



Septic Arthritis of the Hip Joint Secondary to an Anal Fistula

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We report an unusual presentation of an anal fistula involving the hip joint causing septic arthritis. A 66-year-old woman presented with a two-week history of erythema and painful swelling in the right hip. Septic arthritis was diagnosed at the emergency department and she received antibiotic therapy initially. However, her symptoms did not alleviate and right hip arthrotomy, synovectomy and surgical debridement were performed three days later. During the operation, fecal material was found in the wound at the right gluteal region and this had contaminated the hip joint. An anal fistula was disclosed by digital rectal examination and a probe. Subsequent computed tomography and fistulography confirmed a fistula between the anus and the right hip joint. She underwent fistulotomy, diverting colostomy and four debridements. The patient's recovery was uneventful. This was an unusual and life-threatening complication of a common disease. The case emphasizes the important role of a complete physical examination and adequate investigation for patients presenting with symptoms of a septic hip. An anal fistula should be taken into consideration among the various causes of a septic hip.

Key words: anal fistula, hip, septic arthritis

INTRODUCTION

Anal fistula is a common disease, and sufferers usually complain of anal pain and a malodorous discharge¹. It is generally classified into four types: intersphincteric, transsphincteric, suprasphincteric and extrasphincteric. The intersphincteric fistula is the most common, accounting for approximately 70 percent of all cases^{1,2}. However, a fistulous tract communicating with the hip joint resulting in septic arthritis is a rare complication. We report an unusual presentation of such an anal fistula with extensive soft tissue infection.

CASE REPORT

A 66-year-old woman presented to the emergency department with a two-week history of progressive erythema and painful swelling over right hip region. She had a 30-year history of spinal cord injury with paraplegia caused by a fall. At the emergency department, she was alert and

appeared to be in moderate distress. Her blood pressure was 134/76 mmHg, pulse rate was 84 beats/min, respiration rate was 18 breaths/min and temperature was 38.2°C. On physical examination, her right hip region was severely tender to palpation and the range of motion of the right hip joint was markedly restricted. Laboratory tests showed leukocytosis (white blood cell count of 17600/ μ L) and an elevated C-reactive protein level (8.7 mg/dL). Urinalysis was unremarkable. Plain X-ray films of the right hip revealed only degenerative changes (Fig. 1). Under the impression of septic arthritis of the right hip joint, she was hospitalized to the Orthopedic section with empirical antibiotic therapy. However, her symptoms worsened despite treatment for three days. The patient underwent right hip arthrotomy, synovectomy and debridement. During the operation, fecal material was found in the wound of the right gluteal region and this had contaminated the hip joint. A coloproctologist was consulted and an anal fistula was disclosed at the posterior aspect of the anus by digital rectal examination and a probe. The fistulous tract was confirmed to communicate with the right hip joint by injection of hydrogen peroxide through the internal opening of the anal fistula and many bubbles were seen in the joint (Fig. 2). A more detailed history was taken and this disclosed that the patient had suffered intermittent anal swelling and discharge for several months.

Computed tomography (CT) of the pelvis identified a fistula between the right lateral posterior aspect of the anus

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Fig. 1 Plain films of the right hip showed joint space widening and femoral artery calcification.



Fig. 2 The external opening of the fistulous tract was identified in right hip joint by injection of hydrogen peroxide to the internal opening of the anal fistula.

and the right hip joint. The fistula was located in subcutaneous and muscular layers with surrounding fatty infiltration indicating inflammation (Fig. 3). Fistulography demonstrated the lesion was 18 cm long between the anus and the right hip joint without communication with the rectum or other adjacent organs (Fig. 4). Colonoscopy was performed without significant findings. The patient under-

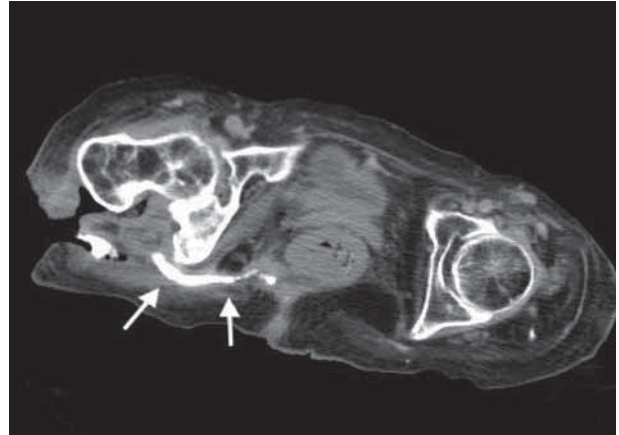


Fig. 3 The CT scan showed a fistula between the right lateral posterior aspect of the anus and the open wound of right hip joint (arrows). The fistula located at subcutaneous and muscular layers with surrounding fatty infiltration.

