

Osteolytic Lesions for Differentiation

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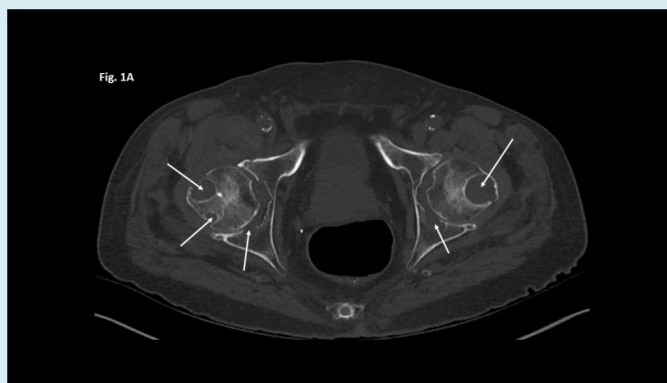
Abstract

Meeting bilateral femoral head lytic lesions we searched algorithm for rapid differentiation. We choosed 6 chracteristics and designated 7 groups of diseases with lytic bone lesions. Despite this approach, we performed differential diagnosis in 85 years old patient with chronic renal failure, painful hip joint synovitis and bilateral femoral head osteolytic lesions.

Keywords: Osteolytic; Subchondral; Acetabuli; Synovial Thickening; Amyloidosis

Meeting bilateral femoral head lytic lesions (Figure 1A & Figure 1B) we are search in algorithm for rapid differentiation. As a first step, we choose symmetric or asymmetric localisation: subchondral, intraosseal, epiphisal, metaphysal, diaphysal. Second is their plurality: multiple, singles. Third is age of patients: < 30 years, >30 years. Next

characteristic follows as well-defined or poor defined lesion. Fiveth quality is its content: blood, amyloid, fat, calcification, chondral tissue, tophus, rheumatoid nodes (density estimated by CT). Sixth is assesment of perifocal tissue. Despite upper mentioned approach, we designate seven groups of diseases with lytic bone lesions.



Figures: Axial CT image of the hips in bone window (A) and soft tissue window (B) showing:

Figure 1A: Several cysts-erosions (arrows), involving the acetabuli and femoral heads, with sclerotic margins in the femoral heads.

Figure 1B: Soft tissue fullness (arrows) in bilateral hip joints and in the iliopsoas bursae, extending into the bony erosions, representing synovial thickening or synovitis.

1. Subchondral geodes (huge cyst) or simple cysts due to possible crystallopathy, polyarthritis, osteoarthritis, intraosseal ganglion, intraosseal tophus (gout), rheumatoid node. Of note, differentiation of two last may be difficult task.
2. Sarcoidosis or other granulomatosis.
3. Brown tumors due to primary or secondary hyperparathyroidism.
4. Amyloidosis or other storage (deposit) disease [1].
5. Benign bone tumors: enchondroma, fibrous dysplasia, non-ossifying fibroma, epidermoid cyst, aneurismal bone cyst (80% age<20years, 60% long bone metaphysis) [2].
6. Bone infections [3].
7. Malignant bone lesions: tumors, lymphoma, multiple myeloma, metastases [4].

Groups 2, 5-7 have asymmetric lesions, groups 1, 3, 4 may be symmetric and asymmetric.

Our case was a patient 85 years old with hip joint pain, end stage renal failure on dialysis, multiple soft tissue

calcifications, subchondral lytic lesions (Figure 1A), periarticular pannus (Figure 1B). The imaging characteristics together with anamnesis of dialysis for chronic renal insufficiency are compatible with amyloidosis and gout.

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