

**A CROSS-SECTIONAL STUDY REGARDING SPECTRUM OF ACUTE VIRAL  
HEPATITIS AT OUR HOSPITAL****Dr. Hira Fatima Zaidi<sup>1</sup>, Dr. Saba Mustafa<sup>\*2</sup>, Dr. Adila Zafar<sup>3</sup>**<sup>1</sup>(PMDC # 89986-p) Azra Naheed Medical College.<sup>2</sup>(PMDC # 88821-p) Azra Naheed Medical College.<sup>3</sup>(PMDC # 87547-p) Jinnah Hospital Lahore.**\*Corresponding Author: Dr. Saba Mustafa**

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**ABSTRACT**

**Objective:** To determine the frequency, etiology and clinical profile of patient with acute viral hepatitis at tertiary care hospital. **Patients and Methods:** This is a cross sectional study conducted at Jinnah hospital Lahore, and included patients of age 10 years and above. Duration of study was 6 months from July 2017 to December 2017. Total 50 patients were included in the study. Patients with acute onset of jaundice suggestive of acute hepatitis, with at least one positive serological viral marker (IgM HAV, IgM HEV, hepatitis B surface antigen and anti-HCV) were included in the study. Patients with clinical or ultrasonographic evidence of biliary obstruction or chronic liver disease were excluded. Hepatitis B surface antigen (HBsAg) positive but IgM-anti-HBc negative patients and anti-HCV positive but HCV RNA negative patients were also excluded. Those subjects who were identified as HBsAg positive were further explored by IgM anti HBc to detect acute HBV infection while the data was collected on pre-designed proforma and analyzed in SPSS 16. The frequency and percentages was calculated while the numerical statistics were used to compute mean  $\pm$ SD. **Results:** Total fifty patients with acute viral hepatitis of different etiologies were detected during six months study period, majority of the patients were males 35 (70%) and from rural population 38 (76%). The mean  $\pm$ SD for age and duration of disease for whole population was 23.82 $\pm$ 8.86 and 3.92 $\pm$ 1.32. Though isolated viral hepatitis A (52%) and C (14%) has been found to be the commonest cause of acute viral hepatitis while the hepatitis B occupied 12% whereas co-infection were also observed as hepatitis A and E (6%), hepatitis B and D (6%) and hepatitis B and C (10%) respectively. **Conclusion:** The viral hepatitis are commonly and frequently observed in tertiary care hospital of developing countries with hepatitis A will be the identified as the most common etiological factor.

**KEYWORDS:** Hepatitis, Viral hepatitis, Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D, Hepatitis E and Viral hepatitis Co-infection.

**INTRODUCTION**

Acute viral hepatitis continues to be a major health issue worldwide especially in developing countries like Pakistan caused viruses either hepatitis A, B, C, D and E and these agents can be distinguished by their molecular and antigenic properties.<sup>[1,2]</sup> Hepatitis A and E are transmitted by oro-fecal route and are endemic in many developing countries responsible for both sporadic and epidemic acute viral hepatitis and does not lead to chronicity but may have two atypical courses i.e. relapsing hepatitis and prolonged cholestasis.<sup>[3]</sup>

Hepatitis E commonly affects older children and adults resulting in symptoms and also pregnant women.<sup>[4]</sup> Hepatitis B is transmitted via blood or blood products or by sexual or perinatal exposure and Clinical presentation differs from asymptomatic infection to cholestasis

hepatitis with jaundice and chronic hepatitis and cirrhosis.<sup>[5]</sup>

Improvement in hygiene/sanitation and socioeconomic conditions leads to decrease in the number of viral infections.<sup>[6]</sup> As a consequence; an increase in susceptible adults with an associated increased proportion of clinical disorders is noted, especially acute viral hepatitis A.<sup>[7]</sup> Hence the vaccination against hepatitis A and B may play a preventable role in acute viral hepatitis.<sup>[8]</sup>

Therefore, this study was conducted to evaluate the etiological profile of patients with patients with acute viral hepatitis presented at Jinnah hospital Lahore, Pakistan.

## PATIENTS AND METHODS

This study of cross sectional type was conducted at Jinnah hospital Lahore and included patients of  $\geq 10$  years of age and either gender with clinical and biochemical profile suggestive of acute hepatitis, at least one positive serological viral marker and ultrasound abdomen shown no evidence of intra as well as extra hepatic biliary obstruction whereas the exclusion criteria of the study patients who were already on treatment for liver disease, the patients with drug induced hepatitis, hepatitis due to non-viral etiology. Duration of study was 6 months from July 2017 to December 2017. After taking consent the detailed history regarding the presenting symptoms and risk factors for acquiring viral hepatitis was taken and detailed clinical examination was done and routine and specific laboratory investigations were advised. The following serological tests were also advised for correct etiological diagnosis anti-HAV (IgM) by ELISA, anti-HEV (IgM) by ELISA, HBsAg by ELISA and anti -HCV by ELISA. Those subjects who were identified as HBsAg positive were further explored by IgM anti HBc to detect acute HBV infection. Patients with acute onset of jaundice suggestive of acute hepatitis, with at least one positive serological viral marker (IgM HAV, IgM HEV, hepatitis B surface antigen and anti-HCV) were included in the study. Patients with clinical or ultrasonographic evidence of biliary obstruction or chronic liver disease were excluded. Hepatitis B surface antigen (HBsAg) positive but IgM-anti-HBc negative patients and anti-HCV positive but HCV RNA negative patients were also excluded. The data was collected on pre-designed proforma and manipulate in SPSS version 16. The frequency and percentage will mean calculated while the numerical variables presented as mean SD.

