K. kingae Complicates Osteomyelitis Diagnosis

BY PATRICE WENDLING
Chicago Bureau

CHICAGO — Consider Kingella kingae as a cause of infection when diagnosing and treating children with suspected acute osteomyelitis, an infectious disease specialist advised.

The incidence of acute osteoarticular infections in young children has risen dramatically in recent years, with methicillin-resistant Staphylococcus aureus (MRSA) accounting for the lion’s share of osteomyelitis cases in the United States, said Dr. Sheldon L. Kaplan, chief of the infectious disease service at Texas Children’s Hospital, Houston.

But in some parts of the world, K. kingae is the most common cause of acute osteomyelitis and septic arthritis in infants and young children, Dr. Kaplan said at a meeting sponsored by the American Academy of Pediatrics. This global mismatch could be because a lot of children with suspected osteomyelitis are culture negative—up to 50% in some case series—and because K. kingae bacteria are hard to identify without sophisticated laboratory tests not routinely used in the United States.

“It could be that if we were using PCR [polymerase chain reaction] rather than cultures, we’d be seeing a lot more,” he said.

Recovery of K. kingae is difficult because the gram-negative cocccobacillus is hard to grow on culture, takes a little longer than normal to grow, may require laboratories to hold on to culture plates for up to 7 days.

Researchers in France have developed a specific real-time PCR method to detect K. kingae DNA, and prospectively applied it to the diagnosis of all pediatric admissions for osteoarticular infection between January 2004 and December 2005. With culture alone, a pathogen was identified in 45% of the 131 specimens, including S. aureus in 25, K. kingae in 21, and other organisms in 35. The combination of culture, plus 16S ribosomal DNA sequence PCR, improved documentation, identifying 16 additional cases.

An x-ray shows a lytic lesion (arrow) of the distal epiphysis of the femur.

COURTESY SARAH S. LONG/©2008 ELSEVIER INC.