

## Assessment of clinical profile of acute viral hepatitis among paediatric age group patients at tertiary care centre

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### Abstract

**Background:** Viral hepatitis keeps on being a significant medical issue worldwide and India. This issue is brought about by the 5 pathogenic hepatotropic infections perceived to date: hepatitis A (HAV), E(HEV), C(HCV), B(HBV) and D(HDV) infections. Be that as it may, most successive viral operators of acute viral hepatitis with significant wellbeing trouble in India are hepatitis A infection and hepatitis E infections. **Material & Methods:** The present prospective study was conducted at department of pediatrics of our tertiary care hospital. The study was an observational study conducted during a period of one year. A total of 100 children who were of age 1 to 16 years and who were diagnosed with two or more symptoms of loss of appetite, nausea, vomiting, pain abdomen, itching and jaundice enrolled for study. along with patients who had positive serum levels of IgM HAV, IgM HEV and IgM HCV and hepatitis B surface antigen [HBsAg] were enrolled for study. **Results:** In present study, out of total study participants, based on the signs and symptoms, the most common presenting symptom was jaundice present in 92% patients which was followed by hepatomegaly present in 83% patients, which was followed by dark urine present in 82% patients which was followed by loss of appetite present in 82% patients. Out of total study participants, nausea was present among 76% patients which was followed by vomiting present in 73% patients, which was followed by fever present in 70% patients which was followed by pain abdomen present in 82% patients. Out of total study participants, loose stools was present among 54% patients which was followed by itching present in 38% patients, which was followed by Splenomegaly present in 21% patients which was followed by ascites present in 14% patients. **Conclusion:** It's critical to make mindfulness in the general public with respect to preventive measures including accessibility of immunization particularly in rustic territory. Better sterilization, arrangement of clean drinking water appropriate sewage removal, and government funded instruction are the backbones for counteraction of HAV and HEV contamination.

**Key words:** Clinical profile, Viral hepatitis, hepatitis.

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### Introduction

Viral hepatitis keeps on being a significant medical issue worldwide and India. This issue is brought about by the 5 pathogenic hepatotropic infections perceived to date: hepatitis A (HAV), E(HEV), C(HCV), B(HBV) and D(HDV) infection [1].

Numerous different infections can likewise cause hepatitis for the most part as a segment of multisystem ailment. This incorporate enterovirus, cytomegalovirus, Epstein-Barr infection, herpes simplex infection, varicella zoster infection, rubella, adenovirus, parvovirus B19, arboviruses and HIV. Be that as it may, most successive viral operators of acute viral hepatitis with significant wellbeing trouble in India are hepatitis A infection and hepatitis E infections [2]. Congestion, poor cleanliness, ill-advised disinfection and pollution of food and water are inclining factors, particularly in tropical nations [3]. Seriousness of Hepatitis A may shift from simple subclinical/clinical

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intense viral hepatitis to chronic liver disease. In India, extent of acute viral hepatitis vary from vast clinical presentation ranges between acute to chronic liver disease. The studies reported the range of acute to chronic hepatitis is vary from 10% to 70%. This features the criticalness of hepatitis A virus infection, particularly when it is one of the main not many immunization preventable hepatic infections[4]. All-inclusive vaccination against hepatitis A virus in kids in India is as yet questionable with constrained national epidemiological information on hepatitis A virus and its study of disease transmission[5].Hepatitis B and hepatitis C are major worldwide medical issue. They can cause ceaseless contamination which progress to cirrhosis and hepatic decompensationand even in hepatocellular carcinoma[6]. The present study was conducted to assess the demographic and clinical presentation of acute viral hepatitis among patients of pediatric age group at our tertiary health centre.

**Materials & methods**

The present prospective study was conducted at department of pediatrics of our tertiary care hospital. The study was anobservational study conducted during a period of one year. The study done at 95% confidence interval at 10% of maximum allowable error. The sample size of 100 patients was calculated by epi info software. All children of age1 to 16 years,who were diagnosed withtwo or more symptoms of loss of appetite, nausea, vomiting, pain abdomen, itching and jaundice enrolled for study. along with patients who had positive serum levels of IgM HAV, IgM HEV and IgM HCV and hepatitis B surface antigen [HBsAg] were enrolled for study. Clearance from hospital ethics committee was taken before start of study. Written informed consent was taken from

each study participant and parents.All the study participants were subjected to general physical and clinical examination and detailed history was recorded from all of them. We exclude the children from the present study who were diagnosedwith acute hepatitis by other than hepatotropic viral infections like enteric fever, TORCH infection, malaria, dengue, autoimmune and drug induced jaundice or Wilson’s disease and patients with previous history of liver diseases were also not included in the present study. All the study participants were subjected to, viral serology, complete blood count, liver function tests, prothrombin time and INR. All the study participants who had positive viral serology and/or alanine transferase more than 10 times of the normal levels were included in the study.All the recorded data was entered in an Excel spread sheet on Microsoft Excel 2016. The statistical analysis was done using the Statistical software package SPSS v22 and Epi Info v7.2. A p-value <0.05 with 95% confidence intervals were considered statistically significant.

