

Subscapularis Calcific Tendonitis: Case Report

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ABSTRACT

Background: Calcium deposits in the rotator cuff tendon are a defining feature of calcific tendinitis, affects the supraspinatus tendon the most frequently, then the infraspinatus, the teres minor, and sometimes the subscapularis. The actual cause of a painful shoulder problem is yet unknown.

Objective: The aim of this case report was to highlight to subscapular calcific tendonitis applied to our hospitals that was managed by arthroscopic treatment.

Case report: A 52-year-old, male patient, live in Jeddah, work as teacher, right hand dominant, non-smoker, presented to our clinic complaining of right shoulder pain for 2 years. Pain localized lateral and anterior side of right shoulder, sudden onset, dull in nature, radiate to arm, aggravating by overhead activity, relieved by analgesia and rest, associated with weakness, got worse in last 2 months, with night pain. No history of trauma. Patient did 6 sessions of physiotherapy without improvement.

Conclusion: Arthroscopic treatment of calcific tendonitis refractory to conservative measures has been shown to be effective and safety.

Keywords: Subscapularis calcific tendonitis, Calcium deposits, Arthroscopic treatment.

INTRODUCTION

Rotator cuff tendonitis is a very common diagnosis of the shoulder that usually responds to conservative management. However, calcific tendonitis occurs less frequently and often necessitates surgical intervention. The etiology and treatment options for this disorder remain controversial among orthopaedic shoulder specialists. Calcific tendonitis frequently presents within the supraspinatus tendon and rarely appears within the subscapularis tendon⁽¹⁾.

Calcific tendonitis of the rotator cuff is caused by deposition of calcium in and around the tendons of the rotator cuff. It is a relatively common cause of shoulder pain, estimated to occur in 2.5% to 7.5% of adults⁽²⁾. There is a gender predisposition to calcific tendonitis, with 70% of all cases occurring in women, and the majority of patients are age 40 to 60 years old⁽³⁾.

Although the presence of calcific tendonitis of the rotator cuff is common, only 35% to 50% of patients are symptomatic^(4,5). Rotator cuff calcific tendonitis does not affect the muscles of the rotator cuff in equal proportion. Estimates of the frequency of calcific tendonitis involving the subscapularis tendon range from 5% to 10%, while 15% to 30% of cases involve the infraspinatus tendon and 51% to 82% involve the supraspinatus tendon^(6,7).

CASE REPORT

A 52-years-old, male patient, live in Jeddah, work as teacher, right hand dominant, non-smoker, presented to our clinic complaining of right shoulder pain for 2 years. Pain that was localized lateral and anterior side of right shoulder, sudden onset, dull in nature, radiate to arm, aggravating by overhead activity, relieved by analgesia and rest, associated with weakness, got worse in last 2 months and associated with night pain. Patient

did 6 sessions of physiotherapy without improvement.

No history of trauma.

- Past medical history: medically free
- Past surgical history: no previous intervention or hospital admission
- Allergy: free.

Physical examination:

On inspection:

There was no deformity or swelling, no atrophy or discoloration and no scars or scapular winging.

On palpation:

- There was tenderness over the part of his right shoulder near the tendinous insertion of the subscapularis and supraspinatus muscle and acromioclavicular joint.
- Range of motion of right shoulder: Forward flexion 170 degree, abduction 170 degree, internal rotation L1 and external rotation 45 degree.
- Impingement: Neer test: +ve and Hawkins test: +ve.
- Rotator cuff examination: Jobe's test: +ve 4/5, ER lag sign: -ve P: 5/5, Hornblower's sign: -ve P: 5/5 and Bear hug: +ve P: 5/5
- Biceps examination: Speed's test: +ve, Yerganson's test: -ve and Popeye Sign: -ve
- Neurological examination were normal.

Investigation:

- *Labs:* normal range
- *X-ray:* showed supraspinatus calcific tendonitis
- *MRI:* Supraspinatus and subscapularis calcific tendonitis. Acromioclavicular (AC) joint arthropathy. Subacromial subdeltoid bursitis.



Fig. (1): X-ray showed supraspinatus calcific tendinitis.

