ORIGINAL ARTICLE

Frequency of Hepatitis in Children at Children Hospital, GMMC Sukkur

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ABSTRACT

Aim: To determine the frequency of hepatitis A, B, C D viruses in children who visited hospital with liver diseases.
Method: This descriptive study was carried out at Children Hospital GMMC Sukkur from 1st January 2015 to 31st December 2015. One hundred patients of both genders having chronic liver disease ages from 1 to 12 years were included. After taking informed consent from the guardians and parents of patients, patients detailed history was examined, in which sex age and previous clinical examinations were examine. All patients were referred to laboratory for further examination of hepatitis virus.
Results: Out of all 100 patients, 74 (74%) patients were ages between 1 to 4 years, 16 (16%) patients had an ages of 5 to 8 years and10 (10%) patients were aged between 9 to 12 years. 64% were male and rest were females. We observed male to female ratio 1:8:1. Symptoms and signs were observed as weakness, fever, abdominal pain, nausea, vomiting, appetite, jaundice, tenderness, abdominal distension, unconsciousness, hepatomegaly, ascitis and prominent abdominal vein. 96% patients had acute viral hepatitis while rest 4% had found chronic hepatitis.
Conclusion: It is concluded that the frequency of acute viral hepatitis in children was high and mostly patients were ages between 1 to 4 years. It may be due to unawareness and growing age stage of children.
Keywords: Hepatitis A, Hepatitis B, Hepatitis C and D, Symptoms, Prevalence.

INTRODUCTION

Worldwide, Hepatitis virus is a main cause of morbidity and mortality and also an alarming cause for mortality in developing countries. In developing countries Hepatitis virus frequency is very high and this ratio is very dangerous and may lead to increase the death ratio. In Pakistan, lack of awareness, bad sanitary infrastructure and lack of pure water lead to 90% of children ages between 1 to 10 years being infected with Hepatitis A[1-4].HAV virus resulted fifty to sixty percent of patients of acute viral hepatitis in the children having ages 1 to 4 years in Pakistan[5], and upto 100% of children found +ve for HAVIgG having ages of 14 years and it indicated that most of the people are resulted to have this malignant disorder in the ages 1 to 14 years[6]. Moreover, 54% to 61% of adults have acute viral hepatitis due to Hepatitis A[7]. Many of researches showed that the alarming ratio of Hepatitis A virus due to liver disease and reported 36.7% deaths were resulted due to this malignant and silent killing disease[8].

Hepatitis B (HBV) and Hepatitis C (HCV) are the 2 most frequent viruses and main causes of chronic liver failure, hepatocellular carcinoma familiar to chronic liver diseases[9,10]. In Pakistan the ratio of HCV virus is quite high and Pakistan stand second among the world in the frequency of HCV infected people vary from 4.5 to Eight Percent[11]. The frequency of HBV and HCV is too high in the most frequent causes such as in donors of blood, experts of health departments, abusers of drug and severe liver failure patients.[12]The indications of HBV comprise apetite loss, fever, nausea, abdominal pain, vomiting, joint pain, jaundice and dark urine[13].

Received on 06-06-2018
Accepted on 12-11-2018

This purpose of this study was to determine the prevalence of Hepatitis virus and its types infected in children who visited hospital with chronic liver disease.

PATIENTS AND METHODS

This descriptive study was conducted at Children Hospital GMMC Sukkur during from 1st January 2015 to 31st December 2015. Permission of the study was sought from the institutional Ethical Committee. One hundred patients of both genders having chronic liver disease ages from 1 to 12 years were included. After taking informed consent from the guardians and parents of patients, patients detailed history was examined, in which sex age and previous clinical examinations were examine.Patients having other abdominal infection, not interested parents of patients, having heamotological disorders were excluded from this study. All patients were referred to laboratory for further examination of hepatitis virus.All statistical data was analyzed by computer software SPSS 17.0. All the values were calculated by percentage.

RESULTS

There were 74 (74%) patients were ages between 1 to 4 years, 16 (16%) patients had an ages of 5 to 8 years and10 (10%) patients were aged between 9 to 12 years and overall mean age was calculated as 4.03±2.65 shown in Table 1. 64% were male and rest were females. We observed male to female ratio 1:8:1 (Table 2). Symptoms and signs were observed as weakness found in 73% patients, fever found in 88% patients, abdominal pain was observed in 65% while 35% had not found abdominal pain, nausea was observed in 57 patients, vomiting was found in 79 patients, appetite was in 72 patients, jaundice was

observed in 92 patients, abdominal tenderness was found in 24% patients, abdominal distension was observed in 31% patients, 3% patients had found unconsciousness, 77% patients had found hepatomegaly, 5 patients had found ascitis and 3% patients had prominent abdominal vein. 96% patients had acute viral hepatitis while rest 4% had found chronic hepatitis (Table 3).

