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Hepatitis A: Review

Tekalign Woldehana Uro
Hawassa University, Hawassa, Ethiopia.

Abstract

Hepatitis A is a viral liver disease that can cause mild to severe illness. The hepatitis A virus is transmitted primarily by the faecal-oral route; that is when an uninfected person ingests food or water that has been contaminated with the faeces of an infected person. Anyone who has not been vaccinated or previously infected can get infected with hepatitis A virus. In areas where the virus is widespread (high endemicity), most hepatitis A infections occur during early childhood. Risk factors include: poor sanitation; lack of safe water; living in a household with an infected person; being a sexual partner of someone with acute hepatitis A infection; use of recreational drugs; sex between men; travelling to areas of high endemicity without being immunized.Improved sanitation, food safety and immunization are the most effective ways to combat hepatitis A. The spread of hepatitis A can be reduced by: adequate supplies of safe drinking water; proper disposal of sewage within communities; and personal hygiene practices such as regular hand-washing before meals and after going to the bathroom.

Keywords

Hepatitis A,
Immunity,
prevention,
Vaccination.

1. INTRODUCTION

Hepatitis A is a viral liver disease that can cause mild to severe illness. The hepatitis A virus (HAV) is transmitted through ingestion of contaminated food and water or through direct contact with an infectious person. Almost everyone recovers fully from hepatitis A with a lifelong immunity. However, a very small proportion of people infected with hepatitis A could die from fulminant hepatitis. WHO estimates that hepatitis A caused approximately 7 134 deaths in 2016 (accounting for 0.5% of the mortality due to viral hepatitis). The risk of hepatitis A infection is associated with a lack of safe water, and poor sanitation and hygiene (such as dirty hands). In countries where the risk of infection from food or water is low, there are outbreaks among men who have sex with men (MSM) and persons who inject drugs (PWIDs). Epidemics can be prolonged and cause substantial economic loss. A safe and effective vaccine is available to prevent hepatitis A. Safe water supply, food safety, improved sanitation, hand washing and the hepatitis A vaccine are the most effective ways to combat the disease. Persons at high risk, such as travelers to countries with high levels of infection, MSM and PWIDs can get vaccinated. Hepatitis A is a liver disease caused by the hepatitis A virus (HAV). The virus is primarily spread when an uninfected (and unvaccinated) person ingests food or water that is contaminated with the faeces of an infected person. The disease is closely associated with unsafe water or food, inadequate sanitation, poor personal hygiene and oral-anal sex.

Unlike hepatitis B and C, hepatitis A does not cause chronic liver disease and is rarely fatal, but it can cause debilitating symptoms and fulminant hepatitis (acute liver failure), which is often fatal. Overall, WHO estimated that in 2016, 7 134 persons died from hepatitis A worldwide (accounting for 0.5% of the mortality due to viral hepatitis). Hepatitis A occurs sporadically and in epidemics worldwide, with a tendency for cyclic recurrences. The hepatitis A virus is one of the most frequent causes of foodborne infection. Epidemics related to contaminated food or water can erupt explosively, such as the epidemic in Shanghai in 1988 that affected about 300 000 people1. They can be also prolonged, affecting communities for months through person-to-person transmission. Hepatitis A viruses persist in the environment and can withstand food-production processes routinely used to inactivate and/or control bacterial pathogens. The disease can lead to significant economic and social consequences in communities. It can take weeks or months for people recovering from the illness to return to work, school, or daily life. The impact on food establishments identified with the virus, and local productivity in general, can be substantial. Geographical distribution

