Case Report

Synchronous Pyomyositis and Septic Hip Arthritis

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Abstract: The authors report a rare concomitant pyogenic infection of the iliopsoas, iliacus and external obturator muscles and of the hip joint in a 68-year-old woman. Because the patient showed the classic symptomatic triad of limping, hip pain and fever, in addition to positive hip arthrocentesis, the diagnosis of septic hip arthritis was routine, but the simultaneous pyomyositis was almost overlooked. Unusual localised heat and swelling on the front of the proximal thigh prompted a CT scan that identified remarkable muscle abscesses in addition to the septic arthritis. Surgical debridement and antibiotics resolved the infection relatively rapidly without sequelae. We noted that reaching a definitive diagnosis of such a concomitant infection requires a suspicion of the presence of pyomyositis, which can be definitively determined using advanced imaging studies.

Keywords: Pyomyositis; Septic hip

Introduction

Pyomyositis (‘tropical pyomyositis’, ‘purulent pyomyositis’) is a pyogenic infection of skeletal muscle caused predominantly by Staphylococcus aureus. Although common in tropical areas, it is rarely found in and still remains obscure to clinicians in temperate climates. The clinical presentations of pyomyositis may mimic septic arthritis, osteomyelitis, thrombophlebitis, cellulitis and malignant tumours. Unlike these familiar entities, however, pyomyositis may cause difficulty in early diagnosis for the orthopaedic surgeon without an active awareness of this disease. Although deep-seated pyomyositis may extend down to the underlying bone, in our review of the literature we found few reports of pyomyositis with concomitant septic arthritis. Furthermore, the diagnosis of such a concomitant infection is almost impossible without advanced imaging studies, such as computed tomography (CT) or magnetic resonance imaging (MRI). In this paper we report a case of iliopsoas, iliacus and external obturator pyomyositis with concurrent ipsilateral septic hip arthritis, whose initial presentation suggested the diagnosis of septic arthritis.

Case Report

A 68-year-old woman was admitted to our hospital with a 7-day history of pain in the right hip and inguinal area. There was no history of trauma or any obvious reason for the pain. Her family history was non-contributory. She had been intermittently taking herbal drugs containing steroids for shoulder pain. During the first week the pain was not accompanied by fever, chills or other significant symptoms. The pain progressed, causing her to be unable to bear weight on the involved leg. She had been seen first by a local physician, who had treated her with intramuscular analgesics for several days. No improvement was noted and she was referred to our institution on 3 November, 1993. Upon examination, anterior hip and proximal thigh tenderness revealed mild swelling and warmth, although no erythema was observed. The patient was unable to extend, abduct or rotate her right hip because of the pain. She kept her hip in 80° flexion and showed a positive Patrick sign. From 4 November she had a continuous fever. Laboratory findings revealed...
a white blood count of 10,500 cells/mm³, with 41% band and 50% segment (91% granulocytes). The erythrocyte sedimentation rate was 90 mm/h initially, and serum electrolytes were within normal limits. The concentrations of serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase, lactate dehydrogenase (LDH) and creatine phosphokinase (CPK) were 145 IU/l (normal: 5–40), 83 IU/l (normal: 5–55), 402 U/L (normal: 30–110), 303 U/L (normal: 100–200) and 1698 U/L (normal: 35–235), respectively. A test for the human immunodeficiency virus (HIV) was negative. Cortisol levels at 8:00 am and 11:00 pm were 23.3 and 23.6 ng/ml (normal: 5–25). Urinalysis revealed three to five white blood cells. Her chest X-ray was clear. Radiography (including both hip joints) revealed a mild spur formation over the acetabulum rim.

During her hospital stay, on 4 November, she became febrile to 38°C. On the same day the surgeon aspirated 2–3 ml of thick, purulent-appearing material from the right hip using an anterior approach. Immediately following aspiration the patient was treated with oxacillin and tobramycin. This material was sent for aerobic, anaerobic and acid-fast stain and culturing. The results revealed a heavy growth of *Staphylococcus aureus*. The same bacterium was identified in blood and urine cultures performed simultaneously. A technetium bone scan revealed an increased uptake in the right hip joint and suggested the diagnosis of right septic hip arthritis. Because of the unusual presentation of local heat and swelling of the right medial aspect of the right proximal thigh, on 8 November a CT scan was performed before surgery. In addition to the swelling and effusion of the right hip, which is compatible with a septic joint, remarkable findings revealed the presence of an intramuscular abscess involving the right ilipsoas, iliacus and external obturator muscles (Fig. 1). On 9 November the right thigh and hip joint were explored assuming a diagnosis of right septic hip and multiple pyomyositis. Beads of pus were found in the intercapsular space of the right hip, and large amounts of pus within the muscle abscesses. After drainage of these infected foci the wound was given a primary closure with closed suction drainage. The patient was also treated with oxacillin (2 g every 6 h for 3 weeks) and tobramycin (60 mg every 8 h) from 5 November. Her fever abated over the next postoperative day and she

![Fig. 1. CT of pelvis with intravenous contrast medium. A: There is marked inflammatory change, with effusion in the right hip joint (arrow) and an abscess in the right iliopsoas muscle (arrowhead). B: There are abscesses in the right iliopsoas and external obturator muscles (arrows).](image1)

![Fig. 2. Same level cut as Fig. 1 after surgical drainage and 3 weeks of parenteral antibiotic therapy, revealing no more pus in the hip joint and reconstitution of nearly normal musculature in the iliopsoas and external obturator muscles.](image2)