Global Changes in the Epidemiology of Hepatitis A Virus Infections

Kenrad E. Nelson

Department of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, Maryland

(See the article by Park et al. on pages 1148–50)

Infection with hepatitis A virus (HAV) is one of the most common causes of hepatitis worldwide. However, the level of endemicity, median age at time of infection, and frequency of clinically apparent hepatitis caused by HAV varies by population. In areas of high endemicity in Asia, Africa, Latin America, and the Middle East, the prevalence of HAV IgG antibodies reaches 90% in adults, and most children have been infected by 10 years of age. In areas of intermediate endemicity in some countries in Asia and Europe, only 50%–60% of adults and 20%–30% of 10-year-old children have been infected. In areas of low endemicity, only 30% of adults have HAV antibodies. However, in these countries, subpopulations of lower socioeconomic status may resemble those in countries of higher endemicities [1].

More than 70% of cases of HAV infection in children <6 years old are asymptomatic, or, if illness occurs, it is not accompanied by jaundice [2]. However, in older children and adults, HAV infection causes more-severe clinical illness, including jaundice, in >70% of cases [3].

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Reprints or correspondence: Dr. Kenrad E. Nelson, Dept. of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD (kenelson@jhsph.edu).

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In the last 20–30 years, the population profile of HAV infections has transitioned from that of high to intermediate endemicity in several Asian countries, because of socioeconomic and hygienic improvements. This transition has had clinical consequences. For example, an epidemic of HAV infection in Shanghai, China, in 1988 that was caused by the ingestion of raw clams contaminated with HAV resulted in an attack rate of 4083 per 100,000 persons, or an estimated 292,301 cases of HAV infection and 32 deaths [4].

A decreased prevalence of HAV antibodies among young children aged 6–15 years in the past 30 years has been reported in Thailand [5], Hong Kong [6], and, as reported by Park et al. [7] in this issue of *Clinical Infectious Diseases,* Korea. In the United States, in 1999, the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommended routine HAV vaccination of children in states, counties, and communities with rates ⩾2 times the 1987–1999 national average (i.e., ⩾20 cases per 100,000 persons) and recommended consideration of routine vaccination of children in areas with rates exceeding the national average (i.e., ⩾10 to 19 cases per 100,000 persons) [1]. This expanded use of HAV vaccine has had a dramatic effect on the epidemiology of HAV in the United States. The rate of HAV infection is now at an all-time low of 2.6 cases per 100,000 persons [8].

In Israel, which had reported HAV infection rates of 50.4 cases per 100,000 persons during 1993–1998, a 2-dose HAV vaccination program aimed at children 18–24 months of age (toddlers) resulted in a 95% reduction in the reported incidence of HAV infection in the total population, to 2.2–2.5 cases per 100,000 persons between 2002 and 2004 [9]. Of the 433 cases reported nationwide in 2002–2004 for which the patient's vaccination status could be ascertained, 424 patients (97.9%) had received no vaccine.

The spontaneous change in the epidemiology of HAV associated with improvements in socioeconomic and hygienic conditions and the dramatic decreases in infection rates in response to strategic vaccination of children and some high risk adults [1, 10] suggests that the control, or possibly even the elimination of HAV in countries undergoing transition in socioeconomic conditions, would be feasible. Although the elimination of hepatitis B virus, measles, or polio has a higher priority than the elimination of HAV, the substantial herd immunity associated with HAV vaccination of toddlers and children and the increasing clinical and economic burden of hepatitis A warrant the serious consideration of implementing an HAV vaccine program in several Asian countries.

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