

Frequency of Co-Infection of Hepatitis C in Patients of HIV

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ABSTRACT

Introduction: Scarce local studies have been conducted to find out burden of co infection with hepatitis C in patients infected with human immunodeficiency virus (HIV) in our population. **Objective:** To determine the frequency of co-infection with hepatitis C virus infection among treatment naïve patients infected with human immunodeficiency virus presenting to a tertiary care hospital. **Methods:** In this cross sectional survey 303 patients infected with human immunodeficiency virus without prior diagnosis of co-infection with hepatitis C virus infection were included. Elisa for anti HCV antibody was carried out. High risk factors like blood transfusion, spouse positive for HCV, Intravenous drug user and being a sex worker were ascertained. **Results:** 303 patients with mean age of 26.5 ± 5.68 years were included. Among them 202 patients (66.7%) were male while remaining 101 patients (33.3%) were female. 105 patients (34.7%) in our sampled population (n=303) had co infection with hepatitis C virus. Age and gender was equally distributed across both groups with and without Hepatitis C co-infection. History of blood transfusion, spouse positive for HCV, Intravenous drug user and being a sex worker were significantly associated with Hepatitis C co-infection. **Conclusion:** The frequency of Hepatitis C co-infection is high in treatment, patients infected with human immunodeficiency virus i.e. 34.7%. Preventive measure should be taken to reduce the spread of Hepatitis C co-infection among the HIV patients by focusing on blood transfusion, spouse positive for HCV, intravenous drug user and being a sex worker.

Key words: Hepatitis C, Human immunodeficiency virus, Co-infection.

INTRODUCTION

In 2011, 34 million people were living with Human Immunodeficiency Virus (HIV) globally.¹ Pakistan is now in the initial phase of HIV epidemic, where a preventive program may help control the spread.^{2,3} Similarly menace of hepatitis C virus (HCV) is still unbeatable with high mortality and morbidity.⁴ Highly effective anti-retroviral treatment has decreased mortality associated with HIV and AIDS⁵ so that persons co infected with chronic HCV survive to develop HCV cirrhosis.⁶

In the US and Western Europe, among HIV-infected persons, HCV prevalence is 72% to 95% among injection drug users (IDU) Transmission is primarily through IDU or transfusion of infected

blood or blood products, although sexual transmission has been suggested among HIV-infected women and documented among male having sex with male (MSM).⁷⁻⁹

In a Canadian study the co infection with HCV proportion came out about 27% of all HIV patients.⁵ It is well established that HIV has a negative impact on the natural history of HCV, including a higher rate of viral persistence, increased viral load, and more rapid progression to fibrosis, end-stage liver disease, and death.⁶ the rate of liver cirrhosis is up to six times higher in HIV co-infected persons than HCV mono-infected.

PATIENTS AND METHODS

This cross sectional study was carried out at HIV Clinic. Jinnah Hospital, Lahore Treatment

naïve Cases of HIV (n=303) of either gender were inducted. Patients were more than 16 years of age and on anti retroviral therapy. Patients with advanced liver disease determined by ultrasonography (coarse echotexture) and patients on antiretroviral therapy for more than one year determined by history were excluded

The treatment of cases of HIV was determined by HIV RNA detected by PCR (n=303) All variables of interest like age, sex, time since diagnosis were recorded. High risk behaviors like being intravenous drug user, sex worker, spouse HCV positive, history of transfusion were recorded additionally. Presence of co infection with HCV was determined by Elisa method after taking 5 ml venous blood under aseptic conditions after consent.

Table 1: Frequency distribution of sampled population by intravenous drug user

	Frequency	Percent
No	200	66.0
Yes	103	34.0
Total	303	100.0

RESULTS

Three hundred and three (303) patients were included in our sampled population with mean age of 26.24±5.60 years. Among them 202 patients (66.7%) were male while remaining 101 patients (33.3%) were female. 105 patients (34.7%) in our sampled population showed positive results for Hepatitis C virus infection. 103 patients (34%) were intravenous drug user among our study population (Table 1). 92 patients (30.4%) in our study population were sex worker (Table 2). 107 patients (35.3%) had HCV positive spouse (Table 3). 144 patients (47.5%) had history of blood transfusion (Table 4). 73 patients with Hepatitis C virus Infection were either 30 years of age and below and rest of 32 were above 30 years. 78 Hepatitis C viral Infection patients were male while remaining 27 were female. Out of 103 intravenous drug users 76 patients showed positive results for HCV co infection. Out of 92 sex worker 48 patients were positively affected by HCV infection. Out of 107 HCV positive spouse 82 patients were

positively affected by HCV infection. Out of 144 patients with blood transfusion history 68 patients were positively affected by HCV infection.

Table 2: Frequency distribution of sampled population by sex worker

	Frequency	Percent
No	211	69.6
Yes	92	30.4
Total	303	100.0

Table 3: Frequency distribution of sampled population by HCV positive spouse

	Frequency	Percent
No	196	64.7
Yes	107	35.3
Total	303	100.0

Table 4: Frequency distribution of sampled population by history of blood transfusion

	Frequency	Percent
No	159	52.5
Yes	144	47.5
Total	303	100.0

DISCUSSION

Pakistan's HIV epidemic is expanding among injection drug users (IDUs), female sex workers and transgender sex workers.^{2,3} Similar is the case with epidemic of increased cardiovascular risk which is on rise due to changing dietary habits.⁴ There is a significant difference among developed and developing countries regarding momentum of both epidemics and there may be inevitable co incidence of diabetes and HIV.⁵ Human immunodeficiency virus has appeared as epidemic in our population and they are more prone to develop the non-communicable disease like metabolic syndrome.

Hepatitis C co-infection according to operational definition was present in 105 patients (34.7%) among sampled population. This is an alarming situation which needs urgent attention. 303 patients were included in our study. Their age

ranged from 18 to 37 years with mean 26.24±5.60 showing the increased rate of infectivity in patients with HIV. More male were diagnosed with HIV in our sampled population as 202 patients (66.7%) were male while remaining 101 patients (33.3%) were female. This may be secondary to treatment seeking behavior or undiagnosed female population.

There was no effect of gender and age of patient on hepatitis C co-infection. But the high risk behaviors were associated with high likelihood of being co infected. These include history of blood transfusion, spouse positive for HCV, intravenous drug user and being a sex worker. Limitation of current study includes non-representative sample and purposive sampling technique.

CONCLUSION

It is concluded that the frequency of Hepatitis C co-infection is high in treatment of patients infected with human immunodeficiency virus i.e. 34.7%. Preventive measure should be taken to reduce the spread of Hepatitis C co-infection among these HIV patients by focusing on blood transfusion, spouse positive for HCV, intravenous drug user and being a sex worker.

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