CD Summary

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OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

THE ABCS OF HEPATITIS

In this *CD Summary*, we provide updates on each of the viral hepatitides. By the end of the issue you will be able to answer: Which type of viral hepatitis merits inclusion on the endangered species list and is disappearing in Oregon? Which viral hepatitis will likely increase over the next decade (especially if you follow our advice on testing)? How have guidelines for viral hepatitis prevention in health-care personnel changed?

HEPATITIS A: AN EXTINCT SPECIES?

In the pre-vaccine era, increases of reported cases of hepatitis A occurred every 6–8 years. During peak years, hepatitis A virus (HAV) was by far the most common non-sexually transmitted communicable disease reported in Oregon. In 1995, Oregon had the ignominious distinction of having the highest case rate of any state: almost 3,000 cases were reported, nearly 100 cases per 100,000 residents.

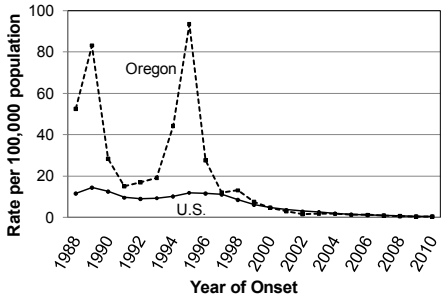
Local health departments would spend days and nights chasing cases, taking histories and evaluating risks to the public. The public received frequent reminders that they may have eaten fecally contaminated food. ("If you had a sandwich or salad at Restaurant XX between Aug. 10 and 15, the management and the county health department would like to invite you to a post-exposure party featuring an open immunoglobulin bar. Free ice cream for the kids!!"). It was a recurring nightmare....

Fast-forward to 2012. Only a single case has been reported as of July 1.

CHANGING EPIDEMIOLOGY

In the pre-vaccine era, the majority of reported HAV cases nationwide were in children aged 5–14 years, and incidence was highest (≥20 cases/100,000 residents) in a limited number of states (Alaska, Arizona, California, Idaho, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Utah and Washington). In 1999, the Advisory Committee on Immunization Practices (ACIP) recommended HAV vaccine for all children ≥2 years of age who lived in these high-incidence states. Since the recommendation, the incidence of hepatitis A declined dramatically, especially in those 11 states. By 2006, the overall U.S. incidence had plummeted to 1.2 cases per 100,000 population (Figure 1), and the states without universal HAV vaccination were left with the highest rates. As a result, in 2006, ACIP recommended vaccine for *all* U.S. children ages 12–23 months. Currently, vaccination of 2 year-olds against HAV is up to 75% in the U.S. and 83% in Oregon.

Figure 1. Acute hepatitis A, Oregon and U.S., 1988–2010



OREGON STATISTICS

During 2005–2010, 174 HAV cases were reported in Oregon, 63% of which were in persons >30 years of age. For cases with complete risk factor information available, the most common risk factor was international travel (85/112 cases; 76%), with Mexico being the favored destination (43/85; 50%). Since 2005, only one food-handler-associated restaurant outbreak of HAV has been reported. Six Oregon (and one Washington) cases were associated with that 2006 outbreak, small potatoes in comparison to the overall numbers of HAV cases Oregon experienced in 1995.

Given that most cases now occur in travelers, we recommend HAV vaccination for anyone travelling outside the U.S., with the exception of Canada, western Europe and Scandinavia, Japan, New Zealand and Australia.

NEW RECS FOR HBV-INFECTED HEALTH-CARE PERSONNEL

In July 2012, CDC updated the 1991 recommendations for managing hepatitis B virus (HBV)-infected health-care personnel.[1] The recommendations include the following changes: it is no longer considered necessary to notify patients that a health-care provider or health-care student is infected; but HBV-infected providers who perform certain bloodborne exposure-prone procedures should be monitored by an expert panel.[2]

Specific exposure-prone procedures are listed in detail in the new recommendations. In general, exposure-prone procedures include those in which access for surgery is difficult and those in which needle-stick injuries commonly occur. Expert panels are advised that infected health-care personnel involved in exposure-prone procedures should monitor their serum HBV DNA and consider levels below 1,000 International Units/mL acceptable for practice. The updated recommendations also emphasize that positive HBV status alone should not limit a health-care provider's practice or a student's learning experience.[2] CDC continues to recommend hepatitis B vaccine for all heath-care personnel and students, and adherence to Standard Precautions at all times and in all settings.