## RESULTS

Total fifty patients with acute viral hepatitis of different etiologies were detected during six months study period, majority of the patients were males 35 (70%) and from rural population 38 (76%). The mean SD for age and duration of disease for whole population was  $23.82 \pm 8.86$  and  $3.92 \pm 1.32$ . The demographical and clinical data is presented in Table 01 while the etiological data is presented in Table 03.

**Table 01: The Demographical detail of patients.**

| Age (years) | Frequency (n=50) | Percentage (%) |
|-------------|------------------|----------------|
| 10-19       | 11               | 22             |
| 20-29       | 09               | 18             |
| 30-39       | 08               | 16             |
| 40-49       | 09               | 18             |
| 50-59       | 07               | 14             |
| 60+         | 06               | 12             |

| Gender | Frequency (n=50) | Percentage (%) |
|--------|------------------|----------------|
| Male   | 35               | 70             |
| Female | 15               | 30             |

**Table 02: Clinical Parameters of the Patients.**

| Clinical features | frequency (n=50) | Percentage (%) |
|-------------------|------------------|----------------|
| Jaundice          | 45               | 90             |
| Fever             | 22               | 44             |
| Pruritus          | 05               | 10             |
| Fatigue           | 40               | 80             |
| Pain in abdomen   | 42               | 84             |
| Nausea / vomiting | 40               | 80             |
| Anorexia          | 43               | 86             |

**Table 03: The Etiological Profile of the Patient.**

| Viral hepatitis   | Frequency (n=50) | Percentage (%) |
|-------------------|------------------|----------------|
| Hepatitis A       | 26               | 52             |
| Hepatitis B       | 06               | 12             |
| Hepatitis C       | 07               | 14             |
| Hepatitis A and E | 03               | 06             |
| Hepatitis B and D | 03               | 06             |
| Hepatitis B and C | 05               | 10             |

## DISCUSSION

The present study includes one hundred patients with acute viral hepatitis seen over a period of six months during a hospital based cross sectional study. The provincial health regulations authorities demand that all patients with viral hepatitis be admitted and treated as in patients till recovery. This study can qualify as a community based and all consecutive cases have been admitted irrespective of the severity of the illness. The referral system is such that all subjects have been followed up right from the onset of illness till recovery and meticulous documentation was maintained in all.

The young adult male populations essentially dominate in our study and hence form the largest group of our study population. Hepatitis E virus was the also observed as the cause of acute viral hepatitis in present study. The former literature mentioned that hepatitis E is the commonest cause of sporadic acute viral hepatitis among adults in developing countries.<sup>[9-12]</sup> There were two pregnant lady admitted with acute viral hepatitis during the study period and were infected with hepatitis E and had uncomplicated course with complete resolution and normal delivery subsequently. In present study the Hepatitis A was found to be common in children and former studies have also shown a low prevalence of this virus among adults.<sup>[13-14]</sup> A study conducted on school children in India had found that all children by age of 15 years had antibodies against hepatitis A and recommended that preventive vaccination is not required in this population.<sup>[15]</sup> In current series, the study population mostly from low economic background but still turned out to be non-immune to hepatitis A viral infection and still remains an important cause of acute viral hepatitis in adults and vaccination against hepatitis A needs to be matter of consideration. There were 7 patients with acute hepatitis C as confirmed by positive

HCV (by ELISA and PCR), although dual infection was present in 22% of patients with majority infected with hepatitis B and C (10%) probably because of similar mode of viral transmission, the observation is consistent with the study by Caccamo G, et al.<sup>[16]</sup> The clinical and biochemical characteristics were not helpful in differentiating the viruses thus the serological testing is essential for correct etiological diagnosis.

In present study cholestasis picture identified during hepatitis A and E infection and it is also well documented in earlier study.<sup>[17]</sup> The relapsing pattern of hepatitis was observed in four patients and all the patients were infected with hepatitis A. Apart from the relapsing pattern of the disease there were no other clinical differences among relapsing and non-relapsing viral hepatitis cases. Isolated hepatitis B was observed in 12% patients and it is consistent with the study by Al-Mekhaizeem KA, et al.<sup>[18]</sup> The improvement in hygiene and socioeconomic conditions has resulted in the immunity of the population. The public health measures including vaccination against hepatitis A and B need to be initiated in our population, the serological markers are essential for exact etiological diagnosis and cholestasis is found to be significantly associated with viral hepatitis A and E infection.

## CONCLUSION

This study is a hospital based study concentrate on clinical spectrum of acute viral hepatitis cases in tertiary care hospital. Though isolated viral hepatitis A (52%) and C (14%) has been found to be the commonest cause of acute viral hepatitis while the hepatitis B occupied 12% whereas co-infection were also observed as hepatitis A and E (6%), hepatitis B and D (6%) and hepatitis B and C (10%) respectively.

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