Table 1: Frequency and percentage of age (n=100)

Age (years)	No.	%
1-4	74	74.0
5-8	16	16.0
9-12	10	10.0
Mean±SD	4.03±2.65	

Table 2: Frequency and percentage of gender (n=100)

Gender	No.	%
Male	64	64.0
Female	36	36.0
Male to female ratio	1.8:1	

Table 3: Frequency and percentage of signs and symptoms (n=100)

Signs and symptoms	No.	%
Weakness		
Yes	73	73.0
No	27	27.0
Fever		
Yes	88	88.0
No	12	12.0
Abdominal Pain		
Yes	65	65.0
No	35	35.0
Nausea		
Yes	57	57.0
No	43	43.0
Vomiting		
Yes	79	79.0
No	21	21.0
Appetite		
Yes	37	37.0
No	63	63.0
Jaundice		
Yes	92	92.0
No	8	8.0
Abdominal Tenderness		
Yes	24	24.0
No	76	76.0
Abdominal Distention		
Yes	31	31.0
No	69	69.0
Unconsciousness		
Yes	3	3.0
No	97	97.0
Hepatomegaly		
Yes	77	77.0
No	23	23.0
Ascitis		
Yes	5	5.0
No	95	95.0
Prominent abdominal vein		
Yes	3	3.0
No	97	97.0

Frequency of Hepatitis virus examination was noted as 100% patients had Hepatitis A, 7 (7%) patients had Hepatitis B, 5% patients had Hepatitis C while no patient was found having Hepatitis D (Tables 3-5). 89% patients were discharged after successful treatment. Moreover there was no death happen during this study affected with Hepatitis virus (Table 6).

Table 4: Frequency and percentage of type of hepatitis (n=100)

Type of hepatitis	No.	%
Acute viral hepatitis	96	96.0
Chronic hepatitis	4	4.0

Table 5: Frequency of hepatitis in children

Hepatitis	Yes		No	
	No.	%	No.	%
A	100	100.0	-	-
B	7	7.0	93	93.0
C	5	5.0	95	95.0
D	-	-	100	100.0

Table 6: Frequency and percentage of final outcome (n=100)

Final Outcome	No.	%
Discharged	89	89.0
LAMA	11	11.0
Expired	-	-

DISCUSSION

Hepatitis virus infection is most frequent cause of mortality and morbidity in worldwide population. Pakistan stands second largest country having Hepatitis virus and this alarming condition is due to unawareness and poor sanitary condition and lack of pure water[11]. As per record of World Health Organization, 2 to 5% of Indian subcontinent population is affected by Hepatitis B virus and approximately 4 to 5% population have Hepatitis C and these results shows the highest infection rate in the world[12,15]. In Pakistan one-third of HBV virus infected population were shown to be Co-infected by Hepatitis D virus[16].

Several studies have been conducted regarding prevalence of Hepatitis viral infection. In our study out of all 100 patients we found 100% patients had Hepatitis A and these results shows the severity of this malignant disease. It may be due to several causes such as unawareness in people and lack of pure drinking water. Children in the age of 1 to 12 years are the growing stage and the rate of hepatitis virus is so high in those children having ages 1 to 12 years. Many of studies shows that 100% children are infected by Hepatitis A in the age of 14 Years[17]. In our study the male ratio was high as compared to females 1:8:1, many of researches demonstrated that the male children population were high as compared to females and mostly children were in the growing age[18-19].

In this study, we observed symptoms and signs as weakness found in 73% patients, fever found in 88% patients, abdominal pain was observed in 65% while 35% had not found abdominal pain, nausea was observed in 57 patients, vomiting was found in 79 patients, appetite was in 72 patients, jaundice was observed in 92 patients, abdominal tenderness was found in 24% patients, abdominal distension was observed in 31% patients, 3% patients had found unconsciousness, 77% patients had found hepatomegaly, 5 patients had found ascitis and 3% patients had prominent abdominal vein. 96% patients had

acute viral hepatitis while rest 4% had found chronic hepatitis. A research conducted by April Kahn in 2017 reported similarity to the symptoms resulted in our study.[20]

Moreover, this research was not sufficient because small number of population visited in our hospital. We should have to do more work for better treatment and to reduce the mortality and morbidity ratio.

