

GREATER TROCHANTER TUBERCULOSIS: MRI FINDINGS

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A 26 year-old female was referred by her rheumatologist to perform a hip MRI to explore a right constant inflammatory pain of gradual onset three months ago associated to a restricted range of motion. The patient appeared in good health and there was no injury or prior particular medical history. On examination, she experienced pain on both flexion and extension passive hip mobilization. Radiographs of the right hip revealed no abnormality and chest X-ray was also normal. Magnetic resonance images showed a small great trochanter T1 hypo-intense lesion with surrounding

edema, trochanteric bursitis, and soft tissue large collections extending into the thigh with integrity of coxo-femoral joint (Fig. 1). Surgical exploration was done for drainage and revealed frank pus. Histopathological examination of the collection wall showed an inflammatory granuloma with caseous necrosis confirming the diagnosis of tuberculosis. A total course of 09 months of multidrug anti-tubercular chemotherapy was completed. At the end of the therapy, clinical, and radiographic examinations showed complete recovery without sequelae.

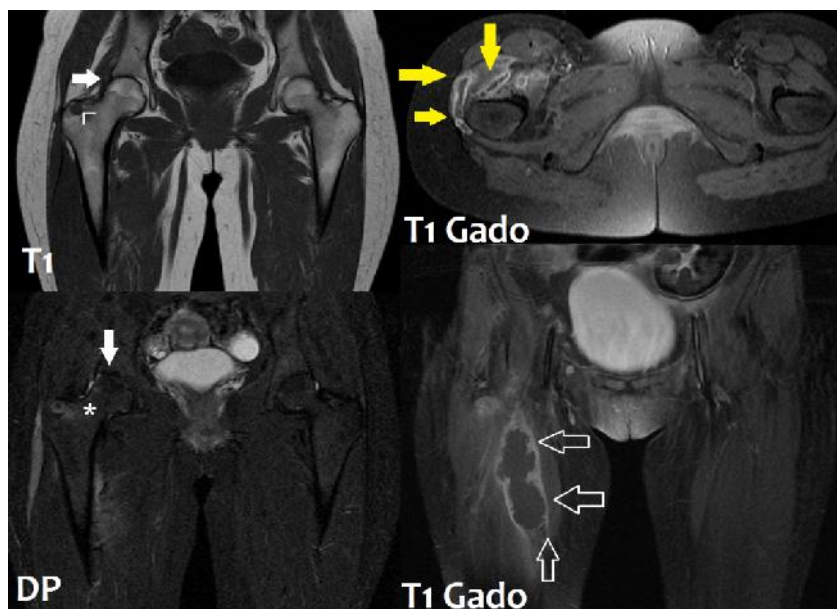


Fig. 1: Hip MRI showing a small great trochanter hypo-intense T1 lesion (arrowhead) with surrounding edema (asterisk), soft tissue large collections (empty arrows), and trochanteric bursitis (yellow arrows). Note the integrity of the coxo-femoral joint (white arrows).

Tuberculosis has been reported in almost all bones of body. The great trochanter tuberculosis (GTT) installation is insidious and clinical symptoms are often vague with moderate painful swelling and

stiffness [1]. GTT is about 0,2 to 2% of all osteo-articular tuberculosis, occurring most commonly by hematogenous seeding secondary to primary focus elsewhere, more commonly in the lungs[2]. Isolated

GTT is unusual and thus its awareness is slow and diagnosis is often delayed [1, 2].

Onset of symptoms is usually insidious and disease progression is slow. Duration of symptoms prior to diagnosis ranges from few weeks to few years [1]. Symptomatology is dominated by moderate chronic pain of the trochanteric region. Migrator cold abscess may track muscle sheathsto form a huge swelling of the anterior compartment of thigh, or tracking to skin through line of least resistance. Constitutional symptoms such as weakness, loss of appetite, loss of weight, evening rise of temperature, and night sweats may occur but are not very prominent. Laboratory tests are nonspecific, the erythrocyte sedimentation rate is moderately increased in isolated GTT, and it is elevated and associated with leukocytosis in case of bacterial co-infection [3]. All imaging modalities, plain radiography, computed tomography, and magnetic resonance imaging, provide helpful information to incriminate mycobacterium tuberculosis infection [4]. Plain radiographs are the first to be obtained, they are normal in the first stage, or may show minor osteopaenia. Complete bone destruction of the greater trochanter is rarely reported [5]. Computed tomography (CT) provides greater bony detail of irregularly tic lesions, and sclerosis. The presence of calcification within the abscess is reported. CT can show sequester rumthat is not readily apparent on radiographs and can identify cortical breaks and show the extent of the bone destruction. Contrast enhanced scan demonstrates enhancement of the lesion [6]. The CT scan is the ideal investigation for guiding a percutaneous diagnostic needle in potentially inaccessible sites. MRI with its multiplanar capabilities and superb contrast of soft tissue can demonstrate the extent of the soft tissue mass and access the adjacent bones and joints. MRI can also be used to assess radiological response to treatment in the early follow-up period around 6-8 weeks but the findings are variable.

However, all imaging modalities have no diagnostic specificity in regard to tuberculosis, then in non endemic areas or in osteolytic lesion mimicking tumor, biopsy and histopathological study are strongly recommended. Mycobacterium Tuberculosis culture should be taken to tailor treatment for patients with poor treatment response, or in cases with resistance to tuberculous drugs to ensure adequate antimicrobial treatment [7].

Anti-tubercular chemotherapy is the main treatment modality. Drugs are maintained for 06 to 18 months to prevent recurrence. Debridement or resection should be reserved for advanced cases to avoid recurrence and for those not responsive to chemotherapy. Authors recommend delaying surgery for several weeks while the patient receives

anti-tuberculous therapy to reduce the risk of dissemination of mycobacteria during surgery [8-10]. In migratory abscess, image-guided percutaneous drainage allows minimally invasive treatment and could supplant open surgical drainage. This case demonstrates that GTT should be included in the range of chronic hip pain diagnosis, and MRI detects lesion much earlier than the radiographs in form of marrow involvement. All imaging modalities can guide to diagnosis but biopsy or culture are strongly recommended in non endemic areas.

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