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Research Article

**ANALYSIS OF ACUTE VIRAL HEPATITIS IN CHILDREN IN
PAKISTAN****Dr. Hina Mumtaz¹, Dr. Humaira Noreen², Dr. Aisha Fiaz³**¹Nishtar Hospital, Multan, ²Sahiwal Medical College, Sahiwal³Tehsil Headquarter Hospital Sadiqabad, District Rahim Yar Khan**Article Received:** March 2020**Accepted:** April 2020**Published:** May 2020**Abstract:**

Objectives of the study: The main objective of the study is to analyse the acute viral hepatitis in children among local population of Lahore. **Material and methods:** This cross sectional study was conducted in Nishtar Hospital, Multan during March 2019 to December 2019. The data was collected from both genders and the sample size is 100. The age range for this study was 6 months to 10 years. Detailed history was taken from all patients with special reference to duration of hepatitis, mode of infection, previous history of jaundice, HBV or HCV infection. **Results:** The data was collected from 100 patients. The mean age was 35.16 ± 24.8 months. The data suggest clearly that CD4 count decreases in abnormal liver function. The results shown the table 02 demonstrates the multiple comparison of ALT, AST and ALP level among different treatments and normal group. There were non-significant relationship present in diseased group treated with different therapies like interferon and glutathione as $p < 0.05$. **Conclusion:** It is concluded that HBV infection affected the development of children. Generally, elevated AST levels were effective, in development of children and we aimed to emphasize that this infection should be kept in mind while researching developmental anomalies.

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INTRODUCTION:

Liver is a pivotal organ of the body and play very important role in the metabolism. If there is any problem in the liver then the herbs or different plants play an important role for the treatment of liver disorders¹. There are a number of plants which shows hepatoprotective property. Hepatitis B and C viruses can lead to hepatocellular carcinoma and cirrhosis-related end-stage liver disease, which are potentially life-threatening liver diseases. Hepatitis B and C need immediate worldwide attention as the infection rates are too high. More than 240 million people globally have chronic (long-term) liver infections². Every year, about 600,000 people die because of the acute or chronic consequences of hepatitis B, and more than 350,000 people die from hepatitis C-related liver diseases worldwide².

Hepatitis is a major public health problem and is endemic throughout the world especially in tropical and developing countries. Hepatitis means inflammation of the liver. The liver is indispensable to our survival³. It has synthetic, storage and detoxification functions. An abnormal LFT may signify a serious disease that can be identified only through further testing. These conditions include liver diseases, such as primary biliary cirrhosis (PBC), diseases of other organs such as Paget's disease of bone, and multi-organ diseases such as haemochromatosis. However, the majority of people with an abnormal LFT in primary care settings will not have any such previously undetected disease⁴. They will have either no disease at all, or will be manifesting the effects of alcohol abuse or obesity. The doctor is likely to be aware, or at least suspicious, of these behaviours when ordering LFTs, but this does not exclude the presence of other diseases that may aggravate liver damage. There is thus a real question about which specific further tests, if any, a GP should order when an abnormal LFT result is obtained in a patient with non-specific symptoms, or as a result of routine testing⁵. In some cases there may be a clear indication for further tests. For example, if the patient has a family history of haemochromatosis then their iron saturation should be measured⁶.

Objectives of the study

The main objective of the study is to analyse the acute viral hepatitis in children in Pakistan.

MATERIAL AND METHODS:

This cross-sectional study was conducted in Nishtar Hospital, Multan during March 2019 to December 2019. The data was collected from both genders and the sample size is 100. The age range for this study was 6 months to 10 years. Detailed history was taken from all patients with special reference to duration of hepatitis, mode of infection, previous history of jaundice, HBV or HCV infection. A thorough clinical examination was carried out and stigmata of chronic liver disease, hepatosplenomegaly, ascites, etc. if present were noted.

Biochemical analysis

Blood investigation including Hemoglobin (Hb), total leucocytes count (TLC), differential leucocytes count (DLC), platelet count, X-ray chest, ultrasound abdomen and LFT were done in all patients. The LFT included serum bilirubin, aspartate aminotransferase (AST), alanine aminotransferase (ALT), serum alkaline phosphatase (SAP) and serum albumin. Abnormal values were defined as serum Bilirubin ≥ 1.5 mg/dl, ALT/AST ≥ 50 IU/ml.

Statistical analysis

Each experiment was repeated three times and all data were displayed in mean \pm SD and analysed through SPSS 19.0 (IBM, USA). T-test and one-way ANOVA were applied for measuring comparison among groups. $P < 0.05$ was considered to have statistical meaning.

