BY MARY ANNE JACKSON, M.D.

ID CONSULT

Hot Topics (Other Than Influenza)

Influenza is the big 2005 infectious disease story that will continue into 2006. Here are some other important current ID topics that you may have heard less about:

► **Empyema.** Routine use of the conjugate pneumococcal vaccine does not appear to have decreased the incidence of empyema in children, although it has reduced the number of cases caused by *Streptococcus pneumoniae*. Now we're seeing increasing numbers due to methicillin-resistant *Staphylococcus aureus*.

Of 230 children (mean age 4.0 years) diagnosed in Houston between 1993 and 2002 with community-acquired pneumonia and empyema, 32% of the 219 who had pleural fluid cultures performed were positive, while another 27 had a cause identified by blood culture (Pediatrics 2004;113:1735-40).

The number of children admitted for empyema per 10,000 total hospital admissions increased steadily from 5.8 in 1993-1994 to 13 in 1997-1998 to a peak of 23 in 1999-2000. The rate then dropped to 12.6/10,000 in 2001-2002, primarily due to a drop in cases caused by *S. pneumoniae*, which accounted for 29 of 44 positive isolates (66%) in 1999-2000, compared with just 4 of 15 (27%) in 2001-2002. We may now be seeing more cases due to nonvaccine strains.

Meanwhile, isolation of *S. aureus* increased from 8 of 44 positive isolates (18%) in 1999-2000 to 9 of 15 (60%) in 2001-2002, of which the majority were in children under 1 year of age.

Half (4/8) of those seen in 1999-2000 were MRSA, versus more than three-fourths (7/9) in 2001-2002.

The authors concluded—and I agree—that if you live in a community in which MRSA now accounts for more than 10% of invasive infections, vancomycin plus ceftriaxone should be the first-line empiric therapy for empyema and pleural effusions associated with community-acquired

All-Time Low in Measles Cases Reported in 2004

Measles cases in the United States have hit an all-time low, the Centers for Disease Control and Prevention reported.

During 2004, just 37 cases of measles were reported to the CDC. This number—the lowest ever reported in 1 year in the United States—represents a 16% drop from the 44 cases reported in 2002, the CDC said (MMWR 2005;54:1229-31).

Nearly half (18) of the 37 cases were children aged 1-4 years, another 7 were aged 5-19 years, 5 were younger than 12 months of age, 5 were 20-34 years old, and 2 were aged 35 years or older.

Three states—Washington, California, and New York—accounted for 49% of the cases, whereas 11 states reported one to three cases each.

Of the 37 cases, 27 (73%) were imported, including 14 in U.S. residents who had acquired measles while traveling abroad, and 13 in foreign nationals who acquired the disease abroad and subsequently traveled to the United States. China was the most frequent country from which measles was imported, accounting for 13 of the cases.

All 14 of the U.S. residents with imported measles cases were vaccine eligible. Of those, nine were not vaccinated, three had unknown vaccination status, and two had received at least one dose of measles vaccine.

Of the 13 non-U.S. residents with imported measles, 10 had not been vaccinated and 3 had unknown vaccination status.

Ten of the cases were indigenous (infected in the United States), of which six were linked to imported cases and four had unknown sources of exposure.

It will be necessary to maintain greater than 90% vaccination coverage in the United States as long as measles is endemic in most countries worldwide, the CDC said.

—Miriam E. Tucker

pneumonia. The use of clindamycin plus ceftriaxone may be acceptable in institutions where MRSA remains susceptible to clindamycin.

Of the 212 patients for whom information on therapeutic intervention was available, 59% underwent video-assisted thoracoscopy (VATS), which is now emerging as the most cost-effective treatment for complicated pleural empyemas at the institutions where physicians have become expert at performing it.

Among the 125 children who underwent VATS, length of hospital stay was significantly shorter (12 vs. 15 days) for the 49 who underwent the procedure within 48 hours of admission, compared with the 76 children in whom VATS was performed beyond 2 days. Length of fever after hospitalization was also significantly shorter in the group who underwent early VATS (7 vs. 9 days).

► **Oral rehydration therapy.** As we anxiously await the availability of new rotavirus vaccines, we will continue to see large numbers of children with dehydration due to viral gastroenteritis during the colder months.

Intravenous fluid therapy (IVF) still is widely used even in children whose dehydration is not severe, despite evidence that oral rehydration therapy (ORT) can be initiated more quickly, is just as effective, and is well-received by patients and their families.

Among data supporting ORT are those from a study in which 73 children aged 8 weeks to 3 years who presented to an urban pediatric emergency department with mild to moderate (5%-10%) dehydration were randomized to receive either IVF or ORT (Pediatrics 2005;115:295-301).

There was no difference between the two groups in the overall proportion achieving successful rehydration at 4 hours (56% ORT vs. 57% IVF), urine output was similar, and no patient in either group had severe emesis.

However, more patients who received IVF had weight gain by the end of the 4 hours (100% IVF vs. 83% ORT). The mean time to initiate therapy was substantially shorter with ORT (19.9 vs. 41.2 minutes), and fewer ORT patients were hospitalized (30% vs. 49%).

Five of the 36 children randomized to ORT were unable to tolerate it and required IV placement. When analyzed by treatment received, overall successful rehydration still did not differ significantly (61% ORT vs. 62% IVF), while hospitalization was required in 23% with ORT versus 50% with IVF.

Of course, ORT isn't for everyone, including patients with hypotension, chronic underlying illness, growth failure, or oral-motor impairments. I also would advise IVF for infants less than 2 months of age and for patients who are severely dehydrated or have been sick for more than 5 days.

The addition in future of a rotavirus vaccine to our child immunization schedule may effectively reduce the need for such hydration therapy in the pediatric population.

► **Varicella.** Rates have declined so dramatically in the decade since the vaccine became available that we may be in danger of forgetting about varicella altogether. Many adolescents remain at high risk because they were born too late to receive the vaccine as part of routine infant immunization, but they are now less likely to have been exposed to the natural virus earlier in childhood.

Of the four current routine adolescent vaccinations, varicella was the one recommended the least often by 210 pediatricians and family physicians who responded to a mailed survey (59% response rate).

Overall, 98% of respndents reported routinely recommending vaccination against tetanus-diphtheria, 90% against hepatitis B, and 84% against measles, mumps, and rubella, compared with just 60% who reported routinely recommending varicella vaccination of susceptible adolescents (J. Am. Board Fam. Pract. 2005;18:13-9).

Only 68% of the respondents reported that it was "very important" to ensure that adolescents were up to date on protection against varicella, whereas 86%-97% reported the same regarding hepatitis B; measles, mumps, rubella; and tetanus-diphtheria.

Among the reasons cited by the authors is the perception that varicella is a benign illness.

In fact, in a high-risk host, the disease can result in severe secondary bacterial infection including necrotizing fasciitis and viral dissemination to the lungs, liver, and central nervous system.

With varicella zoster immune globulin currently in short supply—and possibly for the foreseeable future—intravenous immune globulin is now the primary means of postexposure prophylaxis for susceptible individuals.

We mustn't let down our guard with varicella. It still results in pediatric deaths each year. ■

DR. JACKSON *is chief of pediatric infectious diseases at Children's Mercy Hospital, Kansas City, Mo., and professor of pediatrics at the University of Missouri–Kansas City.*