Community-Acquired MRSA Spread Detailed

BY TIMOTHY F. KIRN
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ASPEN, COLO. — In Dallas, by the time the infectious disease specialists found out they had a problem with community-acquired methicillin-resistant *Staphylococcus aureus*, it already comprised one-third of staphylococcal infections, Dr. Sheldon L. Kaplan said at a conference on pediatric infectious diseases sponsored by Children's Hospital, Denver.

In a round-up talk about the present situation with community-acquired methicillin-resistant *S. aureus* (MRSA), Dr. Kaplan, the chief of infectious diseases service at Texas Children's Hospital, Dallas, described how extremely quickly it has spread—in this country and worldwide.

"I don't think we are really going to control [MRSA] unless we have a vaccine," Dr. Kaplan said.

At Texas Children's Hospital, the infectious disease specialists didn't pay much attention to community-acquired MRSA until 2000 when they started noticing more cases.

By that time—in February of that year—MRSA already made up about one-third of community-acquired staphylococcal infections seen at the hospital's emergency center. By November, it represented 50%. Currently, it is about 77%, Dr. Kaplan said.

About 15% of the cases annually are in children less than 1 year of age, 15% are children in the second year of life, and about 20% are in patients 10 years or older.

Ninety-six percent of the cases at the hospital are associated with skin and soft tissue infections. Nonetheless, 62% of all community-acquired MRSA cases seen are then hospitalized. That compares with 52% of the community-acquired methicillin-susceptible infections seen.

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The average duration of hospitalization is 4 days.

Dr. Kaplan also noted that they are seeing increasing numbers of staphylococcal infections in normal, healthy infants in the first 30 days of life, and almost all of these cases are MRSA.

In the United States, the most common strain is one known as USA300. In 2003, 96% of MRSA isolates at Texas Children's were USA300. "This USA300 [strain], once it comes into a community, appears to take over," Dr. Kaplan said.

The genetic sequence of USA300 recently has been published, and that sequence has shown that USA300 has incorporated certain genetic elements of *S. epidermidis*. Those elements, which could confer a better ability to colonize skin, may explain why this USA300 clone has been able to spread through communities so quickly.

Fortunately, the USA300 strain has not been found to produce the toxins associated with toxic shock syndrome, Dr. Kaplan added.

There is little good guidance on best antibiotic treatment of these community-acquired MRSA infections, Dr. Kaplan said.

One study found that long-acting tetracyclines are 90%-100% effective in treating skin and soft tissue infections, although they may not be for more serious infections.

Moreover, virtually all community-acquired MRSA associated with skin and soft tissue infection is susceptible to trimethoprim-sulfamethoxazole.

Therefore, at Texas Children's, the recommendation is to use trimethoprim-sulfamethoxazole as the first-line treatment for these infections.

That said, a survey of practice at the hospital found it was never used first line by any of the doctors, Dr. Kaplan said.

Several other studies have shown that the effective treatment for skin and soft tissue infection is surgical drainage and that the choice of antibiotic therapy makes little difference.

One study in particular showed that when an abscess was 5 cm or less in diameter, antibiotic choice made no difference in outcome, although it is not known whether ineffective or less-effective antibiotic treatment is associated with recurrence, Dr. Kaplan said.

Clindamycin resistance among community-acquired MRSA is not yet a big problem at Texas Children's, because the rate appears to be about 7% presently. However, clindamycin resistance there, and everywhere, is increasing, and in some places in this country may run as high as a rate of 30%.

"You have to know what is going on in your area," Dr. Kaplan said. ■

Suspect Chronic Varicella Zoster in Immunocompromised Children

SAN FRANCISCO — Suspect chronic varicella zoster in all immunocompromised children, not just those with HIV, Dr. Christopher Bohyer said at the annual meeting of the American Academy of Dermatology.

Test zosterlike lesions in immunocompromised children for drug resistance, because chronic varicella typically implies antibiotic resistance, said Dr. Bohyer of Indiana University, Bloomington.

He presented what may be the first case of chronic varicella zoster in a child after bone marrow transplant. Other cases have been reported in children who have undergone chemotherapy or who have HIV. Dr. Bohyer's patient was an 11-year-old boy who was diagnosed in 2003 with acute myelogenous leukemia and was treated with chemotherapy. He relapsed in April 2004, who underwent donor stem cell transplant as treatment for acute myelogenous leukemia, and developed acute graft-versus-host disease. After the boy left the hospital, in September 2004 he developed abdominal pain. An eruption on his head and neck was identified as varicella zoster infection, and he was treated with high-dose IV acyclovir.

The patient went home but was readmitted with another unusual cutaneous eruption on his whole body. The vesicles and papules housed varicella zoster, culture showed. Another round of high-dose acyclovir stemmed the eruption of any new lesions, but the chronic lesions did not resolve. At this time the patient's condition deteriorated so much that support was withdrawn, and he died.

—Sherry Boschert

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