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Combact: Hepatitis A

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(Received on 12.08.2016, Accepted on 22.08.2016)

Abstract

The term viral hepatitis refers to primary infection of the liver by any one of a heterogeneous group of hepatitis viruses which is currently consist of types A,B,C,D,E and G. Type A hepatitis (infectious hepatitis)is a sub acute disease of global distribution, affecting mainly children and young adults. The large majority of infectious are asymptomatic. Over illness is seen in only about 5percent of those infected. Natural infection with HAV, clinical or subclinical leads to lifelong immunity. There is no cross immunity between HAV and any of other hepatitis viruses. Treatment is asymptomatic .no specific antiviral drug is available.

Keywords: Hepatitis; Treatment; Vaccination; Infection; Immunity; Viremia.

Introduction

Every year on July 28, WHO world hepatitis day to provide the awareness and understanding regarding viral hepatitis and the disease that it causes. Viral hepatitis a group of infectious disease known as hepatitis A, B, C, D, E and G affects hundreds of millions of people worldwide, causing acute and chronic liver disease and killing close to 1.4million people every year. But hepatitis remains largely ignored or unknown. On world hepatitis day July 28, WHO and partners will urge policymakers, health workers and the public to 'THINK AGAIN' about this silent killer.

World hepatitis day provides an opportunity to focus on specific action such as:

- Strengthening prevention, screening and control of viral hepatitis and its related disease;

- Increasing hepatitis B vaccine coverage and integration of the vaccine in to national immunization programme;
- Coordinating a global response to viral hepatitis.

Hepatitis A typically caused by ingestion of contaminated food and water is primarily spread when someone who has never been infected with hepatitis A and is not vaccinated, ingests food or water that is contaminated with the feces of an infected person. Hepatitis A does not cause chronic liver disease and is rarely fatal, but it can cause serious symptoms.

Definition

Hepatitis A is a highly contagious liver infection caused by the hepatitis A virus. The virus is one of several types of hepatitis viruses that cause inflammation and affect the liver's ability to function.

History

Hepatitis A is referred to as one of the oldest disease known to mankind by the WHO. It was recognized by as a separate entity from other types of hepatitis during world war II. Hepatitis A was discovered in 1973 by Steven's, Feinstone as a non enveloped, spherical, positive stranded RNA virus. HAV was an unidentified viral disease prior to this discovery.

Incidence

Globally, around 1.5 million symptomatic cases occur each year and there were about 102 million cases in 2013. It is more common in regions of the world with poor sanitation and not enough safe water. In the developing world, about 90% of children have been infected by age 10, thus are immune by

adulthood. It often occurs in outbreaks in moderately developed countries where children are not exposed when young and vaccination is not widespread. In 2010, acute hepatitis A resulted in 102,000 deaths.

Structure of the HAV

Hepatovirus A is a picornavirus; it is non enveloped and contains a single stranded RNA packaged in a protein shell. There is only one serotype of the virus, but multiple genotypes exist. Codon use within the genome is biased and unusually distinct from its host. It also has a poor internal ribosome entry site. In the region that codes for the HAV capsid, highly conserved clusters of rare codons restrict antigenic variability.

Etiology of Hepatitis A

Anyone can get hepatitis A, but those more likely to affect people who:

- Travel to developing countries.
- Live with someone who currently has an active hepatitis infection.
- Overcrowding.
- Poor sanitation.

Transmission of Hepatitis A

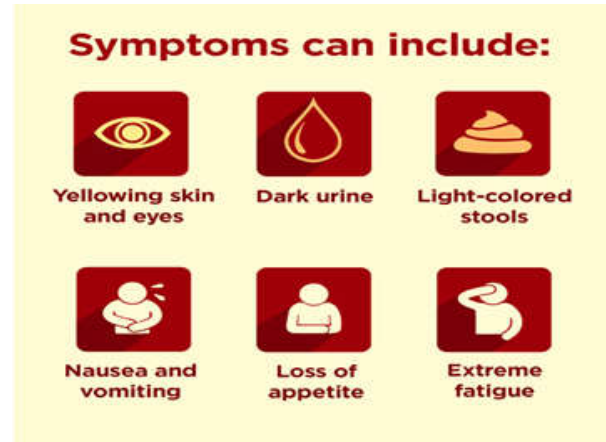
Transmission of hepatitis A through contact with an infected person's stool. This contact could occur by,

