

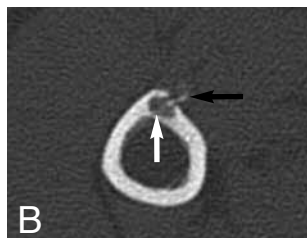
## IMAGES IN CLINICAL RADIOLOGY



### *Calcific tendinopathy of the pectoralis major insertion with intracortical protrusion of calcification*

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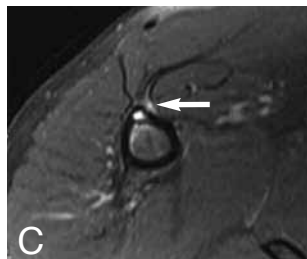
A 64-year-old male patient presented with pain at the right upper arm. His past medical history was unremarkable. Plain radiographs showed a focal radiolucency at the proximal humerus containing a faint central radio-opaque focus (Fig. A, small arrow). Computed Tomography (CT) demonstrated a focal ill-defined erosion of the anterior cortex of the proximal humerus (Fig. B, white arrow) with associated intracortical and soft tissue calcifications (Fig. B, black arrow) at the osseous insertion of the pectoralis major tendon. On Magnetic Resonance Imaging (MRI), the intracortical lesion appeared of high signal on T2-Weighted Images (WI) with subtle adjacent bone marrow edema as well as thickening and signal increase of the pectoralis major tendon (Fig. C, white arrow). Fatsuppressed T1-WI after administration of gadolinium contrast showed enhancement of the thickened tendon (Fig. D, white arrow). Based on the imaging findings, the diagnosis of calcific tendinopathy of the pectoralis major tendon was made. The patient was treated with nonsteroidal anti-inflammatory drugs and the symptoms resolved 4 weeks later.



#### *Comment*

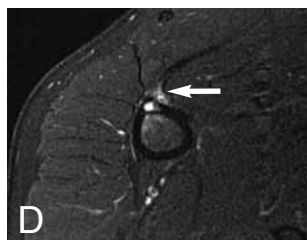
Calcific tendinopathy is a common self-limiting disorder of unknown etiology. It is characterized by deposition of calcium hydroxyapatite within or around the insertion of the tendon, potentially followed by spontaneous resorption and then subsequent tendon healing.

The most common location is the supraspinatus tendon, but virtually any other tendon may be involved. Associated cortical erosion is unusual at the rotator cuff, but is particularly seen at areas of powerful traction, such as the osseous insertion of the gluteus maximus, vastus lateralis and pectoralis major tendons. Active inflammation with local increase of vascularization and the mechanical effect of traction may result in bone resorption and adjacent bone marrow and tendon edema.



Plain radiographs may reveal tendon calcifications, but the osseous involvement is often underestimated. CT is more sensitive to depict the calcifications and for assessment of the intra-osseous and tendinous extent of the lesion. MRI is the imaging technique of choice for evaluation of marrow involvement and tendon inflammation, but calcification in the adjacent tendon may be far more difficult to appreciate. Therefore, MRI findings may mimic an aggressive lesion, such as neoplasm or an infection, particularly if the location near the anatomical tendon insertion is not considered. Absence of a significant soft tissue mass and bilateral involvement are other important clues in excluding neoplasm.

Recognition of this unusual manifestation of this common disease may prevent unnecessary biopsy. After spontaneous resolution of the calcifications, an osseous defect may persist on plain radiograph and CT.



#### *Reference*

1. Flemming D.J., Murphey M.D., Skeetika K.M., Temple H.T., Jelinek J.J., Kransdorf M.J.: Osseous involvement in calcific tendinitis: a retrospective review of 50 cases. *AJR*, 2003, 181 (4): 965-972.

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