64-year-old male with septic arthritis of the pubic symphysis

Ewa Konik,1 Brent Bauer,2 Mark Lee2
1Vanderbilt University, TN; 2Mayo Clinic Rochester, MN, USA

Abstract

Septic arthritis of the pubic symphysis is a rare disease. Typical clinical features include fever, pubic or groin pain, pain with hip motion, and painful or waddling gait. Identified predisposing factors to develop an infection in pubic joint include female incontinence surgery or postpartum period; sports, especially soccer; pelvic malignancy; and intravenous drug abuse. The most often identified microorganisms were Staphylococcus aureus and Pseudomonas aeruginosa. Osteomyelitis complicates the majority of cases, and about half of the patients require surgical debridement along with a prolonged antibiotic treatment. We report a case of Streptococcus anginosus septic arthritis of the pubic symphysis. The patient did not have any of the above risk factors.

Case Report

A 64-year-old male with history of diabetes mellitus type 2, hypertension and alcohol abuse presented with acute onset of severe, bilateral groin pain radiating to his back and exacerbated by moving. There was no history of trauma.

His vital signs and physical exam were unremarkable. Specifically, the abdominal, groin, hip, genital, and skin exams were normal. There was no inguinal herniation and no signs of skin infection or abscess. The basic laboratory tests were normal except for mildly elevated liver function tests and CRP of 9.2 mg/dL (normal ≤8 mg/L). (White blood cell count was normal at 7,000/µL, with 5,040/µL neutrophils). Erythrocytes sedimentation rate was >40,000 nucleated cell/µL. Aspirated fluid from both sites showed >40,000 nucleated cell/µL (Streptococcus anginosus, pansensitive on susceptibilities testing).

On the third day after admission he developed fever and leukocytosis with left shift. His white blood cell count increased to 22,700/µL, with 20,300/µL neutrophils. Imaging studies including computed tomography (CT) angiogram of abdomen and pelvis showed cirrhotic liver, splenomegaly, and mild thickening of the right-sided colon. A magnetic resonance imaging (MRI) of the lumbar spine revealed degenerative disc disease with signal abnormality in the L2-L3 intervertebral disc and diffuse vertebral marrow signal change. The blood cultures grew Streptococcus anginosus, which was pansensitive on susceptibilities testing. IV piperacillin/tazobactam was started. After 2 days, his fever and leukocytosis resolved and the pain improved markedly. The patient was discharged with a 10-day-course of Amoxicillin/Clavunate. The source of infection remained unclear. Given the finding of right-sided colon thickening and no other abnormalities on the imaging studies, it was felt to be related to diverticulitis or colitis. With the prompt response to the antibiotic treatment, no further work up was pursued.

Two weeks later, he returned with the same complaint: bilateral groin pain radiating to his back and exacerbated by moving. Physical exam was unchanged. Vital signs and white blood cell count were normal. However, an erythrocytes sedimentation rate was 108 and a CRP level was 77.6 mg/dL. Ertapenem and Vancomycin were started empirically. The chief complaint of painful gait and persistent lack of abdominal findings on physical exam, made the initial diagnosis of diverticulitis or colitis questionable. The recurrence of initial symptoms and elevated inflammatory markers despite the 10-day course of antibiotics pointed towards an infectious process such as discitis, osteomyelitis, occult abscess, deep venous thrombosis, or endocarditis.

Multiple imaging studies were negative for deep venous thrombosis, intraacardiac vegetations, discitis or osteomyelitis. An X-ray of pelvis showed a widened pubic symphysis with widening of the left sacroiliac joint, which could be due to prior pelvic trauma. Whole-body white blood cell scan with single-photon emission computed tomography images suggested infection of the symphysis pubis and adjacent muscles. CT pelvis with IV contrast showed enhancing fluid collections in adductor muscles and fluid density in the symphysis pubis suspicious for abscesses.

Aspirated fluid from both sites showed >40,000 nucleated cell/µL (99% neutrophils). Cultures grew Streptococcus anginosus, pansensitive on susceptibilities testing. Dental exam revealed retained teeth roots, which were surgically extracted. (Unfortunately, the roots were not sent for culture). A 6-week course of IV Ceftriaxone with subsequent oral Amoxicillin treatment was continued until radiographic abscesses resolution.

Discussion

Septic arthritis of the pubic symphysis is a rare disease. According to Ross and Hu1 in their review of 100 cases, the most common complaint was pubic pain and the symptoms were present for more than three months before the diagnosis was made. Identified risk factors included female incontinence surgery, being an athlete, pelvic malignancy, and IV drug use.1,4 Staphylococcus aureus and Pseudomonas aeruginosa were the most commonly isolated microorganisms. Due to high risk of osteomyelitis (identified in 97% of cases), prolonged antibiotic treatment was recommended.

In the review of 100 cases by Ross and Hu, 76 patients had a pelvic x-ray. The sensitivity of initial pelvic radiographs was only 68% (bone destruction, marginal irregularities, symphyseal widening). However, 89% of the initially normal pelvic radiographs became abnormal on follow up. Thirty-one patients had pelvic CT scans, 90% of which were abnormal (bone erosions, abscesses, masses or symphyseal widening). Ten patients had pelvic MRI, of which all showed abnormalities (bone destruction, fluid within symphysis, symphyseal widening, mass and edema in muscles). Our diagnosis was greatly facilitated by use of single-photon emission computed tomography, however it was the unusually widened symphysis pubis on pelvic x-ray that alerted the radiologist about pathological process in this joint. In retrospect, the MRI revealed fluid within the pubic joint. In hospitals without this technology, the diagnosis can be made with the above-described radiologic studies, especially if the initially normal studies are repeated.

Streptococcus anginosus3 belongs to the normal human flora and is not commonly involved in clinically significant infections. Abscesses, skin, soft tissue and intra-abdomi-
nal and other infections were reported.

We suspect that the retained teeth roots were the source of infection. It remains unclear why the patient developed the disease without any of the described risk factors, although, diabetes or alcohol abuse and liver cirrhosis might have contributed. The simultaneous occurrence of muscle abscesses and the isolation of the microorganism, which is, only rarely associated with septic arthritis of the pubic symphysis are also unusual about this case.

References

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