Radiographic progression of septic arthritis of the hip

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DESCRIPTION
A 63-year-old patient presented with a history of left low back and groin area pain. An MRI of the spine to rule it out as a cause identified a left iliopsoas abscess. The abscess was drained under CT guidance, which grew Escherichia coli and a drain sited. The patient clinically improved over the next 3 weeks with resolution of the abscess, however, the groin pain began to worsen. Subtle joint space narrowing in the hip was noted, and an MRI of the pelvis demonstrated secondary septic arthritis of the left hip. Aspirate of the hip grew the same E. coli isolated from the iliopsoas abscess. (The radiographic progression of the septic arthritis over a 6-week period from a normal joint (figure 1A) to joint space narrowing (white arrow, figure 1B, C) to joint destruction (white arrow, figure 1D) is demonstrated in this series.) The patient was already on the appropriate intravenous antibiotics. She underwent multiple hip joint washouts resulting in rapid improvement in inflammatory markers, and an excision arthroplasty (figure 1E) was performed 4 weeks later when the inflammatory markers normalised. After the completion of 12 weeks of antibiotics, a further hip aspiration was performed to confirm eradication of the infection. A cemented total hip replacement (THR) was performed (figure 1F). The patient remains well and asymptomatic at 3-year follow-up.

Septic arthritis of the hip secondary to an iliopsoas abscess is rare.1 The presence of an iliopsoas abscess can cause significant delays in the diagnosis of septic arthritis of the hip as both conditions can have similar symptoms. The radiographic features of septic arthritis are joint space narrowing, destruction of articular surfaces and sclerosis. Haematogenous spread is the most common cause of septic arthritis with Staphylococcus aureus being the most common organism in adults.2 Septic arthritis of the hip is associated with significant morbidity. Early diagnosis and prompt treatment can prevent degenerative changes to the hip joint. Delayed treatment often necessitates an excision arthroplasty and a staged THR, once eradication of the infection is confirmed.

Figure 1 (A) Initial normal left hip radiograph. (B) Subtle joint space narrowing (arrow). (C) Complete loss of joint space (arrow). (D) Joint destruction with flattening of the femoral head (arrow). (E) Left hip excision arthroplasty with a temporary spacer. (F) Total hip replacement after 12 weeks of intravenous antibiotics, normal inflammatory markers and a negative hip aspirate.
Learning points

- Radiographic features of septic arthritis include joint space narrowing, destruction of articular surfaces on both sides and sclerosis.
- Septic arthritis of the hip is a cause of significant morbidity.
- Early diagnosis and prompt treatment can prevent degenerative changes to the joint. Delayed diagnosis and treatment necessitates excision arthroplasty and a staged total hip replacement.

Contributors PE and AM performed the literature review; SB provided the image; TMC supervised the writing of the manuscript and treated the patient.

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REFERENCES