

# Incidental detection of os acromiale mimicking a fracture on 18F-Fluoride PET-CT

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## Abstract

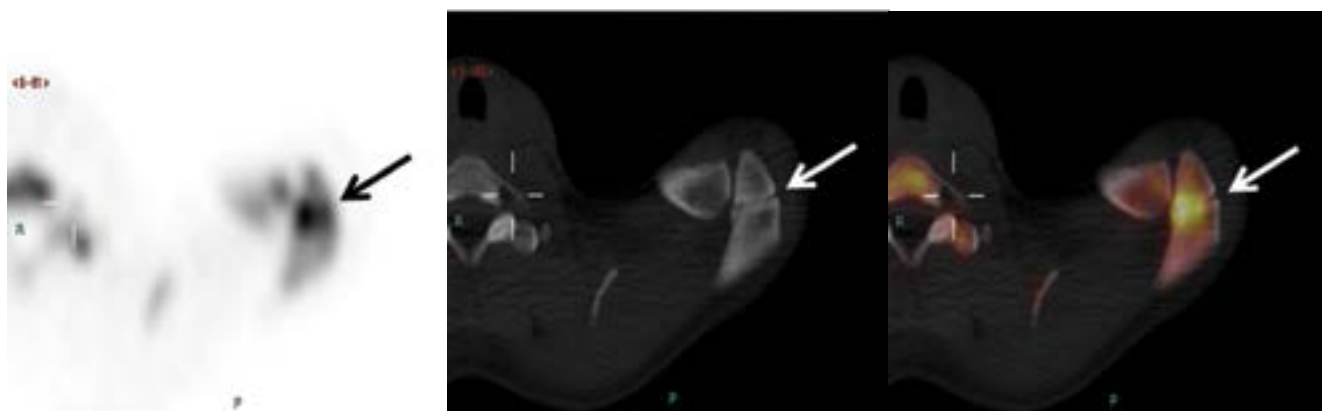
Os acromiale represents an unfused accessory center of ossification of the acromion of scapula. It may cause shoulder impingement, rotator cuff tear or degenerative acromio-clavicular joint disease. A 38-year-old male with a history of degenerative disc disease presented with persistent backache. MRI of the lumbar spine had earlier showed left paracentral disc protrusion of L5/S1 vertebrae impinging the left S1 nerve root for which the patient underwent fluoroscopic guided nerve root block. Due to persistent bilateral sciatica and worsening leg pain a decompression surgery was planned. A bone scan was requested to exclude other causes of pain prior to surgery for which the patient underwent 18F-Fluoride PET-CT examination. We report a case of incidental detection of os acromiale mimicking fracture. As the management strategy for both is quite different this case highlights the importance of correct recognition of this identity for appropriate management.

**KEYWORDS:** 18F-Fluoride, PET/CT, os acromiale

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Os acromiale is relatively rare, seen in about 8% (range 1–15%) of the population [1, 2] but may be bilateral in 60% of individuals<sup>5</sup>. They are usually asymptomatic [3]. The acromion normally has a secondary center of ossification which usually fuses to the rest of the acromion by the age of 25 years. Os acromiale represents persistence of this center without fusion. It may cause shoulder impingement, rotator cuff tear or degenerative

AC joint disease [4]. The subtypes develop due to the variation in fusion pattern of the three acromial ossification centers (pre-acromion, mesoacromion and metacromion) [5] and are classified on their pattern of articulation with the acromion (from proximal to distal) as basi-acromial, meta-acromial, meso-acromial and pre-acromial. Meta and meso-acromial are the most common variants [4].



**Figure 1.** The 18F-Fluoride PET-CT showed a focus of moderate grade activity on the left shoulder which on axial images localized to the lateral end of the left acromion (black arrow) corresponding on CT to a linear defect with subtle sclerotic margins (white arrow) in keeping with os acromiale

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It is well known that the treatment of non-displaced fracture of the acromion is immobilization and analgesics, while the treatment of symptomatic os acromiale is initially non-operative activity modification, corticosteroid injection and use of nonsteroidal anti-inflammatory medication and, if there is no remission of symptoms, following by surgical intervention in the form of internal fixation or excision and acromioplasty [6, 7]. Although os acromiale occurs rarely, recognition of this identity is important, as it can mimic a fracture [8]. This knowledge is important as identification of os acromiale in symptomatic patients frequently alters the kind of treatment instituted.

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