

Musculoskeletal images. Acetabular tuberculous osteomyelitis

A 25-year-old man presented with vague complaints of right-sided knee pain. Conservative management was initiated without radiography. Two months later he was having difficulty with simple ambulation and

began to experience rest and night pain. The location of the pain gradually moved proximally during this period and settled in the region of the right buttock.

The patient had no relevant med-

ical history. However, he had lost 7 kg over the preceding 4 months and had experienced several months of night sweats. He had immigrated to Canada from the Philippines 5 years before, and he was working in a restaurant. On physical examination, his body temperature was normal. He had an obvious antalgic gait. Range of motion of the right hip was slightly decreased and painful on internal rotation, but no other abnormality was noted.

On plain radiography of the pelvis and right hip (Fig. 1), a large lytic lesion was identified in the posterior column of the right acetabulum, with extension into the ischium. Differential diagnoses included giant cell tumour, chondroblastoma, osteoblastoma, eosinophilic granuloma, infection or a synovial-based process such as pigmented villonodular synovitis. Magnetic resonance imaging (Fig. 2) demonstrated a multicystic, multilobulated, peripherally enhancing lesion centred on the right acetabulum, with soft-tissue extension into the internal obturator muscle and the pelvic cavity, as well as within the posteromedial muscles of the proximal right thigh. Given these imaging characteristics, the most likely diagnosis was either an infec-



FIG. 1. Plain film of the pelvis demonstrates the lytic lesion within the right acetabulum, with extension into the ischium.

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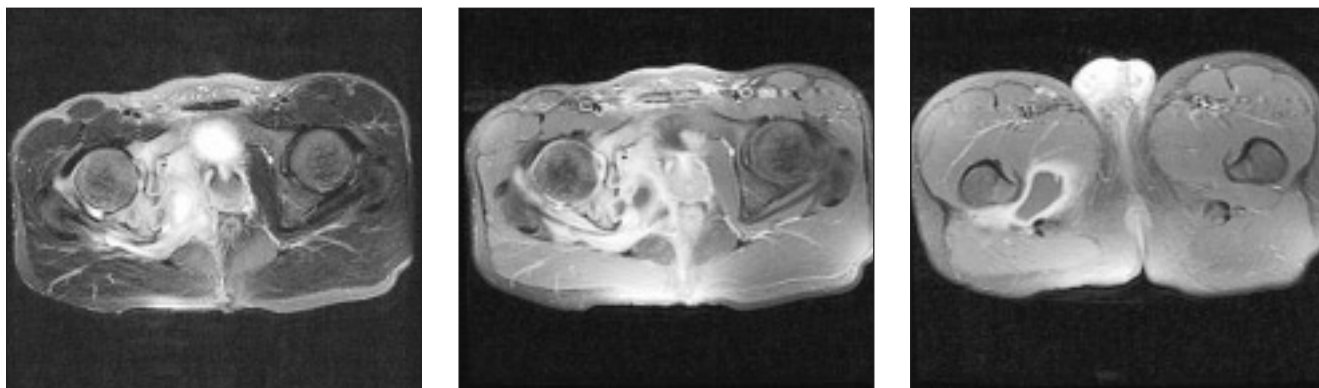


FIG. 2. Axial magnetic resonance images. Left: A T_2 -weighted fat-saturation image shows bone marrow edema in the right acetabulum associated with a cystic soft-tissue mass extending into the pelvic cavity and lower buttock. Centre and right: T_1 -weighted fat-saturation images after contrast enhancement with gadolinium demonstrate the multicystic peripherally enhancing nature of the lesion within the pelvic cavity (centre) and within the muscles of the posteromedial aspect of the proximal thigh (right).

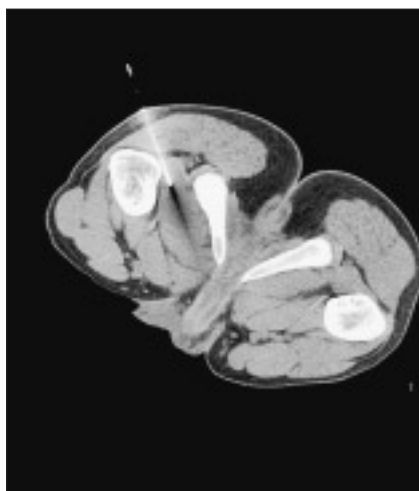


FIG. 3. Computed tomography scan shows placement of the percutaneous biopsy needle into the lesion in the posteromedial aspect of the proximal right thigh with the patient in the prone position.

tious process or, less likely, a cystic sarcomatous lesion.

Computed tomography-guided aspiration biopsy of the soft-tissue component of the lesion (Fig. 3) yielded 20 mL of thick, blood-tinged purulent material. Samples were sent for microscopic examination and culture, including culture for acid-fast bacilli. Several core biopsies were also obtained for histologic examination. Gram's staining showed numerous pus cells but no bacteria. A smear for *Mycobacterium* sp. gave positive results and the cultures yielded a growth of *Mycobacterium tuberculosis*. Histologic examination of the core samples showed chronic inflammation with granulomas. Nonsurgical treatment was initiated, consisting of a course of isoniazid (300 mg/d), rifampin (600

mg/d) and pyrazinamide (1.5 g/d).

Tuberculous osteomyelitis is generally of hematogenous origin, either from primary infection of lung (active or quiescent) or from another extrasosseous source. Vertebral infection (tuberculous spondylitis or Pott's disease) is the most typical tuberculous skeletal manifestation and frequently affects the vertebral body of the thoracolumbar region. Multiple continuous segments may be involved. However, virtually any bone can be affected with tuberculous osteomyelitis, including the pelvis (as in this case), long bones, phalanges and metacarpals (tuberculous dactylitis), ribs, sternum and other small bones of the hands and feet. Approximately 50% of patients have a history of active pulmonary disease. ■