

Universal Hepatitis A Vaccination Urged for Children Older Than 2 Years

BY LINDA LITTLE
Contributing Writer

SCOTTSDALE, ARIZ. — Vaccination for hepatitis A should be extended to children above the age of 2 with catch-up immunization for older children and adolescents, William F. Balistreri, M.D., advised.

"We need to rethink the vaccine strategy to see if we can have a rational plan for hepatitis A that would be more inclusive," said Dr. Balistreri, director of pediatric gastroenterology, hepatology, and nutrition at Children's Medical Center, Cincinnati.

He advised pediatricians to vaccinate children over the age of 2 years.

"Pediatricians need to get beyond these barriers and vaccinate these children. We have a vaccine that works. We have a disease that can kill," Dr. Balistreri said in an interview.

Major outbreaks of hepatitis A still occur in the United States; the majority of these are food borne, he said at a pediatric update sponsored by the Phoenix Children's Hospital. Children play a vital role in the spread of hepatitis A virus, which can be transmitted through food, fecal matter, and person-to-person contact.

"Day care is a hotbed for transmission," he said. "You have lots of children, few caretakers, everything goes in the mouth, caretakers may change the diaper on the same surface where children play, and children excrete the virus longer [than adults]."

To make matters worse, a young child can be infected and have few, if any, symptoms. Usually, outbreaks in day-care centers are detected only after the adult contacts become sick, he said.

While 85% of adults will become jaundiced, only about 10%-15% of children do. Children are likely to have a mild fever, a runny nose, and maybe a little diarrhea, Dr. Balistreri said. "Some children have no symptoms whatsoever."

In contrast, adults become jaundiced and have nausea, vomiting, anorexia, and abdominal pain. It can be deadly for some adults. "Children and young adults do fairly well," he said. "But for anyone over the age of 49, the mortality is up to 3%-

4%. This is a disease that can take lives."

If middle-aged adults are infected, this form of hepatitis can be devastating and costly, he said. There are more than 63,000 symptomatic infections in adults each year, resulting in 8,403 hospitalizations and 255 deaths. The illness results in 829,000 work loss days, 7,466 years of life lost at an annual cost of \$489 million.

"The bottom line is the vaccine is cost effective when you look at the implications," said Dr. Balistreri.

Part of the problem is that 80% of children excrete the virus for 3 weeks, some as long as 6 weeks. This results in adults, who are hit much harder by the symptoms, being susceptible to the virus. "Not only are children not symptomatic, but they continue to excrete the virus," he said. "No individual is sick at the time they are shedding."

Something as simple as eating a school lunch can result in an outbreak, as evidence of the Michigan outbreak in 1997 shows, when strawberries contaminated in Mexico and processed in California were then shipped to the school lunch program in Michigan.

"We need to use a vaccine not only to protect the individual but the community, so it can't gain a foothold," he said.

Once an outbreak occurs then immunoglobulin can be given to prevent symptomatic infection in contacts. While there is nothing wrong with this, the timing is off, Dr. Balistreri said. Prevention appears to be the most effective approach.

A Thailand study of 40,119 school-aged children showed the vaccine was effective in immunizing children against hepatitis A. Of the 19,037 children given the vaccine, 94% developed antibodies in 8 months and 99% developed antibodies at 17 months. There were 38 cases of clinical hepatitis A in the control group, compared with only 2 in the vaccinated children, both of whom were probably infected

with the virus at time of vaccination.

Currently, hepatitis A vaccination is recommended for those with occupational risks, such as health care and day-care workers, travelers to endemic regions, children in high-rate communities, persons with chronic liver disease, those with high-risk behaviors, and transplant recipients or others who are immune depressed.

When it was found that Native American children had a fourfold higher rate, the children were vaccinated, he said. That rate dramatically dropped after vaccinations were provided in 1996. Three years later, children in 11 Western states—where

the incidence of hepatitis A was twice the national average—were targeted.

"It did a great job in those states with a high rate," he said, but the adjoining states then developed a higher incidence.

"The virus shifted east. The virus doesn't respect state lines."

That's the problem in only targeting high-risk groups, he said.

Health officials should learn from the experience of hepatitis B, he said, where targeting the high-risk groups did not result in a substantial reduction in the frequency of hepatitis B. "We lost 10 years because we didn't start off with a universal vaccination program," he said.

