

25M - 6 months post injury to shoulder, complains of persistent AC joint pain.

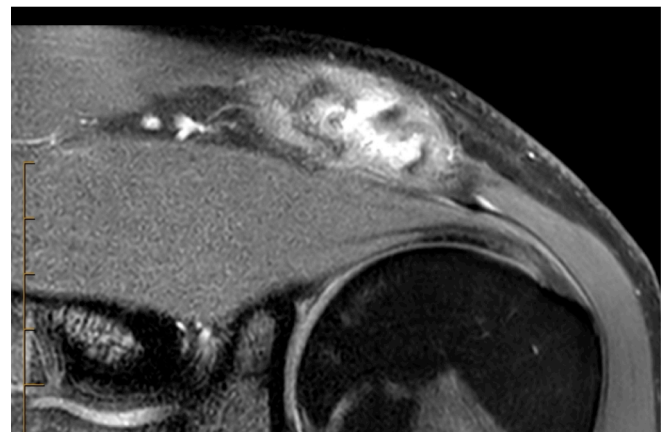
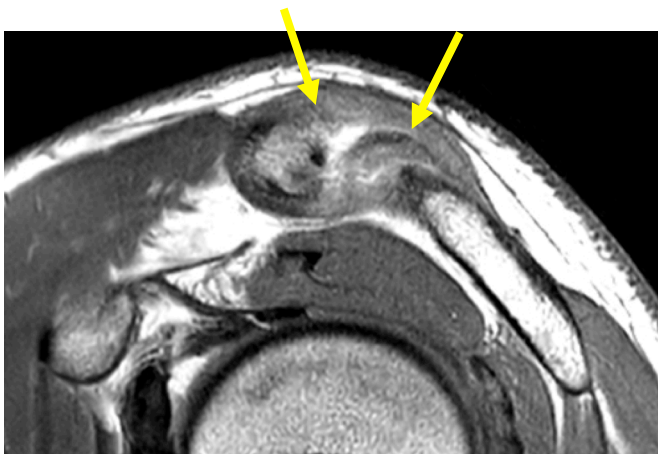
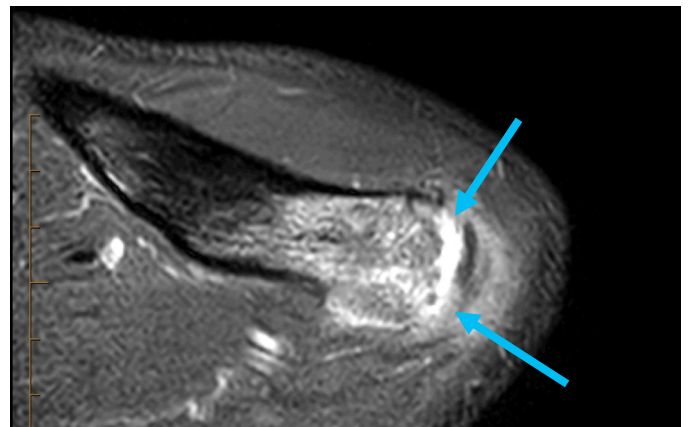


X-ray Findings:

- Resorption of the distal tip of the clavicle.
- Resultant widening of the AC joint.
- Normal appearance of the acromial surface – no destruction/osteolysis.

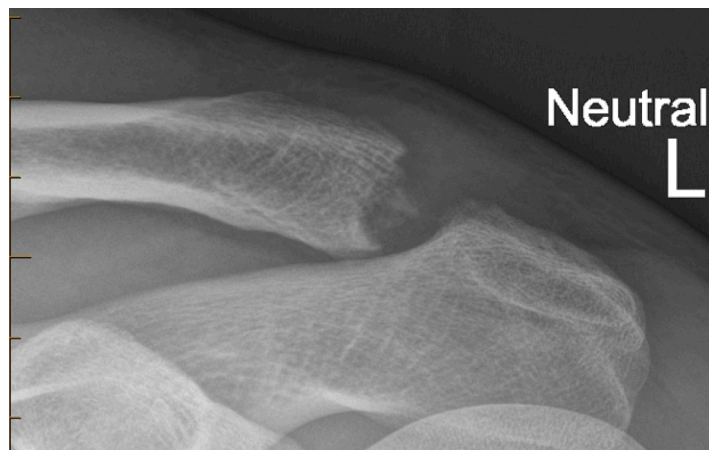
MRI Findings:

- Marrow oedema and erosion of the distal end of the clavicle (blue arrows).
- Minor marrow oedema of the acromion without cortical destruction.
- Significant joint effusion and capsular thickening/ hypertrophy (yellow arrows)
- No subluxation or dislocation of the AC joint.
- Coracoclavicular ligament remains intact.



Discussion:

- Aetiology
 - Distal clavicle osteolysis can be secondary to both acute AC joint injury and repetitive microtrauma.
 - Exact aetiology is unknown.
 - It is also unclear why changes predominate in distal clavicle rather than acromion.
- Clinical
 - Commonly reported in bodybuilders (more likely bilateral), as well as overhead sports.
 - Similar to AC joint arthritis.
 - Onset is typically insidious.
 - Pain in the AC joint, worse on exertion/loading and relieved by prolonged rest.
- Imaging findings
 - Findings are confined to the distal clavicle (not involving acromion).
 - X-ray: Cysts, osteopenia, resorption and erosion, tapering of the distal clavicle, AC joint widening.
 - MRI: Increased signal on T2 weighted sequences at AC joint as well as bone marrow oedema.
- Differential diagnosis (unilateral distal clavicle erosion).
 - Rheumatoid arthritis
 - Gout
 - Osteomyelitis
 - Metastasis/ myeloma
- Management
 - Non-operative
 - Modify activity, Non-steroidal anti-inflammatory, corticosteroid injection.
 - Operative
 - If conservative measures have failed to resolve symptoms.
 - Arthroscopic resection versus open.
 - Need to address any associated pathology to long head of biceps and rotator cuff.



Above: Lysis of the distal clavicle. The acromion remains intact.

Further Reading:

1. Kassarian A, Llopis E, Palmer WE. Distal clavicular osteolysis: MR evidence for subchondral fracture. *Skeletal radiol.* 2007. 36(1): 17-22
2. Patten RM. Atraumatic osteolysis of the distal clavicle: MR findings. *J Comput Assist Tomogr.* 1995. 19(1): 92-95
3. Orthobullets. URL: <https://www.orthobullets.com/shoulder-and-elbow/3048/distal-clavicle-osteolysis>