

# HEPATITIS B VACCINATION IS NOT COMMON AMONG HEPATITIS C INFECTED PATIENTS.

Wasifa Aijaz<sup>1</sup>, Syed Zafar Abbas<sup>2\*</sup>

## Abstract:

### Background and Aims:

Co-infection of Hepatitis B Virus (HBV) in patients with Hepatitis C Virus (HCV) infected patients worsens the prognosis. All major guidelines recommend HBV vaccination to all HCV infected patients. We attempted to determine the rate of HBV vaccination in this patient population in our region.

**Subjects and Methods:** Prospective survey of HCV infected patients attending our Hepatology clinics.

**Results:** 100 consecutive patients (58 males) attending Hepatology clinic of MMCH were interviewed. Average age of these patients was 40 years (range 18 - 65 years). Major source of infection was reused disposable syringes (69 patients). Remaining 31 did not know about the likely source of infection. Twenty had a household member infected with HCV. Twenty were co-infected with HBV. Of all patients interviewed, 85 did not have vaccination against HBV. Of these 85 patients, 25 (29%) did not have the vaccination because of financial reasons, and 45 (52%) had no awareness about it.

**Conclusion:** Majority (69%) of HCV infected patients thought they contracted infection through reuse of disposable syringes. A large number (85%) were not vaccinated against HBV, of which 52% had no awareness of it, whereas 29% said they could not financially afford it.

## Introduction:

Chronic viral Hepatitis B and C are global health problem. They constitute the commonest causes of hepatocellular carcinoma (HCC) secondary to cirrhosis. Viral hepatitis C induced cirrhosis is one of the commonest indications of liver transplantation (1). This treatment is not accessible to a common Pakistani patient in their country. Going abroad to receive this treatment is very expensive and out of their reach. In our centre, the commonest reason for admission in medical ICU has been shown to be the complications of decompensated cirrhosis secondary to viral hepatitis (32%). The commonest cause of death was liver decompensation caused by HCV infection related cirrhosis (2). This is not surprising, considering the fact that HCV infection is very common in this part of the world - 14% of "healthy" blood donors are sero-positive for HCV in our region (3). Whereas no vaccination against HCV infection has been developed as yet, HBV infection is preventable, and effective vaccination is available, preventing infection in 95% of those vaccinated (4). Although effective eradication treatment for HCV has recently become available for non-decompensated liver disease patients, this is mainly confined to genotype 1 infected patients, and is very expensive (5). The predominant genotype in HCV infected patients in Pakistan is genotype 3 (3) for which the results of eradication treatment are not as good, particularly once cirrhosis sets in. Unfortunately for a vast majority of HBV infected patients, eradication treatment with successful loss of Hepatitis B surface Antigen is not yet available (6). Concurrent infection with HBV may increase the risk of progressive liver disease in

patients with HCV infection (7). It is therefore vital that all HCV infected patients are vaccinated against HBV infection, as recommended by all major guidelines worldwide (8).

We undertook a prospective survey to determine the rate of HBV vaccination among the HCV infected patients in our area.

### Subjects and Methods:

Prospective survey of 100 consecutive HCV infected patients attending the free hepatology clinic of our hospital, situated in a rural setting. A proforma was used, and standard pre-determined questions were asked from the proforma by a single investigator (WA).

Approval was obtained from the Research Ethics Committee of the Hospital prior to conducting this survey.

### Results:

Among them, 58 were males and 42 females. Average age was 40 years [range 18 - 65 years]. The perception of 69 patients regarding source of infection was that they may have contracted this virus through the reuse of disposable syringes at the quack's or in some cases, qualified doctor's clinics. Remaining 31 did not have any idea about the likely source of infection. Twenty had a household member infected with HCV. Twenty were co-infected with HBV. Of all 100 patients interviewed, 85 did not have vaccination against HBV. Of these 85 patients, 25 (29%) cited financial reasons not to have had the vaccination, and 45 (52%) said they did not have awareness about it.

### Discussion:

Although the prevalence of HBV infection is not high in the West, it is a common problem in Asia (9). It is preventable disease and effective vaccination is available (4). It is estimated that about 1/3 world population is sero-positive - indicating present or past infection. Effec-

1. Muhammad Medical College, Mirpurkhas

2. Muhammad Medical College, Mirpurkhas

tive eradication treatment is not possible for vast majority (3). Prognosis of HCV infection is worse in people co-infected with HBV. All HCV infected patients, among many other groups, are therefore recommended to get vaccinated against HBV infection by all major guidelines (8).

The vaccination against HBV is widely available in Pakistan, and is inexpensive. Major government run district general hospitals provide free vaccination to high risk groups, including HCV infected patients. The standard practice of our free hepatology clinic was to refer these patients to those hospitals for HBV vaccination. More than one in 4 of our patients still did not appear to be aware of the fact that they could have been easily vaccinated against HBV this way. Information posters were on display in the patient's waiting area in free hepatology clinic regarding need and recommendation of HBV vaccination, particularly for HCV infected patients. However, over half of the patients (52%) denied any knowledge of this recommendation.

Part of this apparent ignorance among HCV infected patients could be explained by the fact that a lot of such patients in this rural setting are uneducated and illiterate. They may not have been able to read or understand the posters. They may also be unclear whether it was applicable to them. Another explanation may be the reluctance of some patients to go to government run hospitals for various reasons. In a busy hepatology clinic, doctors may not have been able to fully explain the reasons of this recommendation of getting vaccinated against HBV in those who were attending clinic for a different reason (HCV infection).

Since the finding of this study, our free hepatology clinic has successfully negotiated and arranged with government to hold a free vaccination centre, including that for HBV, at our centre. The policy has since therefore changed, and HCV infected patients are vaccinated against HBV at the same clinic and they do not need to visit another centre for that reason any more.

Commonest source of HCV infection in the West is injecting drug use (10). Unfortunately, the practice of reusing disposable syringes seems to continue in Pakistan, particularly in rural areas to save cost of treatment of various illnesses. Many of the injections used in many clinics, particularly those of quack's (unqualified medical practitioners) are considered unnecessary in the first place (11). Practice of medicine and even medical procedures sadly continues in rural Pakistan despite campaigns by various organisations (12). If a disposable syringe is used for injecting medicine in a HCV infected patient, it carries a high risk of passing on the infection to the next person it is reused for (8). It is anecdotally believed to be a major source of HCV infection in Pakistan, certainly in rural areas. This study's findings confirm the existence of this perception in HCV infected patients.

HCV infection appears to be commoner among households (13). Besides potentially sharing personal items (razor blades, tooth brush etc), people living in the same

house share the similar life styles. The risk of contracting infections like HCV is therefore higher among the same household. Our study confirms that such risk is indeed high (20%).

Co-infection with HBV in patients with HCV worsens the prognosis of this difficult disease even more (7). Both these infections share similar sources of infection. Patients infected with one of these infections are therefore at risk of developing the other infection. Our study confirmed the high prevalence of HBV among patients infected with HCV. This further emphasises the need to get HCV infected patients investigated for HBV infection also, and get them vaccinated against HBV if not already co-infected.

In conclusion, our small study shows that the rate of vaccination of the preventable co-infection of HBV among HCV infected patients in our rural Pakistan setting is very low. Significant steps have been taken by our team and administration to improve the situation in our centre. However, it is likely that these results are not specific for our population, and are likely to be representative of many if not most areas in Pakistan. Further careful studies to establish the facts are needed in other parts of the country, and if similar situation is found, measures need to be taken to improve them. Such measure would include education of the patients, and where possible, providing free HBV vaccination at the point of contact to the patients.

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