

Four Criteria Help Diagnose Septic Arthritis Earlier

BY CHRISTINE KILGORE
Contributing Writer

WASHINGTON — Septic arthritis of the hip can be diagnosed in a child using four predictors, Peter D. Pizzutillo, M.D., said at the annual meeting of the American Academy of Orthopedic Surgeons.

The predictors are: sudden onset of symptoms, fever, an erythrocyte sedimentation rate greater than 40 mm/hour, and a serum white blood cell count greater than 12,000.

"If all four criteria [are present], the possibility of having septic arthritis is 99%. If three of these four criteria are present, the risk is reduced to 93%," he said. "These are good indicators.

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"I think our pediatric colleagues are very attuned to ... the need for early diagnosis of infection," said Dr. Pizzutillo, director of pediatric orthopedic surgery at St. Christopher's Hospital for Children in Philadelphia.

Diagnosis is still a challenge, he said, and a delay in treatment of more than 4 days significantly increases the risk of a poor result. "If you're seeing the hip with a large swollen, tender thigh ... positioned in flexion, abduction, and external rotation, something's been going on for a long period of time."

The diagnosis of septic arthritis was the focus of research that won the 2005 Orthopedic Research and Education Foundation clinical research award. Mininder S. Kocher, M.D., and his associates did a retrospective study of children with acutely irritable hip and concluded that four predictors—the white blood cell count and sedimentation rate cited by Dr. Pizzutillo, fever, and the inability to bear weight—could be used to differentiate septic arthritis from transient synovitis of the hip.

Using these predictors, Dr. Kocher and associates at Children's Hospital in Boston then developed guidelines for managing septic arthritis in children. They found that patients treated after its development received care that varied less and was more efficient and effective than the care received before the guidelines were implemented.

Hydration and antibiotics remain the

major components of treatment for septic arthritis of the hip, along with surgical drainage and irrigation of the hip joint, said Dr. Pizzutillo. He usually removes the capsular window to ensure continued drainage and leaves the drain in place until the volume of drainage decreases.

A switch from IV to oral antibiotics can be made once constitutional signs improve and if no concurrent osteomyelitis is present, he said.

"The problem is the kids who don't

show response—you do the drainage, give appropriate antibiotics, and they're just not improving," he said. "That's when [imaging] studies are useful—a bone scan, for instance, will help you determine if there's something you're missing."

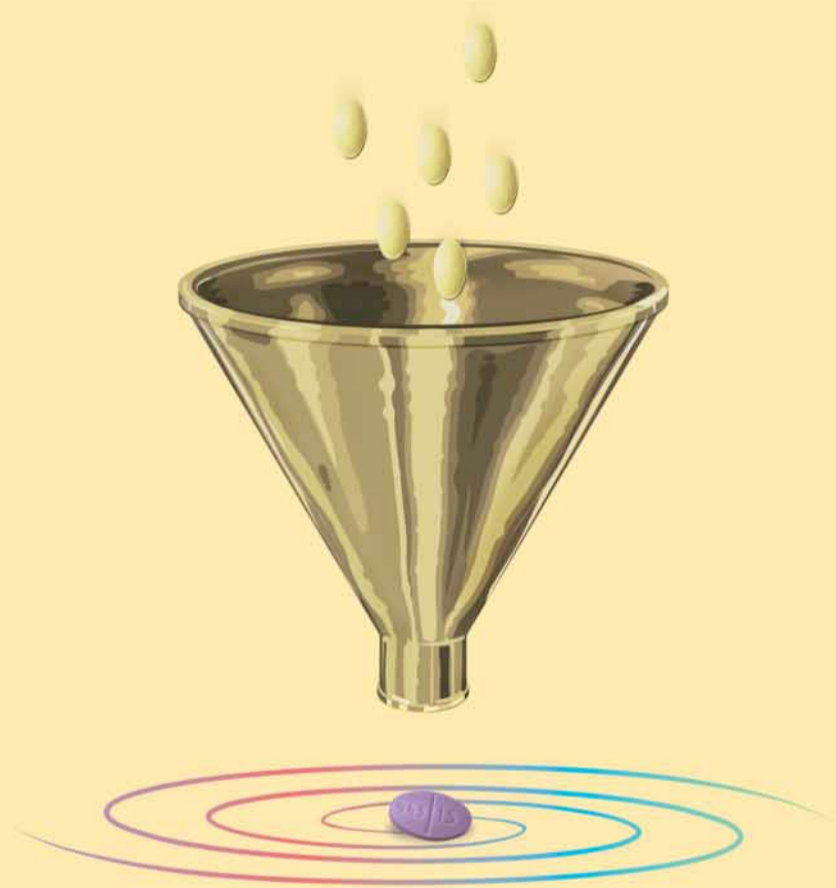
The sequelae of septic arthritis of the hip include partial or complete destruction of the proximal femoral physis, avascular necrosis of the femoral head, complete dissolution of the femoral head and neck, unstable hip articulation, and hip dislocation.

In addition to being febrile, a child with septic arthritis of the hip is irritable and limps or is unable to bear weight. The child will have severe pain with attempted passive motion of the hip joint, Dr. Pizzutillo said.

Neonates may only display anorexia, irritability, and lethargy, he added.

Staphylococcus aureus seems to be one of the most common organisms implicated, although "*Kingella kingae* is increasing in frequency, especially in healthy children under 4," Dr Pizzutillo said. ■

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Methotrexate has been reported to cause fetal death and/or congenital anomalies. Therefore, it is not recommended for women of childbearing potential unless there is clear medical evidence that the benefits can be expected to outweigh the considered risks. Pregnant women with psoriasis or rheumatoid arthritis should not receive methotrexate. (See CONTRAINDICATIONS.) Methotrexate causes hepatotoxicity, fibrosis, and cirrhosis, but generally only after prolonged use. Acutely, liver enzyme elevations are frequently seen. Persistent abnormalities in liver function tests may precede appearance of fibrosis or cirrhosis in the rheumatoid arthritis population.

Methotrexate-induced lung disease is a potentially dangerous lesion, which may occur acutely at any time during therapy and which has been reported at doses as low as 7.5 mg/week. It is not always fully reversible. Pulmonary symptoms (especially a dry, nonproductive cough) may require interruption of treatment and careful investigation.

Diarrhea and ulcerative stomatitis require interruption of therapy; otherwise, hemorrhagic enteritis and death from intestinal perforation may occur.

Severe, occasionally fatal, skin reactions have been reported following single or multiple doses of methotrexate. Reactions have occurred within days of oral, intramuscular, intravenous, or intrathecal methotrexate administration. Recovery has been reported with discontinuation of therapy. (See PRECAUTIONS, Organ System Toxicity, *Skin*.)

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