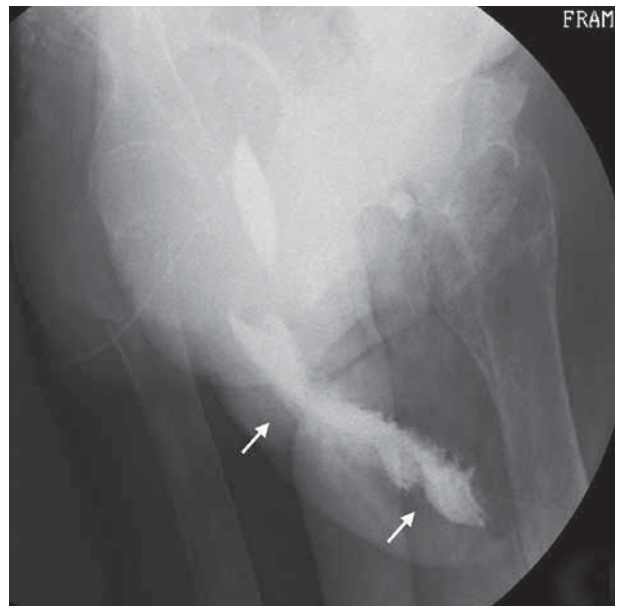


Fig. 4 Fistulography showed the fistula between the anus and right hip joint without communication to rectum (arrows).

went fistulotomy accompanied with incisions and drainage for the soft tissue infection over the right perianal region. She also received diverting colostomy and four episodes of debridement for the extensive soft tissue infection of the right hip and gluteal regions. Her blood cultures were positive for *Staphylococcus aureus* and specific antibiotic agents were administered. She recovered gradually and the wound healed well. The patient was discharged 54

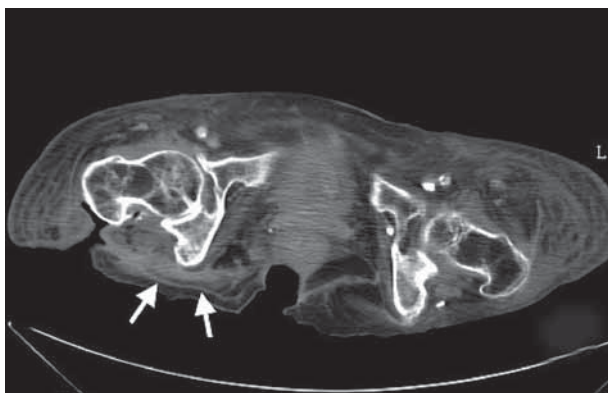


Fig. 5 Postoperative CT showed open skin and muscle defect over right posterior thigh region near right interchanter was noted and the previous fistula with surrounding fatty infiltration was also noted which compatible with inflammatory process (arrows)

days after the initial operation and her symptoms resolved. She recovered uneventfully over seven months of follow-up.

DISCUSSION

Septic arthritis is a medical emergency, because of the damage to bone as well as cartilage and its potential for causing life-threatening septic shock. Septic arthritis can occur when microorganisms, including bacteria, viruses, mycobacteria and fungi, reach a joint. These can enter a joint through the bloodstream, or through joint surgery, or by an injury that directly contaminates the joint³. Bacterial pathogens are the most significant because of their rapidly destructive nature⁴⁻⁶. The pathophysiology of septic arthritis is the same for the hip as for any other joint. Risk factors for developing septic arthritis include certain systemic infections, diabetes, intravenous drug abuse, alcohol abuse, prosthetic joints or recent joint injury or medications injected directly into a joint³. Septic arthritis of the hip may present with soft tissue swelling. The joint is sore to touch and may or may not be warm. Patients may experience pain in the groin area that becomes much worse if the patient tries to move the joint. Guarding against motion is usually marked. Fever and chills are common symptoms. Laboratory tests usually reveal leukocytosis and elevation of the erythrocyte sedimentation rate. Diagnosis is based on symptoms, a medical history, a complete physical examination and synovial fluid and blood tests³. Imaging modalities such as ultrasonography and CT are helpful for the diagnosis^{3,7}. A septic hip must be diagnosed quickly and treated with antibiotics. Joint drainage can be achieved

either by closed-needle aspiration or by surgical drainage. Surgical drainage is indicated when the appropriate choice of antibiotic and vigorous percutaneous drainage fail to clear the infection after 5-7 days^{3,8,9}. The infected hip joints are difficult to aspirate repeatedly and surgical debridement is indicated.

Septic arthritis of the hip joint secondary to an anal fistula is rare and only two cases have been reported^{10,11}. Both reported patients had a history of Crohn's disease. Fistulas and abscesses develop in more than 20 percent of such patients¹². These fistulas are usually between the bowel and adjacent hollow viscera, anterior abdominal wall, or perirectal areas. In our case, inflammatory bowel disease was excluded by colonoscopic findings. To our knowledge, an anal fistula involving the hip joint in a patient without Crohn's disease has never been described in the literature. Our case showed that both fistulography and CT scans are useful tools to confirm the location of the fistulous tract; surgery is the main choice of treatment¹. For septic arthritis, some authors have suggested that peripheral joints such as the knee, elbow, ankle and wrist can receive needle aspiration or arthroscopic joint debridement initially, whereas axial joints such as the hip, shoulder and sternoclavicular joint should undergo open drainage^{13,14}. In our case, fistulotomy with incision and drainage of the right perianal region was undertaken for this complicated anal fistula. We also performed diverting colostomy to decrease fecal contamination of the perineal wound. Right hip arthrotomy, synovectomy and debridements were performed by an orthopedic surgeon to treat the extensive soft tissue infection of the right hip and gluteal regions.

In conclusion, this case report highlights the importance of taking a thorough history, a complete physical examination and adequate investigation for patients presenting with symptoms of a septic hip. Moreover, an anal fistula should be taken into consideration as a possible cause of a septic hip. In the treatment for such a complicated case, adequate antibiotic therapy and surgical interventions performed by an orthopedist and coloproctologist are fundamental.

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