple injection therapy and blood transfusion were observed as risk factors among anti-HCV and HBsAg positive pregnant women.
- Proper evaluation of modes of transmission is needed for control and prevention.
- All pregnant ladies should be screened at least for HBV and HCV 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.

### **Keywords:**

Anti-HCV, HBsAg, Hepatitis B, Hepatitis C, pregnancy

### **INTRODUCTION:**

Viral hepatitis is a global issue and according to WHO 12–15 million are infected each year. In Pakistan the

situation is not different from rest of the world. Among the hepatitis viruses hepatitis B and C are the viruses which need extensive studies.

Various studies conducted in various groups in health care settings have reported variable results regarding prevalence of hepatitis B and C. Recently Pakistan Medical Research Council (PMRC) has conducted a national survey on prevalence of hepatitis B and C in general population of Pakistan. The preliminary reports reveal that HBsAg is positive in 2.5% and Anti-HCV in 4.9%. Thus overall positivity for both these viruses is 7.4%. According to this survey about 12 million population of Pakistan is affected by these viruses.<sup>1</sup> However study conducted

by Khokhar et al has reported prevalence of HBsAg to be 2.5% and anti-HCV prevalence to be 5.3%.<sup>2</sup> It is evident from epidemiological studies that both these viruses are mainly transmitted through parenteral route. The transmission risk of these viruses increases among persons who are given un-sterilized therapeutic injections, sharing of infected needles among IV drug abusers, having transfusion

of contaminated blood, patients on hemodialysis, having unsafe sex, sharing of items like toothbrushes/Miswaks, razors and infected combs, having dental procedure with infected instruments, having endoscopies with unsterilized instruments, self-infliction as a part of religious activity (maatam) with infected chains and persons who have their faces or armpits shaved by street barbers.<sup>3,4</sup> The cosmetic alterations like body piercing or tattooing done by un-sterilized

needles and use of infected tweezers are becoming major threats for transmission of hepatitis viruses. Sexual transmission of hepatitis-B and C has also been described. Sexual transmission of hepatitis B virus is more pronounced. In USA the heterosexual transmission of hepatitis B virus accounts almost to 39% among the new HBV infections in adults and hepatitis C virus has also been transmitted

Sexually however prevalence is much less as compared to hepatitis-B. HCV and

HBV screening of blood products introduced in various countries has minimized the risk of transmission through blood transfusion. Vertical transmission of HBV is more common than HCV. It has been described if mother is positive for HBV then transmission of HBV to infant is 85-90% if the mother is in replicative status (HBeAg positive) and transmission is 30% if the mother is HBeAg negative.<sup>7</sup> The risk also increases if mother develops HBV infection in 3<sup>rd</sup> trimester of pregnancy.<sup>9</sup> The risk of transmission of HCV from viremic (HCV RNA positive) mothers to their infants is 3.2% and transmission risk further increases if the mother is co-infected with HIV to 7.9%.<sup>7</sup> Both these viruses can lead to chronic hepatitis, cirrhosis and hepatocellular carcinoma.<sup>10</sup> The possibility of vertical transmission highlights the importance to diagnose the acute and chronic hepatic viral infections in pregnant women thereby justifying mandatory antepartum screening for HBV and

HCV. It has benefits making it possible to refer these infected women for appropriate antiviral therapy at appropriate time and before the development of significant liver damage. The present study was designed to determine the frequency of HBsAg and anti-HCV in pregnant women at The results of this study would provide some data for the future in-depth studies on this vital subject.

## **MATERIAL AND METHODS**

This cross-sectional study was carried out at Gynaecology and Obstetrics outpatient department,

A total of 500 pregnant women Attending Gynaecology and Obstetrics outpatient department were included in this study. Informed consent was taken. A specially designed proforma was filled to collect the data. HBsAg and anti-HCV were tested by device method and data were analyzed using SPSS-11.

## **RESULTS**

Out of 500 cases, 85 (17%) were Anti HCV positive, while 40 cases (8%) were found HBsAg positive. Combined infection of both HBV & HCV was found in 5 (1%) cases.

Majority of the positive cases were in the age group 21–35 years. Anti-HCV and HBsAg were common in multi-para group. All anti-HCV and HBsAg positive women were house-wives. Most of them were belonging to rural areas having poor socio-economic status. Among HBsAg and anti-HCV positive women, majority had history of previous surgery, history of

multiple injections, or received blood transfusion.

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

## DISCUSSION

Viral hepatitis B and C are the major concern throughout the world and being extensively studied. Worldwide many studies have been conducted to determine the prevalence of hepatitis B and C in their general population, in healthy blood donors and in different age groups. The studies have also been conducted on Hepatitis B and C in pregnant women. Zafar et al<sup>11</sup> conducted a study at a hospital in Lahore on 300 pregnant women and showed anti-HCV prevalence to be 6% while another study at Islamabad revealed anti-HCV prevalence to be 3.7%.<sup>12</sup> Another study conducted at Lahore on pregnant women, reported anti-HCV positivity to be 7.3% and HBsAg positivity to be 2.2%.<sup>13</sup> Kazmi from Pakistan has also reported incidence of HBsAg in child bearing age to be 4%.<sup>8</sup> A study conducted in Egyptian pregnant women, revealed high prevalence of anti-HCV 19%.<sup>14</sup> While study conducted in the pregnant women of London revealed 0.8% positivity for anti-HCV<sup>15</sup>. Higher prevalence of anti-HCV in Egyptian pregnant women may be due to higher prevalence of anti-HCV in general population of Egypt. Our study on pregnant women revealed anti-HCV

positivity to 7% and HBsAg positivity as 4.6%. Anti-HCV and HBsAg positivity are comparable with the studies conducted by Batool et al<sup>13</sup> and Zafar et al<sup>11</sup>. Jaffery et al reported low prevalence that may be due to the fact it was conducted in people who were educated and having better socioeconomic status and were health conscious as well as aware of hepatitis. The mean age of was 26.7±4.8 years with majority of the cases (52.60%), were in the age group of 26–35 years. In our study, the positivity of HBsAg and anti-HCV was more related to parity. Para 1–4 women showed maximum positivity. These findings related to the parity are supportive with the findings of Kumar.<sup>10</sup> All the Hepatitis positive women were house wives mostly from rural areas with poor socio-economic status. Among 35 anti-HCV positive women, 20 (57.14%) had history of previous surgery. Out of these 20 patients, 14 had obstetrical while 6 had gynecological surgery. Thirteen (37.14%) women had history of multiple injections. Five (14.28%) women received blood transfusion, out of which 4 had single while 1 had multiple blood transfusions. Four (11.42%) had ear/nose piercing while tattooing was seen in only 2 (5.71%) anti-HCV positive women.

## Conclusion:

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- Previous history of surgery, multiple injection therapy and blood transfusion were observed as risk factors among

anti-HCV and HBsAg positive pregnant women.

- Proper evaluation of modes of transmission is needed for control and prevention.
- All pregnant ladies should be screened at least for HBV and HCV 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.

### SUGGESTIONS

1. Pregnant women should be screened for HBsAg and Anti-HCV.
2. Babies born to HBsAg positive mothers must be properly immunised.
3. Close contacts of the family must be tested for HBsAg, if negative, must be vaccinated.

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