



Introduction

Calcific Tendinitis or calcific tendinopathy of the rotator cuff (RCCT) is a common cause of shoulder pain that is caused by calcium deposits in and around the rotator cuff tendons that may also spread to the subacromial-subdeltoid bursa.

Case Description

A 47 year-old female presented with acute on chronic right shoulder pain. Her pain was aching in nature and without a history of trauma. Her pain was disabling and interfered with her career as a waitress. She required two visits to the emergency department due to the pain.

Physical Examination

Inspection: no ecchymosis or swelling of the glenohumeral joint

Palpation: tenderness over the lateral and posterior proximal humerus

Range of Motion: decrease in active range of motion with abduction and external rotation secondary to pain.

Strength of Rotator Cuff muscle 5/5. **Special Tests:** Neer's sign, Hawkins-Kennedy Test did not elicit pain

Imaging

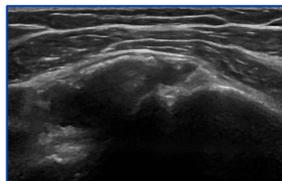
Complete Right shoulder Xray (XR): large curvilinear calcification along the right greater tuberosity of the humerus.

Ultrasound of the Right Infraspinatus (US): There is a large heterogenous calcific deposit within the posterior infraspinatus tendon fibers near the insertion measuring approximately 3 x 3 cm.

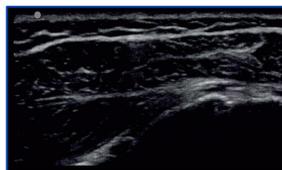
Ultrasound of the Right Infraspinatus, 12-weeks after Ultrasound Guided Needle Lavage (UGNL):



Right shoulder XR



Right Infraspinatus US



Right Infraspinatus US, Post UGNL

References

1. DE Carli A, Pulcinelli F, Rose GD, Pittino D, Ferretti A. Calcific tendinitis of the shoulder. *Joints*. 2014;2(3):130-136. Published 2014 Aug 1. doi:10.11138/jts/2014.2.3.130.
2. Oliva, F, Via, A.G & Maffulli, N. (2011). Calcific Tendinopathy of the Rotator Cuff Tendons. *Sports Medicine and Arthroscopy Review*, 19(3), 237-243. doi: 10.1097/JSA.0b013e318225bc5f.
3. Suzuki, K., Potts, A., Anakwenze, O., Singh, A. (2014). Calcific Tendinitis of the Rotator Cuff: Management Options. *Journal of the American Academy of Orthopedic Surgeons*. 22(11):707-717, November 2014. doi: 10.5435/JAAOS-22-11-707.

Discussion

Rotator cuff calcific tendinitis (RCCT) has a predominance in women from ages 30 to 60 years old and with an association with endocrine disorders. Calcium hydroxyapatite crystals are deposited in or around a tendon that occur most commonly in the supraspinatus and only about 15% of the time in the infraspinatus. The pathogenesis has three distinct stages: precalcific (fibrocartilaginous metaplasia), calcific (further subdivided into a formative, resting and resorptive phases) and postcalcific. Pain is typically experienced during the resorptive phase due to growth of the calcium deposits and through inflammation induction. Diagnosis is through Xray, US, Computed Tomography or Magnetic Resonance Imaging. Under US, calcific deposits appear as hyperechoic structures with posterior acoustic shadowing or can be amorphous or globular. The patient had failed conservative treatment with physical therapy (PT) and so an ultrasound guided needle lavage (UGNL) was discussed as a treatment option. Three weeks later, we performed an UGNL using a 23 gauge needle with one incision site with a total needle time of 13 minutes. An US-guided subacromial subdeltoid corticosteroid injection was deferred due to a prior injection. At her 12-week follow-up, the patient had resolution of her shoulder pain and a bedside US showed a significant decrease in size of the calcium deposits.

Conclusion

This case highlights the presentation of calcific tendinitis in an atypical location that was not amenable to conservative treatment. UGNL is an effective alternative to treat large calcific deposits from RCCT. Calcific tendinitis should be a differential diagnosis for non-traumatic shoulder pain in middle aged persons.