Geographical distribution areas can be characterized as having high, intermediate or low levels of hepatitis A virus infection. However, infection does not mean disease because children infected young do not experience any noticeable symptoms. Areas with high levels of infection. In low- and middle-income countries with poor sanitary conditions and hygienic practices, infection is common and most children (90%)

have been infected with the hepatitis A virus before the age of 10 years, most often without symptoms2. Epidemics are uncommon because older children and adults are generally immune. Symptomatic disease rates in these areas are low and outbreaks are rare. In high-income countries with good sanitary and hygienic conditions, infection rates are low. Disease may occur among adolescents and adults in high-risk groups, such as PWIDs, MSMs, people travelling to areas of high endemicity, and in isolated populations, such as closed religious groups. In the United States of America, large outbreaks have been reported among homeless persons. In middle-income countries, and regions where sanitary conditions are variable, children often escape infection in early childhood and reach adulthood without immunity. These improved economic and sanitary conditions may lead to accumulation of adults who have never been infected and who have no immunity. This higher susceptibility in older age groups may lead to higher disease rates and large outbreaks can occur in these communities.

2. LITRETURE REVIEW

2.1. World Health Organization response

The World Health Assembly adopted the first “Global Health Sector Strategy on Viral Hepatitis, 2016-2021”. The strategy highlights the critical role of Universal Health Coverage and the targets of the strategy are aligned with those of the Sustainable Development Goals. The strategy has a vision of eliminating viral hepatitis as a public health problem and this is encapsulated in the global targets of reducing new viral hepatitis infections by 90% and reducing deaths due to viral hepatitis by 65% by 2030. Actions to be taken by countries and WHO Secretariat to reach these targets are outlined in the strategy.

To support countries in moving towards achieving the global hepatitis goals under the Sustainable Development Agenda 2030 WHO is working in the following areas: raising awareness, promoting partnerships and mobilizing resources; formulating evidence-based policy and data for action; increasing health equities within the hepatitis response; preventing transmission; and scaling up screening, care and treatment services. WHO published the "Progress report on HIV, viral hepatitis and sexually transmitted infections, 2019", outlining its progress towards elimination. The report sets out global statistics on viral hepatitis B and C, the rate of new infections, the prevalence of chronic infections and mortality caused by these 2 high-burden viruses, as well as coverage of key interventions, all current as at the end of 2016 and 2017.

Since 2011, together with national governments, civil society and partners, WHO has organized annual World Hepatitis Day campaigns (as 1 of its 9 flagship annual health campaigns) to increase awareness and understanding of viral hepatitis. The date of 28 July was chosen because it is the birthday of Nobel-prize winning scientist Dr Baruch Bloomberg, who discovered the hepatitis B virus and developed a diagnostic test and vaccine for the virus. The theme for World Hepatitis Day 2020 is “Hepatitis-free future”, with a strong focus on preventing hepatitis B among mothers and newborns. On 28 July, WHO will publish new guidance on the prevention of mother-to-child transmission of the virus.

2.2. Transmission

The hepatitis A virus is transmitted primarily by the faecal-oral route; that is when an uninfected person ingests food or water that has been contaminated with the faeces of an infected person. In families, this may happen though dirty hands when an infected person prepares food for family members. Waterborne outbreaks, though infrequent, are usually associated with sewage-contaminated or inadequately treated water. The virus can also be transmitted through close physical contact (such as oral-anal sex) with an infectious person, although casual contact among people does not spread the virus.

2.3. Symptoms

The incubation period of hepatitis A is usually 14–28 days. Symptoms of hepatitis A range from mild to severe, and can include fever, malaise, loss of appetite, diarrhea, nausea, abdominal discomfort, dark-coloured urine and jaundice (a yellowing of the skin and whites of the eyes). Not everyone who is infected will have all of the symptoms.

Adults have signs and symptoms of illness more often than children. The severity of disease and fatal outcomes are higher in older age groups. Infected children under 6 years of age do not usually experience noticeable symptoms, and only 10% develop jaundice. Among older children and adults, infection usually causes more severe symptoms, with jaundice occurring in more than 70% of cases. Hepatitis A sometimes relapses; the person who just recovered falls sick again with another acute episode. This is, however, normally followed by recovery.