CONCLUSION

Hepatitis viral infection is most commonly found in children having ages 1 to 12 years. We observedthat 100% patients had found Hepatitis A virus and alarming high risk of malignant disorder in this area. The frequency of acute viral hepatitis in children was high and mostly patients were ages between 1 to 4 years. It may be due to unawareness and growing age stage of children. And poor sanitary condition and no availability of pure drinking water. We have to do a lot of work to reduce the morbidity and mortality rate and to aware people of this malignant disease.

REFERENCES

1. Lin X, Robinson NJ, Thursz M, Rosenberg DM, Weild A, Pimenta JM, Hall AJ. Chronic hepatitis B virus infection in the Asia-Pacific region and Africa: review of disease progression.J GastroenterolHepatol2005;20(6):833–43.
2. Kmush B, Wierzba T, Krain L, Nelson K, Labrique AB. Epidemiology of hepatitis E in low-and middle-income countries of Asia and Africa.SeminLiv Dis2013;33(1):15–29.
3. Butt AS. Epidemiology of viral hepatitis and liver diseases in Pakistan.EJOHG2015;5(1):43–8.
4. Jacobsen KH, Wiersma ST. Hepatitis A virus seroprevalence by age and world region, 1990 and 2005.Vaccine 2010;28(41):6653–7.
5. Bosan A, Qureshi H, Bile KM, Ahmad I, Hafiz R. A review of hepatitis viral infections in Pakistan.J Pak Med Assoc2010;60(12):1045–58.
6. Aziz S, Muzaffar R, Hafiz S, Abbas Z, Zafar MN, Naqvi SA, Rizvi SA. Helicobacter pylori, hepatitis viruses A, C, E, Antibodies and HBsAg-prevalence and associated risk factors in pediatric communities of Karachi.J Coll Physicians Surg Pak2007;17(4):195–8.
7. Haider Z, Khan AA, Rehman K, Janjua MI, Iqbal J, Chishti MA, Qayyum A, Hasnain S, Shahzad A. Sero-diagnosis for viral hepatitis in 93 patients admitted with acute hepatitis in three different teaching hospitals in Lahore.J Pak Med Assoc1994;44(8):182–4.
8. Shah U, Habib Z. Liver failure attributable to hepatitis A virus infection in a developing country.Pediatrics2000;105(2):436–8.
9. Guidelines for the screening, care and treatment of persons with chronic hepatitis C infection. Updated version, April 2016. Geneva: World Health Organization; 2016
10. Hepatitis delta. Fact sheet. Geneva: World Health Organization; July 2016.
11. WHO. Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection. 2015.
12. Centers for Disease Control and Prevention (CDC). Establishment of a viral hepatitis surveillance system – Pakistan, 2009-2011. Morb Mortal Wkly Rep 2011;60(40): 1385–90.
13. Gorar ZA, Butt ZA, Aziz I. Risk factors for bloodborne viral hepatitis in Health care workers of Pakistan: a population based case “control study”. BMJ Open 2014;4(7):e004767.
14. WHO.Hepatitis B: Fact sheet No. 204 WHO 2015 [updated 2015 Jul cited 2015 Feb 3, 2016]
15. CDC.CDC in Pakistan: Factsheet 2013 [updated 2013].
16. Mumtaz K, Hamid SS, Adil S, Afaq A, Islam M, Abid S, Shah HA, Jafri W. Epidemiology and clinical pattern of hepatitis delta virus infection in Pakistan. J GastroenterolHepatol 2005;20(10):1503–7.
17. Waheed-uz-Zaman T, Hussain AB, Hussain T, Anwar M, Ghani E. Hepatitis A virus infection – shifting epidemiology. J Coll Physicians Surg Pak2006;16(1):15–8.
18. Butt AS. Epidemiology of viral hepatitis and liver diseases in Pakistan. EJOHG 2015;5(1):43–8.
19 Qureshi H, Bile KM, Jooma R, Alam SE, Afrid HU. Prevalence of hepatitis B and C viral infections in Pakistan: findings of a national survey appealing for effective prevention and control measures. East Mediterr Health J 2010;(Suppl 16):S15–S23.
20. Kahn K. Hepatitis virus signs and symptoms Risk Factors. MD Reviewed Judith MR 2017.