

## Hepatitis A in Vermont

### Epidemiology

Seven cases of hepatitis A have been confirmed in Vermont in 2013. This is an increase over the previous five years, in which 0-6 cases were reported annually (median of two cases a year). One additional case was diagnosed in an out-of-state resident who was in Vermont during the infectious period. The 2013 patients ranged in age from 6 to 66 (median 23) years. Six of the Vermont cases occurred between April and mid-July. These cases coincide with a national outbreak of over 140 cases in eight states associated with ingestion of frozen mixed-berry fruit. Cases associated with this outbreak had onset of symptoms from March 31 to June 24, 2013. The implicated frozen berry mixture was recalled on June 4, 2013. None of the Vermont cases reported eating the recalled frozen berry mixture, although one did eat frozen berries from another manufacturer.

Four Vermont patients denied history of travel or other traditional risk factors. The remaining three Vermont cases occurred in close contacts of those cases and appear to be due to household transmission. All three had received prophylaxis (see below) within 14 days of their last household exposure, but more than 14 days after their first possible exposure. One had received immune globulin and two had received hepatitis A vaccine. The out-of-state resident had traveled internationally at the time of exposure, and had not received hepatitis A vaccine.

### Health Department Response

Two of the Vermont individuals with hepatitis A worked in restaurants and one in an institutional cafeteria during their infectious period, all doing work that involved only limited foodhandling or serving. Immunization clinics were held to provide prophylaxis to all foodhandling staff at these establishments. Since transmission from a foodhandler to the public is uncommon, prophylaxis is usually only considered for patrons when certain high-risk conditions are met. These conditions were not identified in the restaurant settings. Patrons of the institutional cafeteria were offered prophylaxis even though the risk was low because such settings may involve repeated possibility of exposure.

### General Information about Hepatitis A

#### Exposure

Hepatitis A is a viral disease spread from person-to-person by the fecal-oral route. It is more easily spread in areas where there are poor sanitary conditions or where good personal hygiene is not observed. Although about one-half of all hepatitis A virus (HAV) infections in U.S. residents are now acquired from travel to endemic countries, many infections result from contact with a household member or sex partner who has hepatitis A. Unsanitary practices by infected foodhandlers can contaminate raw fruits, vegetables, sandwiches and other prepared foods. Waterborne outbreaks

are rare. The disease can also be spread by consumption of raw shellfish taken from contaminated waters.

### **Symptoms**

Symptoms typically have an acute onset, and may include fever, lethargy, anorexia, nausea, abdominal discomfort, dark urine, pale stools, and jaundice. In children younger than six years, 70% may be asymptomatic; if symptoms do occur, they are usually mild and not accompanied by jaundice. The incubation period is approximately 28 days (range 15-50 days). In the prevaccine era, fulminant hepatitis A caused about 100 deaths per year in the United States. Case fatality rates were approximately 1.8% among persons 50 years of age and older. While generally a self-limiting infection, hepatitis A often results in substantial morbidity. Hospitalization rates for hepatitis A are 11 to 22%. Adults who become ill lose an average of 27 work days.

### **Testing and Diagnosis**

Hepatitis A virus (HAV) infection cannot be distinguished from other types of viral hepatitis on the basis of clinical features alone. Acute HAV infection is confirmed by the presence of IgM anti-HAV in serum. Elevated transaminase levels occur with acute infection, and more than 70% of adults will have jaundice. Hepatitis A IgM is usually detectable 5 to 10 days after exposure and may be present for 4 to 6 months after infection. Laboratory IgM antibody in the grey zone can occur, most commonly when the test was ordered for an asymptomatic patient as part of a hepatitis panel. This equivocal response should be assessed along with clinical presentation and liver function tests to determine if a public health response should occur.

### **Post-exposure Prophylaxis**

Hepatitis A infection is reportable in Vermont. The Health Department interviews cases to identify at-risk contacts. Postexposure prophylaxis is recommended for persons who have been exposed to HAV and who have not previously received hepatitis A vaccine. Hepatitis A vaccine is preferred for postexposure prophylaxis for people ages 12 months to 40 years. Immune globulin (IG) is preferred for people older than 40 years, although vaccine can be used if IG is unavailable. IG should also be used for children younger than age 12 months, immunocompromised people, persons with chronic liver disease or other chronic medical conditions, and persons for whom vaccine is contraindicated. IG provides protection against HAV infection through passive transfer of antibody. Depending on the IG dosage, protection lasts from three to five months. Postexposure prophylaxis should be given as soon as possible after exposure, but within 14 days of last exposure.

### **Hepatitis A Vaccine**

Hepatitis A vaccine is safe, highly effective (>95% for one dose and 99-100% for two doses) and provides long-term immunity. Hepatitis A vaccination is recommended for all children at one year of age. It may also be given to people at risk for infection, at increased risk of complications or any person wishing to obtain immunity.

The Vermont Immunization Program provides single antigen Hepatitis A vaccine (HAVRIX®) given in two doses six months apart and a combination vaccine, TWINRIX® which contains both hepatitis A

and B virus antigens given in 3 doses over a six month period. TWINRIX® may only be given to those 18 years and older.

**The following groups are recommended to receive Hepatitis A vaccination:**

- All children at age 1 year (i.e., 12–23 months). Children who have not been vaccinated by age 2 can be vaccinated at subsequent visits.
- Persons traveling to or working in countries that have high or intermediate rates of Hepatitis A.
- Household members and other close personal contacts of adopted children newly arriving from countries with high rates of hepatitis A.
- Men who have sex with men.
- Users of illegal injection and non-injection drugs.
- Persons working with non-human primates.
- Persons who have chronic liver disease.
- Persons who have clotting-factor disorders.

Note: Hepatitis A vaccine is not routinely recommended for health care personnel, sewage workers, restaurant workers or child care providers.

For more information please go to the Vermont Department of Health [Hepatitis A](#) webpage.

The *Infectious Disease News* can be viewed at: <http://healthvermont.gov/prevent/IDN/index.aspx>  
For questions & comments, please contact Patsy Kelso at (802) 863-7240