

I. HEPATITIS A VIRUS

Hepatitis A virus (HAV) causes approximately 45% of the cases of viral hepatitis annually in the United States. In those cases, there is a seroprevalence rate of 50% in people <50 years of age and 75% in people <70 years of age. The modes of transmission are ingestion of contaminated water or food, such as raw clams or oysters; oral-anal contact; person-to-person spread via fomites; or, very rarely, transfusion. Approximately 40% of cases are in individuals who have had known contact with a person with HAV; 10% of cases are related to food and/or waterborne disease outbreaks or international travel; and 50% of cases have no identified source. Men who have sex with men (MSM) are at an increased risk for HAV infection, and studies show that the majority of MSM in the United States have not received the hepatitis A vaccine.^{1,2}

Key Point:

Currently, no specific treatment is available for HAV, although infection can be prevented by both pre-exposure vaccination and post-exposure serum immune globulin administration.

The incubation period of HAV infection averages 28 days (range, 15-50 days). Although HAV does not cause chronic hepatitis, it is not a benign disease. The morbidity in adults is substantial. Young children tend to have asymptomatic or minimally symptomatic disease, whereas older children and adults have more severe illness, with jaundice occurring in approximately 70% of cases. Adults with acute HAV lose a mean of 27 workdays, and 11% to 22% are hospitalized for a mean of 4 days. The overall case fatality rate is low (0.2%) but increases to 1.8% in individuals >50 years of age. An Italian study reported a high incidence (41%) of fulminant hepatic failure in 17 patients who developed hepatitis A in the setting of chronic hepatitis C infection; six deaths also occurred among the 7 patients with fulminant hepatic failure.³

HAV does not seem to cause more severe clinical illness in HIV-infected individuals; however, acute HAV may require temporary interruption of ARV therapy, which has potential long-term consequences. One study of 35 HIV-infected patients developing acute HAV found that most patients had to discontinue ARV therapy for an average of 2 months.⁴ Once ARV therapy was reinstated, viral suppression to <400 copies/mL was achieved in significantly fewer persons compared with those who did not require interruption of therapy. Another study found that HIV-infected patients had a significantly higher HAV viral load and a significantly prolonged duration of HAV viremia, with possible viral shedding, compared with non-HIV-infected individuals.⁵ This would likely result in a prolonged duration of HAV transmission in a community.

A. Prevention of HAV Infection

RECOMMENDATIONS:

Clinicians should offer the hepatitis A vaccine to patients who are at increased risk of hepatitis A infection (see Table 1). The full series, consisting of an initial dose and a second dose 6 to 12 months later, should be given to ensure maximal antibody response.

Clinicians should not use live attenuated hepatitis A vaccine in HIV-infected patients.

Clinicians should administer HAV vaccination to non-immune individuals early in the course of HIV infection. If a patient's CD4 count is <300 cells/mm³ or the patient has symptomatic HIV disease, it is preferable to defer vaccination until several months after initiation of ARV therapy in an attempt to maximize the antibody response to the vaccine.

Routine post-vaccination antibody measurement is not recommended because of the generally high efficacy of the vaccine.

Clinicians should administer immune globulin (0.02 mL/kg IM) as HAV post-exposure prophylaxis to non-immune or non-vaccinated patients within 2 weeks of a potential HAV exposure. HAV vaccine is not indicated for post-exposure prophylaxis, although it is prudent to administer it concurrently with serum immune globulin for the long-term prophylaxis of an at-risk individual.

Table 1 Persons Who Should Be Routinely Vaccinated With Hepatitis A Vaccine*
<ul style="list-style-type: none">• Persons with chronic liver disease (e.g., hepatitis B or C)• Men who have sex with men• Travelers to countries with high endemicity of infection• Persons who live in a community experiencing an outbreak of HAV infection• Illicit drug users, particularly injection drug users• Persons who have clotting-factor disorders• Persons at occupational risk for infection

* Live attenuated hepatitis A vaccines should not be used in HIV-infected patients.

Infection with HAV can be prevented by active immunization prior to exposure with either of the two currently licensed vaccines, which are considered equivalent in efficacy. A combined hepatitis A and B vaccine is also available and can be used in persons susceptible to both hepatitis A and B. It is given in three total doses at 0, 1, and 6 months.

HAV vaccines are highly immunogenic in immunocompetent adults (>95% seroconversion). However, the seroconversion rates and the geometric mean of serum antibody levels in HIV-infected individuals are lower than in non-HIV-infected

populations. Response rates have generally ranged from 50% to 95%.⁶⁻¹⁰ Pre-screening for immunity to hepatitis A is optional; its cost effectiveness increases in populations in which the seroprevalence rates are high. HAV vaccine appears to have no effect on the course of HIV infection or on plasma HIV viral load.

Administration of HAV vaccine is preferred when CD4 counts are >300 cells/mm³ to maximize response to the vaccine. HAV vaccination is effective in most HIV-infected patients. An effective antibody response may not occur in up to 15% of patients with CD4 counts <300 cells/mm³.⁸ Follow-up HAV antibody testing may be warranted to verify vaccine efficacy and to identify patients who might benefit from vaccine boosting.

Serum immune globulin can be given to individuals who are not immune to HAV within 2 weeks after an exposure to an HAV household contact, sexual partner, or common source exposure. A single intramuscular dose of 0.02 mL/kg is effective in preventing infection or attenuating HAV infection that might result from such an exposure.

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FURTHER READING

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