2.4. Risk Groups

Anyone who has not been vaccinated or previously infected can get infected with hepatitis A virus. In areas where the virus is widespread (high endemicity), most hepatitis A infections occur during early childhood. Risk factors include: poor sanitation; lack of safe water; living in a household with an infected person; being a sexual partner of someone with acute hepatitis A infection; use of recreational drugs; sex between men; travelling to areas of high endemicity without being immunized.

2.5. Diagnosis

Cases of hepatitis A are not clinically distinguishable from other types of acute viral hepatitis. Specific diagnosis is made by the detection of HAV-specific Immunoglobulin G (IgM) antibodies in the blood. Additional tests include reverse transcriptase polymerase chain reaction (RT-PCR) to detect the hepatitis A virus RNA and may require specialized laboratory facilities.

2.6. Treatment

There is no specific treatment for hepatitis A. Recovery from symptoms following infection may be slow and may take several weeks or months. Most important is the avoidance of unnecessary medications. Acetaminophen / Paracetamol and medication against vomiting should not be given. Hospitalization is unnecessary in the absence of acute liver failure. Therapy is aimed at maintaining comfort and adequate nutritional balance, including replacement of fluids that are lost from vomiting and diarrhea.

2.7. Prevention

Improved sanitation, food safety and immunization are the most effective ways to combat hepatitis A. The spread of hepatitis A can be reduced by: adequate supplies of safe drinking water; proper disposal of sewage within communities; and personal hygiene practices such as regular hand-washing before meals and after going to the bathroom. Several injectable inactivated hepatitis A vaccines are available internationally. All are similar in terms of how well they protect people from the virus and their side effects. In China, a live attenuated vaccine is also available.

Nearly 100% of people develop protective levels of antibodies to the virus within 1 month after injection of a single dose of vaccine. Even after exposure to the virus, a single dose of the vaccine within 2 weeks of contact with the virus has protective effects. Still, manufacturers recommend 2 vaccine doses to ensure a longer-term protection of about 5 to 8 years after vaccination. Millions of people have received injectable inactivated hepatitis A vaccine worldwide with no serious adverse events. The vaccine can be given as part of regular childhood immunization programmes and also with other vaccines for travellers.

2.8. Immunization or Vaccination

Vaccination against hepatitis A should be part of a comprehensive plan for the prevention and control of viral hepatitis. Planning for large-scale immunization programmes should involve careful economic evaluations and consider alternative or additional prevention methods, such as improved sanitation, and health education for improved hygiene practices. Whether or not to include the vaccine in routine childhood immunization depends on the local context. The proportion of susceptible people in the population and the level of exposure to the virus should be considered. Generally speaking, countries with intermediate endemicity will benefit the most from universal immunization of children. Countries with low endemicity may consider vaccinating high-risk adults. In countries with high endemicity, the use of vaccine is limited as most adults are naturally immune.

3. CONCLUSION AND RECOMENDATION

Hepatitis A is a viral liver disease that can cause mild to severe illness. The hepatitis A virus (HAV) is transmitted through ingestion of contaminated food and water or through direct contact with an infectious person. Almost everyone recovers fully from hepatitis A with a lifelong immunity. However, a very small proportion of people infected with hepatitis A could die from fulminant hepatitis. WHO estimates that hepatitis A caused approximately 7 134 deaths in 2016 (accounting for 0.5% of the mortality due to viral hepatitis). The risk of hepatitis A infection is associated with a lack of safe water, and poor sanitation and hygiene (such as dirty hands). The incubation period of hepatitis A is usually 14–28 days. Symptoms of hepatitis A range from mild to severe, and can include fever, malaise, loss of appetite, diarrhea, nausea, abdominal discomfort, dark-coloured urine and jaundice (a yellowing of the skin and whites of the eyes). Improved sanitation, food safety and immunization are the most effective ways to combat hepatitis A.

There fore the following recommendations should be forewarded; The spread of hepatitis A can be reduced by: adequate supplies of safe drinking water; proper disposal of sewage within communities; and personal hygiene practices such as regular hand-washing before meals and after going to the bathroom should be advised. Vaccination agnaist hepatitis A should be be used for the prevention and control.

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