**Results**

In present study we enrolled a total of 100 children who were of age 1 to 16 years and who were diagnosed withtwo or more symptoms of loss of appetite, nausea, vomiting, pain abdomen, itching and jaundice enrolled for study. along with patients who had positive serum levels of IgM HAV, IgM HEV and IgM HCV and hepatitis B surface antigen [HBsAg] were enrolled for study.All the study participants were below 16 years of age. Out of the total majority of study participants were in the age group of 10 - 16 years 46% which was followed by 33% in the 5-10 years age group and 21% in the age group of 1 to 5 years.However, this difference was statistically non-significant. In the present study males 52% were more common than females 42%. (Table 1)

**Table 1: Distribution of study subjects according to the age and gender**

parameters		No. of children
Age (years )	1 year –5 year	21%
	5 year – 10 year	33%
	10 year – 16 year	46%
Gender	Boys	52%
	Girls	48%

In present study, out of total study participants, based on the signs and symptoms, the most common presenting symptom was jaundice present in92% patientswhich was followed by hepatomegaly present in83% patients,which was followed by dark urinepresent in82% patientswhich was followed by loss of appetite present in82% patients. Out of total study

participants, nausea was present among 76% patientswhich was followed by vomiting present in73% patients,which was followed by feverpresent in 70% patientswhich was followed by pain abdomen present in 82% patients. Out of total study participants, loose stools was present among 54% patientswhich was followed by itching present in38% patients,which was

followed by Splenomegaly present in 21% patients. patients which was followed by ascites present in 14%

**Table 2: Clinical presentation wise distribution of study subjects**

Signs and symptoms	Number of Patients
Jaundice	92%
Hepatomegaly	83%
Dark Urine	82%
Loss of appetite	82%
Nausea	76%
Vomiting	73%
Fever	70%
Pain Abdomen	68%
Loose Stool	54%
Itching	38%
Splenomegaly	21%
Ascites	14%

## Discussion

In present study we enrolled a total of 100 children who were of age 1 to 16 years and who were diagnosed with two or more symptoms of loss of appetite, nausea, vomiting, pain abdomen, itching and jaundice enrolled for study. along with patients who had positive serum levels of IgM HAV, IgM HEV and IgM HCV and hepatitis B surface antigen [HBsAg] were enrolled for study. All the study participants were below 16 years of age. Out of the total majority of study participants were in the age group of 10 - 16 years 46% which was followed by 33% in the 5-10 years age group and 21% in the age group of 1 to 5 years. However, this difference was statistically non-significant. In the present study males 52% were more common than females 42%. Similar results were obtained in a study conducted by Subrat Kumar Acharya et al among children diagnosed with acute viral hepatitis. They reported nearly similar results to the present study[7]. Similar results were obtained in a study conducted by Vikrant Sood et al among children diagnosed with acute viral hepatitis. They reported hepatitis A virus contamination is the significant infection the general pediatric liver infection trouble. A huge extent of subjects stays defenseless to HAV disease significantly following 10 years old. Populace based examinations are required to additionally portray the study of disease transmission of HAV contamination in India for choosing presentation of HAV immunization in the national vaccination plan[8]. In present study, out of total study participants, based on the signs and symptoms, the most common presenting symptom was jaundice present in 92%

patients which was followed by hepatomegaly present in 83% patients, which was followed by dark urine present in 82% patients which was followed by loss of appetite present in 82% patients. Out of total study participants, nausea was present among 76% patients which was followed by vomiting present in 73% patients, which was followed by fever present in 70% patients which was followed by pain abdomen present in 68% patients. Out of total study participants, loose stools was present among 54% patients which was followed by itching present in 38% patients, which was followed by Splenomegaly present in 21% patients which was followed by ascites present in 14% patients. Similar results were obtained in a study conducted by C Sharma et al among children diagnosed with acute viral hepatitis. They reported nearly similar results to the present study[9]. Similar results were obtained in a study conducted by M behera et al among children diagnosed with acute viral hepatitis. They reported hepatitis HAV is the significant driver of bleakness and mortality due to AVH in this district. HBV and HEV contamination may give comparative clinical highlights, and serological testing must be done to recognize the reason[10]. Similar results were obtained in a study conducted by A Desai et al among children diagnosed with acute viral hepatitis. They reported Hepatitis E viral (HEV) disease was seen in 70% case and was progressively normal in age gathering of 21–30 years followed by Hepatitis B and Hepatitis A, 15.8% and 12.8% case individually. Most regular introducing side effect was jaundice in 80–85% of patients followed by anorexia 65.7% and queasiness and retching 57.1% of patients. Most basic clinical sign was icterus trailed by

hepatomegaly. All out-serum bilirubin and serum SGOT raised in all cases. Intense liver disappointment was found in seven cases. Six cases were because of hepatitis E and one case was because of hepatitis A. Intense kidney injury was available in seven cases. Coagulopathy was seen as significant difficulty in 25.7% cases[11]. Similar results were obtained in a study conducted by M behera et al among children diagnosed with acute viral hepatitis. They reported hepatitis mean age group of youngsters with hepatitis A was  $8.29 \pm 2.74$  years, with 70.8% young male and 29.2% young female. Regular clinical highlights were jaundice (96%), loss of hunger (96%), delicate hepatomegaly (69%), fever, regurgitating, torment mid-region (34%), splenomegaly (32%), tingling (27%) and seizure (2.1%). Intense liver disappointment was seen in 4.1% and 2% of conceded kids passed on. The mean period of introduction of acute viral hepatitis were  $10.7 \pm 2.6$  years and  $10 \pm 2.2$  years, individually. Clinical highlights were comparative with no intricacies or mortality. Noteworthy rises in hepatic proteins were seen in blended contamination due to HAV and HEV ( $p < 0.05$ )[10]

### Conclusion

We concluded from the present study that the Hepatitis A is the most widely recognized reason for acute viral hepatitis in youngsters. Based on clinical presentation alone the infections can not be separated from other cause of viral hepatitis. That's why, serological testing is essential to differentiate. It's critical to make mindfulness in the general public with respect to preventive measures including accessibility of immunization particularly in rustic territory. Better sterilization, arrangement of clean drinking water appropriate sewage removal, and government funded instruction are the backbones for counteraction of HAV and HEV contamination.

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