- Eating food made by an infected person who didn't wash his or her hands after using the toilet.
- Drinking untreated water or eating food washed in untreated water.
- Placing a finger or object in mouth that came in to contact with an infected person's stool.
- Infected flies

Pathogenesis of Hepatitis A

Following ingestion of contaminated food, HAV enters the bloodstream through the epithelium of the oropharynx or intestine. The blood carries the virus to its target, the liver, where it multiplies within hepatocytes and Kupffer cells (liver macrophages). Viral replication is cytoplasmic. Entry into the host cell is achieved by attachment of the virus to host receptors, which mediates endocytosis. Replication follows the positive-stranded RNA virus replication model. Positive-stranded RNA virus transcription is

the method of transcription. Translation takes place by viral initiation. The virus exits the host cell by lysis, and viroporins. Virions are secreted into the bile and released in stool. HAV is excreted in large quantities about 11 days prior to appearance of symptoms or anti-HAV IgM antibodies in the blood.



Incubation Period

15-50 days

Symptoms of Hepatitis A

- Extream fatigue
- Muscle soreness
- Upset stomach
- Fever
- Loss of appetite
- Stomach pain
- Nausea and vomiting
- Diarrhea
- Dark-yellow urine
- Light colored stools
- Yellowish eyes and skin, called jaundice.

Diagnosis of Hpatitis A

Blood Test

- IgG. The presence of IgG antibodies in the blood means the acute stage of the illness is past and the person is immune to further infection.
- HAV- specific IgM Antibodies in the blood. IgM antibody is only present in the blood following an acute hepatitis A infection.
- ALT. During the acute stage of the infection, the liver enzyme AlanineTtransferase (ALT) is present in the blood at levels much higher than

is normal. The enzyme comes from the liver cells damaged by the virus

Stool Examination

- Hepatovirus A is present in the blood (viremia) and feces of infected people up to two weeks before clinical illness develops.



Treatment of Hepatitis A

There is no specific treatment for hepatitis A. Recovery from symptoms following infection may be slow and may take several weeks or months. Therapy is aimed at maintaining comfort and adequate nutritional balance, including replacement of fluids that are lost from vomiting and diarrhea.

Prevention of Hepatitis A

Health education of people,

- Environmental sanitation.
- Food hygiene.
- Use of boiled drinking water.
- Hand washing before taking food and after toilet.
- Personal hygiene in that cut short the nails.
- Avoid contamination of food and water by covering food and protection from flies.
- Avoiding infected water source or food (undercooked shell fish).
- Prophylaxis with immune globulin before or early in intubation (<2weekspost exposure) is

80-90% effective. In that Hepatitis A vaccine (inactivated) prenatal administration 2 dose regimen, 6-18 months apart.

- Children: Hep A + Recombinant Hep B.
- Vaccination 0,1,6 months of food handlers.
- Two inactivated whole-virus hepatitis A vaccine are available; HAVRIX (GlaxoSmithKline) and VAQTA (Merck).

Prognosis

The risk of death from acute liver failure following HAV infection increases with age and when the person has underlying chronic liver disease. Young children who are infected with hepatitis A typically have a milder form of the disease, usually lasting from 1-3 weeks, whereas adults tend to experience a much more severe form of the disease.

Conclusion

Hepatitis A is a preventable misery to mankind. Hepatitis A is primarily spread when someone who has never been infected with hepatitis A and is not vaccinated, ingests food or water that is contaminated with the feces of an infected person or has direct contact with someone who is infected. Hepatitis A does not cause chronic liver disease and is rarely fatal, but it can because serious symptoms Health educate and follow the hygienic practices, we can fight with this disease from our community.

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