He gave the example of migrant children in Florida where 244 children were tested and on average half already had been infected. The numbers increased with age with 34% of the 2- to 5-year-olds testing positive for hepatitis A antibodies and 81% of the 14-year-old and over group testing positive.

"In a community that wasn't targeted, about half of the children already had been infected. This is a missed opportunity."

The biggest impediments to universal hepatitis A vaccination in children include cost, addition of yet another vaccination to a complex schedule, and the rising fear among some parents about vaccination. ■

Children play a vital role in the spread of hepatitis A virus, which can be transmitted through food, fecal matter, and person-to-person contact.

Hepatitis A Vaccination Varies Widely

BY MIRIAM E. TUCKER
Senior Writer

Immunization rates for hepatitis A in children aged 24-35 months vary widely across areas and populations in the United States, the Centers for Disease Control and Prevention said.

In 1999, the CDC recommended routine immunization against hepatitis A for children residing in 11 states in which the average annual incidence during 1987-1997 was at least 20 per 100,000 population, or twice the national average. Those states are Alaska, Arizona, California, Idaho, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Utah, and Washington. They also advised that hepatitis A vaccination be considered in another six states (Arkansas, Colorado, Missouri, Montana, Texas, and Wyoming) where the average incidence was 10-20/100,000 population (MMWR 2005;54:141-5).

Data were collected from provider immunization records for 13,731 children during 2003. In the 11 states in which routine vaccination is recommended, the proportion of children aged 24-35 months who had received at least one dose of vaccine varied from a low of 6.4% (South Dakota) to a high of 72.7% (Alaska).

In the six states where hepatitis A vaccination should be considered, 25.0% of children aged 24-35 months had been vaccinated, compared with just 1.4% in the other 33 states with no recommendation. The wide variation in coverage is likely due to targeted programs. For example, vaccination requirements in Texas border counties for all children attending day care programs probably account for the higher coverage in El Paso County (71%), compared with the rest of the state, the CDC said.

Rapid Testing, Antibiotic Use Stopped Pertussis Outbreak

BY ALICIA AULT
Contributing Writer

WASHINGTON — Wisconsin health authorities were able to put a stop to a spiraling outbreak of pertussis by advocating faster testing and use of antibiotics in all suspect cases, a state health department official reported at the National Immunization Conference sponsored by the Centers for Disease Control and Prevention.

Jeffrey Davis, M.D., of the Wisconsin Division of Public Health, gave the details of the epidemic, which lasted from May 2003 until February 2004 and occurred primarily in Fond du Lac County. In the 5 years before the outbreak, there had only been

five cases of pertussis in Wisconsin.

Cases were defined using the Centers for Disease Control and Prevention's definition of pertussis: a cough illness lasting more than 2 weeks with paroxysms, whoop, or posttussive vomiting. Cases were confirmed through patient follow-up interviews and/or lab confirmation by isolating *Bordetella pertussis* in culture, or through a positive polymerase chain reaction (PCR) assay.

During the outbreak, 313 cases were reported in the county (total population 97,296); 193 were confirmed in the lab, and 120 were confirmed by epidemiology. Just over half the cases were in females, and the median age was 14 years. Of those

313, 70% were aged 10-19 years; 43% were aged 10-14 years. The incidence rate exceeded 1,000 per 100,000 in that younger cohort, said Dr. Davis.

The health department determined that the outbreak probably started with two unvaccinated adolescents using a high school weight room. Of the initial 53 cases, 55% were linked to that weight room.

During the epidemic's initial peak in mid-October, the health department alerted physicians to keep a close eye on potential cases. As new cases appeared in November, the department issued another alert, suggesting more testing and use of antibiotics in any suspect cases.

That alert led to a sharp decline in cas-

es, said Dr. Davis. During the first peak, a median of 10.5 days passed between the onset of cough and initiation of antibiotics. By the last peak, medication was generally started within 4 days of cough onset. More than 5,000 courses of antibiotics were dispensed; 90% of the prescriptions were for azithromycin.

As physicians became more aware, they stepped up reporting, also, said Dr. Davis.

And PCR testing by the health department allowed for a rapid response—results were generally back to physicians within 24-48 hours.

The health department's successful response was costly, however—about \$2,000 per case, Dr. Davis said. ■