Septic Arthritis in an Infant With Vesicoureteral Reflux and Urinary Tract Infection

Sharmila Nair, MD, and Morris J. Schoeneman, MD

ABSTRACT. A 4-week-old boy with previous urinary tract infection and documented vesicoureteral reflux presented with urosepsis and septic arthritis of the right hip. Compliance with prophylactic antibiotic therapy had been poor at home. Complications such as bone and joint infection are known to occur after urinary tract infection in children with urologic abnormalities. However, previous similar reports describe discovery of the urinary tract anomalies only as part of an evaluation performed after the systemic complications have occurred. The purpose of this report is to stress the importance of defining urinary tract abnormalities in a case of antenatal hydronephrosis or at the time of the first urinary tract infection in infants so that appropriate investigations, management, and support of parental compliance can be undertaken to avoid systemic complications. Pediatrics 2003;111:e195–e196. URL: http://www.pediatrics.org/cgi/content/full/111/2/e195; septic arthritis, vesicoureteral reflux, urinary tract infection.

ABBREVIATIONS. VUR, vesicoureteral reflux; UTI, urinary tract infection.

Infants with congenital vesicoureteral reflux (VUR) often develop ascending urinary tract infections (UTIs). These may lead to bacteremia, urosepsis, and, rarely, suppurative complications such as osteomyelitis and septic arthritis. To date, 1 such case has been reported, but the urologic abnormality was detected only after discovery of septic arthritis caused by Escherichia coli. We describe the unusual case of an infant who had known congenital VUR and was poorly compliant with antibiotic prophylaxis and developed urosepsis and septic arthritis of the right hip.

CASE REPORT

A 4-week-old boy was admitted to the hospital with a 5-day history of diarrhea, vomiting, and fever. Physical examination showed mild dehydration, but the infant was otherwise normal. Examination of the hips revealed no tenderness or restriction of motion.

History revealed that he was the product of a 36-week gestation to a 34-year-old mother. The prenatal course was remarkable for antenatal hydronephrosis and the time of the first urinary tract infection in infants so that appropriate investigations, management, and support of parental compliance can be undertaken to avoid systemic complications. Pediatrics 2003;111:e195–e196. URL: http://www.pediatrics.org/cgi/content/full/111/2/e195; septic arthritis, vesicoureteral reflux, urinary tract infection.

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the femoral neck into the joint space. In either case, early and appropriate treatment with antibiotics and drainage is critical because of the tenuous vascular supply to the head of the femur and the risk of permanent joint disability. We know of only 1 other report of septic arthritis in a child with a genitourinary source. In that case, VUR was found as part of the evaluation of a child with septic arthritis of the left shoulder, caused by E. coli found in the joint fluid, blood, and bone marrow. A study of septic arthritis by Jackson and Nelson found E. coli, Klebsiella, and Enterobacter to be the bacteriologic agent in only 7 of 351 patients in the newborn to 5-year-old age group. There is no evidence that the urinary tract of any of these 7 children was investigated for urologic abnormalities. In contrast, Haemophilus influenzae and Staphylococcus aureus accounted for 146 of the infections in this group. Similarly, a more recent review reported only 23 cases of septic arthritis caused by Gram-negative enteric organisms in a group of 574 children in the newborn to 5-year-old age group.

Although our case represents a rare presentation, it underscores the importance of thoroughly evaluating a young child with antenatal hydronephrosis or a first UTI to avoid missing an anatomic anomaly such as VUR. If VUR or other less common urologic abnormalities are discovered, then they must be managed appropriately to minimize the risk of recurrent pyelonephritis and its attendant renal and extrarenal suppurative complications. When long-term antibiotic prophylaxis is the treatment of choice, as in our patient’s case, close contact with the family is vital to maximize compliance with the drug regimen.

REFERENCES
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