RESULTS:

The data was collected from 100 patients. The mean age was 35.16 ± 24.8 months. The data suggest clearly that CD4 count decreases in abnormal liver function. The results shown the table 01 demonstrates the multiple comparison of ALT, AST and ALP level among different treatments and normal group. There were non-significant relationship present in diseased group treated with different therapies like interferon and glutathione as as $p < 0.05$.

Table 01: LFTs of hepatitis patients

| S.O.V | Sum of Squares | df | Mean Squares | F | Sig. |
|-------|----------------|----|--------------|--------|------|
| ALP | 15292.855 | 4 | 3823.214 | 18.288 | .000 |
| AST | 4181.198 | 20 | 209.060 | 23.794 | |
| ALT | 19474.054 | 24 | | 35.391 | .000 |

DISCUSSION:

This study demonstrated that host and environmental factors affect the severity of liver disease in patients with acute hepatitis A. Acute hepatitis A is mostly self-limited, thus in the past, fulminant hepatitis due to hepatitis A was considered rare. However, fulminant hepatitis from HAV is increasing constantly because of low anti-HAV positivity resulting in increased number of the patients in adolescents and young adults⁷. On the other hand, prevalence of fulminant hepatitis from hepatitis B is decreasing; therefore, fulminant hepatitis from hepatitis A is increasing relatively.

Damage to the structural integrity of liver is reflected by an increase in the level of serum transaminase because these are cytoplasmic in location and are released into circulation after cellular damage⁸. It is generally accepted that the toxicity of carbon tetrachloride depends on the cleavage of the carbon-chlorine bond to generate a trichloromethyl free radical, and this free radical reacts rapidly with oxygen to form a trichloro methyl peroxy radical, which may contribute to the hepatotoxicity and subsequent increase in hepatic enzymes⁹.

Over 4 million acute hepatitis B cases are diagnosed every year which leads to one fourth of cases becoming chronic carriers. The chronic stage accounts for 1 million deaths per year due to chronic active hepatitis, cirrhosis and hepatocellular carcinoma¹⁰.

CONCLUSION:

It is concluded that HBV infection affected the development of children. Generally, elevated AST levels were effective, in development of children and we aimed to emphasize that this infection should be kept in mind while researching developmental anomalies.

REFERENCES:

1. Bhutta ZA. Effect of infections and environmental factors on growth and nutritional status in developing countries. J

- Pediatr Gastroenterol Nutr. 2006;43(Suppl 3):S13–21.
2. Tasyaran MA. In: Journal of Viral hepatitis. Istanbul: The association of Viral hepatitis. Kilicturgay K, Badur S, editors. 2013. The epidemiology of HBV infection; pp. 121–128.
3. Neyzi O, Gunoz H, Furman A. et al. Body weight, height, head circumference and body mass index reference values for Turkish children. Journal of children health and diseases. 2008;51(1):1–14.
4. Pradhan SC and C Girish (2006). Hepato protective herbal drug, silymarin from experimental pharmacology to clinical medicine Indian J Med Res 124, pp 491-504.
5. Patel, V.K. and Bhatt H.V., 1985. Toxicity antiseptic effect of chicory root extract in Pyorrhoea. The antiseptic 904-906.
6. Chen C.-H., Yang P.-M., Huang G.-T., Lee H.-S., Sung J.-L., Sheu J.-C. Estimation of seroprevalence of hepatitis B virus and hepatitis C virus in Taiwan from a large-scale survey of free hepatitis screening participants. *Journal of the Formosan Medical Association*. 2007;106(2):148–155. doi: 10.1016/S0929-6646(09)60231-X.
7. Ward J. W. The hidden epidemic of hepatitis C virus infection in the United States: occult transmission and burden of disease. *Topics in Antiviral Medicine*. 2013;21(1):15–19.
8. Seeff L. B. Natural history of chronic hepatitis C. *Hepatology*. 2002;36(5, supplement 1):S35–S46. doi: 10.1053/jhep.2002.36806.
9. Li X., Jeffers L. J., Garon C., et al. Persistence of hepatitis C virus in a human megakaryoblastic leukaemia cell line. *Journal of Viral Hepatitis*. 1999;6(2):107–114. doi: 10.1046/j.1365-2893.1999.00140.x
10. Crapnell K., Zanjani E. D., Chaudhuri A., Ascensao J. L., Jeor S. S., Maciejewski J. P. In vitro infection of megakaryocytes and their precursors by human cytomegalovirus. *Blood*. 2000;95(2):487–493.