State of Alaska Epidemiology **Bulletin**

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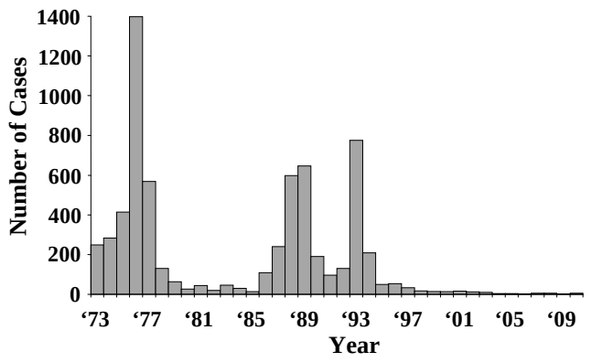
Hepatitis A Infections Associated with International Travel, Anchorage, 2010

Background

Hepatitis A virus (HAV) infection was once a common, cyclically-occurring disease in Alaska. Large outbreaks comprising thousands of cases regularly occurred up until the early 1990s, with the highest rates of infection among children aged ≤14 years. Since the licensing of hepatitis A vaccines in 1995, the number of HAV infections in Alaska has decreased greatly (Figure);[1] only 24 cases have been reported since 2005.

Figure. Reported Cases of Hepatitis A — Alaska, 1973–2010



HAV is transmitted through the fecal-oral route during person-to-person contact and from ingestion of contaminated food or water; it can survive outside the body for months.[2] The typical incubation period is 28–30 days (range: 15–50 days).[3] Illness is characterized by an abrupt onset of fever, malaise, anorexia, nausea, abdominal discomfort, dark urine, and jaundice. Maximum infectivity occurs during the latter half of incubation and continues for a few days after onset of jaundice.[3]

Recent HAV Infections in Anchorage

Isolated Case: During July 2010, a 30-year-old Anchorage resident traveled though Europe and Egypt. Five days after returning to Alaska, she developed a fever, headache, abdominal pain, and dark urine. She tested positive for acute HAV infection. The Municipality of Anchorage Department of Health and Human Services (MOA) offered HAV vaccine to 39 contacts. Twelve (31%) were vaccinated; one had previously received HAV vaccine and so was not revaccinated. No transmission of disease was identified.

Outbreak: During November and December 2010, three adults (Patients A, B, and C) were diagnosed with laboratory-confirmed HAV infection and cared for at Anchorage-area hospitals (Table). None reported foreign travel or contact with an HAV-infected person. The MOA investigative team learned that Patient A's husband and their 17-month-old son traveled to North Africa in August and September 2010. When they returned to Alaska, the son had a diarrheal illness. In November, the investigative team learned that the boy had not been vaccinated against HAV, so he was tested and found to be positive for HAV IgM (see Patient D, Table). This child was likely the source case in this outbreak. Seven additional close contacts were identified; only one of the seven was not known to have been previously vaccinated or infected, and was given HAV vaccine. Blood drawn from this contact prior to vaccination was found to be positive for HAV IgG.

Discussion

Travel to HAV-endemic areas was the primary risk factor for both the single case in July 2010 and the child that was the source of the outbreak later that year. Though children infected with HAV often are asymptomatic or have mild illness,[3] they can play an important role in disease transmission, as was seen in the outbreak. These cases underscore the importance of hepatitis A vaccination and are a reminder that although rates of HAV infection have sharply decreased in Alaska, the virus continues to cause disease.

A two-dose series of hepatitis A vaccine is the best way to prevent infection. HAV vaccine is highly immunogenic—more than 90% of infants, adolescents, and adults develop protective antibodies within 4 weeks of a single dose, and nearly 100% have protective antibodies after two doses.[3]

Recommendations

1. Children should receive hepatitis A vaccine at 12–23 months of age; hepatitis A vaccination is an Alaska preschool/school/child care/Head Start requirement. Other at-risk individuals (e.g., men who have sex with men; persons traveling to HAV-endemic areas, which include most developing countries; and persons with occupational exposures) should also be vaccinated or receive immunoglobulin, as appropriate.[4]
2. Close contacts of persons with acute hepatitis A infection should be offered the following prophylaxis: hepatitis A vaccine and/or IG within 2 weeks of exposure.[4]
3. Health care providers should remind HAV-infected patients and their caregivers of the importance of frequent hand-washing, especially after using the bathroom, changing diapers, and before preparing and eating food.
4. Obtain additional information on viral hepatitis and resources for individuals living with hepatitis at: www.epi.alaska.gov/id/hepatitis
5. Suspected and confirmed cases of HAV infection are reportable to the Section of Epidemiology by health care providers (7 AAC 27.005). To report, please call 907-269-8000, 907-561-4234, or 1-800-478-1700 if outside Anchorage, or fax information to 907-561-4239.

References

1. Singleton R, Hess S, Bulkow LR, *et al*. Impact of a statewide childhood vaccine program in controlling hepatitis A virus infections in Alaska. *Vaccine* 2010;29(10):6298–304.
2. CDC. Hepatitis A FAQs for the Public. Available at: http://www.cdc.gov/hepatitis/A/aFAQ.htm#transmission
3. Heymann DL. *Control of Communicable Diseases Manual*, 19th ed. Washington, DC; 2008. *American Public Health Association*.
4. CDC. Prevention of Hepatitis A Through Active or Passive Immunization Recommendations of the ACIP. *MMWR* 2006; 55(RR07);1–23. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5507a1.htm

Table. Patients in Anchorage Hepatitis A Outbreak, 2010

Patient (age and sex)	Date of symptom onset (or sought medical care)	Signs/symptoms	Outcome	Relation to other cases
A (34 year-old female)	Nov 12	UR/V/D/J/elevated liver enzymes/ reactive HAV IgM	3 day hospitalization, discharged to home	Mother of Patient D; unspecified social contact to Patients B and C
B (35 year-old male)	Nov 26	N/V/M/AD/J/ elevated liver enzymes/ reactive HAV IgM	Recovered without hospitalization	Unspecified social contact to Patient A
C (54 year-old female)	Dec 12	A/V/RB/J/elevated liver enzymes/ reactive HAV IgM	Recovered without hospitalization	Unspecified social contact to Patient A
D (17 month-old male)	Sep 28	D/UR/reactive HAV IgM	Recovered without hospitalization	Child of Patient A

UR=upper respiratory symptoms; V=vomiting; D=diarrhea; J=jaundice; M=malaise; AD=abdominal discomfort; A=anorexia; RB=rectal bleeding

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