Although the new guidelines appear to be loosening restrictions on the practice of clinicians who are chronically infected, experience in the United States over the past 25 years indicates that the new recommendations are appropriate. While *patient-to-patient* transmission of HBV due to unsafe injection practices and sharing of blood-glucose-monitoring equipment has been well documented, there has been only one documented report of *physician-to-patient* transmission in the United States since 1994. Dental

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health-care provider-to-patient transmission is also rare, with the last cases reported in 1987. High standards for and adherence to infection prevention has undoubtedly contributed to such low transmission rates, as has vaccination of health-care providers.

WE CAN PREDICT THE FUTURE: OREGON'S HEPATITIS C WILL RISE

In May of this year, CDC proposed[3] expanding risk-based testing recommendations for hepatitis C virus (HCV) to include a one-time hepatitis C test for all baby boomers (i.e., anyone born from 1945 through 1965); see Table. The rationale for this new recommendation is threefold:

Table. HCV testing recommendations

- Anyone who has ever injected illegal drugs;
- Recipients of a blood transfusion or solid organ transplant before July 1992, or clotting factor concentrates made before 1987;
- Patients who have ever received long-term hemodialysis treatment;
- Persons with known exposures to hepatitis C (e.g., needlestick injuries involving blood from a patient with HCV, receipt of blood or organs from a donor who later tested positive for hepatitis C);
- Persons with signs and symptoms of hepatitis C (e.g., abnormal liver enzyme test);
- Persons living with HIV;
- Children born to mothers who have hepatitis C.

Proposed new recommendation:
- Anyone born during 1945–1965.[3]

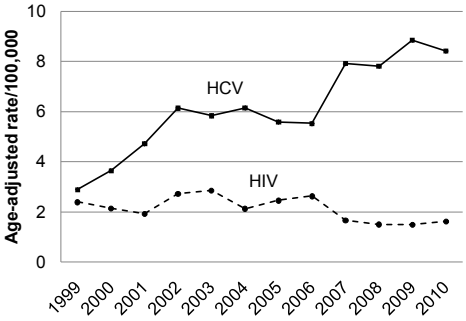
First, an estimated 3.2 million Americans are infected with HCV, and more than 75% of those are baby boomers. Since 2005, Oregon has averaged >6,000 reports of HCV infection each year. Of those, 68% were born from 1945 through 1965. Since 80% of infections are asymptomatic, many of those infected are unaware of their HCV status. CDC estimates that one-time testing in this age group would identify as many as 800,000 additional infections.[4] Baby boomers' exposure to HCV was likely decades ago, through blood transfusions or blood products, other health-care exposures before universal precautions, or injection drug use. These remote exposures may be difficult to recall or uncomfortable to discuss. As a result, many exposed baby boomers have never been tested.

Second, deaths from HCV are increasing in the United States. In 2007, U.S. mortality from hepatitis C surpassed that from HIV infections.[4] HCV-related mortality has also increased in Oregon (Figure 2). Early diagnosis of hepatitis C yields earlier opportunities for treatment to decrease the likelihood of cirrhosis and liver cancer.

Third, the newer treatments for HCV are much more effective for genotype 1, historically the most difficult to treat. Recently approved protease inhibitors have shown great promise when administered in combination with peg-interferon alfa and ribavirin, yielding SVR* rates in patients with genotype 1 infection as high as 75%. Identification and appropriate treatment of these individuals could prevent more than 120,000 deaths nationally.[4]

*Sustained viral response (SVR): absence of detectable HCV RNA 24 weeks after treatment ends.

Figure 2. Age-adjusted death rate for HIV and HCV, Oregon, 1999–2010



As the testing recommendations expand, the number of cases in Oregon will continue to rise. Please don't make liars out of us — test your baby boomers, and watch as the future unfolds.

FOR MORE INFORMATION

- Visit CDC's viral hepatitis page: *www.cdc.gov/hepatitis/*

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