Research Paper

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Prevalence of Hepatitis A in Clinically Suspected Cases of Acute Viral Hepatitis in Jamnagar, Gujarat, India

Medical Science

KEYWORDS : HAV; Seroprevalence; Age; Sex.

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ABSTRACT

Objective: Hepatitis A is one of the most common infections during childhood, transmitted by faeco oral route in Developing countries. This study was performed to detect the profile of Hepatitis A virus in clinically suspected cases of acute viral Hepatitis attending GGH hospital, Jamnagar, Gujarat.

Material & Methods: Study was conducted in our institute from July 2012 to Dec 2012. Total 61 blood samples of patient suspected of acute viral hepatitis were collected and tested for anti HAV IgM antibody by ELISA method.

Findings: Out of 61 samples, total 11 children (19.15%) were positive for anti HAV IgM antibody among this:
1.09 (81.8%) were < 5 years of age and only 02 (18.2%) were between 6-10 years of age. 2.07 were Boys and 04 were Girls. 3.Negative history of HAV vaccine in all cases.

Conclusion: Study confirms that, HAV most commonly cause acute viral hepatitis in < 5yr, followed by 5-10 yr. In this present study there is no evidence of HAV infection in adults. HAV is more common in Male compare to female. It is concluded that in addition to other preventive measures, if children are to be vaccinated against hepatitis A they should be immunized against HAV by 1 year of age when the maternal antibodies disappear.

Introduction:

Hepatitis A is a disease caused by a RNA virus that is classified as a member of the picornavirus family. Hepatitis A virus (HAV) is usually transmitted by the fecal-oral route, most frequently via contaminated food or water or close contact. The virus is also associated with poor sanitary conditions and low socioeconomic status.[1] HAV causes an acute benign disease that is generally self-limited, rarely fatal and normally limited to the liver. Seventy percent of infected children less than 6 years old are asymptomatic and even when illness occurs, it is usually subclinical. [2] On the other hand, in children above the age of 6, infection is usually symptomatic and accompanied by jaundice in more than 70% of cases. [3] Typical symptoms last less than 2 months, yet prolonged or relapsing disease accounts for 10-15% of cases. [4] The case fatality ratio of Hepatitis A is estimated to be 0.3-0.6% and reaches up to 1.8% in adults older than 50 years of age. [5] Patients with chronic liver disease who acquire hepatitis A are at an increased risk of acute liver failure disease. [6],[7] At this point there is no specific treatment for HAV infection. The Centres for Disease Control and Prevention (CDC) recommends the vaccination of all children at age 1 year as it is the most effective method to prevent hepatitis A infection. [8]

Previous vaccination attempts to reduce the incidence of HAV infection were very successful. Universal vaccination programs had a positive impact not only on the vaccinated groups but also on nonvaccinated groups mainly due to a herd immunity effect. [9] In the USA, Hepatits A vaccine was implemented in 17 states, decreasing the Hepatitis A rate by 88% to a historic low. [10] Vaccination has proven to be safe with no increases in serious adverse events compared with baseline. [11]

Material & Methods:

Study Population

Patients attending Outpatient department or admitted in G.G.Hospital, Jamnagar with jaundice or signs and symptoms suggestive of acute viral hepatitis were included in the study.

Case Definition and Criteria of Inclusion

Patients with one or more of the following characteristics were included in the study:

1. Acute clinical illness that includes malaise, extreme fatigue, fever, anorexia, vomiting. Combined with right upper quadrant pain and dark urine.
2. Clinical jaundice and positive bile pigment in urine and elevated total serum bilirubin.
3. History of contact with an acute or known chronic case of viral hepatitis.

Study Sample

All eligible subjects recorded during the six month study period extending from From July 2012 to Dec 2012 were included in the study.

Sample collection

From July 2012 to Dec 2012, blood samples were collected from 61 patients suspected of acute viral hepatitis in our institute. Blood samples were collected from all the patients after taking the informed consent. Centrifugation was performed at 5000 rpm to separate the serum. All 61 of the serum samples were tested for anti HAV IgM antibody using commercially available Autobio (anti-HAV (IgM) ELISA, Autobio Diagnostics Co. LTD, China).

Result:

In our study out of total 61 samples, 11 were positive for HAV each tested for anti HAV IgM antibody to know the recent infection of HAV.

All the positive cases were below 10 years of age.

Out of the positive 11 cases 07 were Boys and 04 were Girls.

09 (81.8%) were < 5 years of age and only 02 (18.2%) were between 6-10 years of age.

There was Negative history of HAV vaccine in all cases.

Discussion:

Viral hepatitis continues to be a major public health problem in India and other developing countries. Ever since the first epidemics of hepatitis that had occurred in 1955 at Delhi[12], several outbreaks of hepatitis have continued to occur. In India, available epidemiological data on HAV infection is limited. However, many recent reports have published the changing scenario for sero epidemiological patterns of hepatitis A infection in India[13]. The World Health Organization (WHO) recommends for epidemiological and cost-benefit studies for HAV immunization[14]. Therefore we decided to conduct this study.

In our study HAV infection is more common in male which correlates with previous studies in Hyderabad. [15]

Seroprevalance of HAV in our study shows children < 5 Years are more commonly affected while other study like Mohanavlli *et al* [16] and Dutta *et al* [17] says HAV is more common in child between 5-10 year.

Table-1: Prevalence of HAV in clinically suspected cases of acute viral Hepatitis

	<5 year	5-10 year
Mohanavlli et al[16]	05.9%	94.1%
Dutta et al [17]	13.4%	86.6%
Present study	81.8%	18.2%

The increase in number of infected children in the age group of < 5 years compared to other study could be possibly due to very poor sanitary and hygienic conditions and possibly the occurrence of this epidemiological Shift in this region. At this point, the reasons only are postulated as the present study was not done at the community level. Probably our HAV vaccination policy needs a review.

Conclusion:

Study confirms that,

- HAV most commonly cause acute viral hepatitis in < 5yr, followed by 5-10 yr. In this present study there is no evidence of HAV infection in adults.
- HAV is more common in Male compare to female.

It is concluded that in addition to other preventive measures, if children are to be vaccinated against hepatitis A they should be immunized against HAV by 1 year of age when the maternal antibodies disappear.

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