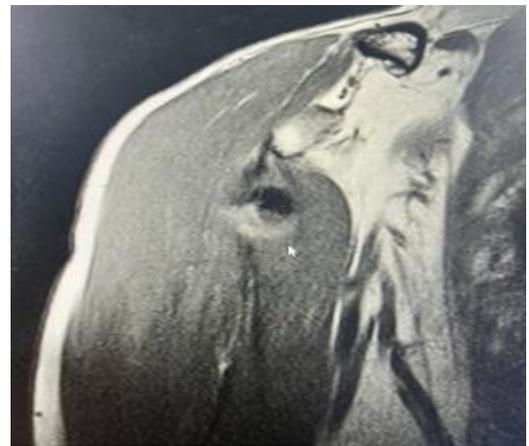
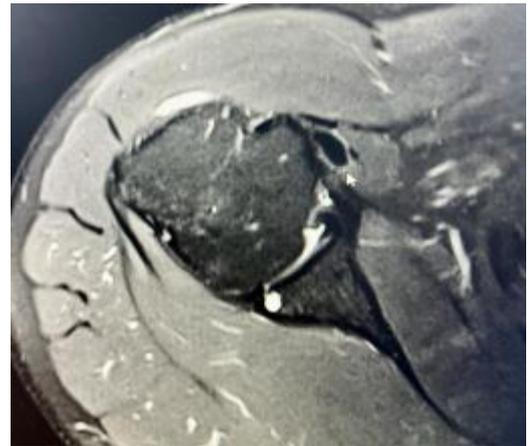
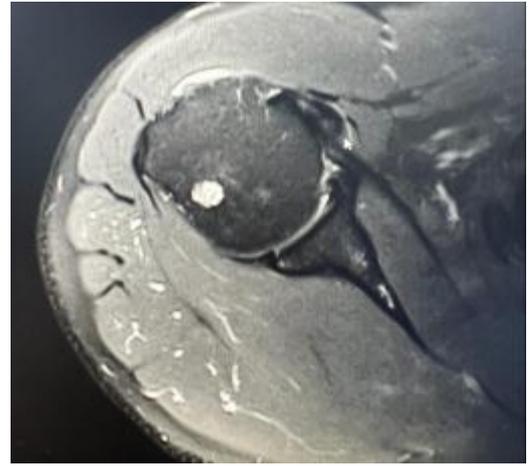


Fig. (2): MRI showed subscapularis calcific tendonitis.

Surgical technique:

Calcific tendonitis anterior to subscapularis and anterior part supraspinatus debridement of calcification was done.

Severe inflamed thick subacromial bursitis with type 3 acromion: subacromial decompression + acromioplasty was done using vaper shaver and burr

- Biceps intact.

- SLAP intact.

- Severe AC joint arthritis: distal clavicle resection was done using 4 mm burr shoulder irrigation.

Wound closure, dressing, and shoulder immobilizer.

The patient followed the standard postoperative protocol for rotator cuff repair, and subscapularis calcific tendonitis.

Declaration of patient consent:

An approval of the study was obtained from Dr. Soliman Fakeeh Hospital, Jeddah (Saudi Arabia) Academic and Ethical Committee. The patient and his relative were informed that the case would be published as case-report and this was accepted. This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

DISCUSSION

Calcific tendonitis of the rotator cuff is a common disorder of the shoulder that often necessitates surgical management. Controversy exists as to the etiology and pathogenesis of this disabling ailment. One theory suggests that impingement leads to rotator cuff tendon degeneration followed by calcification of the diseased tendon. Another explanation attributes hypoxia as the inciting event, leading to eventual calcification of the tendon^(8,9). Despite the cause, the clinical manifestation of the disease process is dependent on the stage of calcification.

Arthroscopic treatment of calcific tendonitis of the rotator cuff has proved to be an effective treatment option in chronic cases that fail to improve with conservative measures⁽¹⁰⁾.

Radiographic and magnetic resonance imaging evaluation certainly provides a guide for initial management, but ultimately, arthroscopic evaluation is the gold standard for localizing the calcific deposit and determining definitive treatment⁽¹¹⁾.

If conservative modalities fail to reduce symptoms, surgical treatment can be considered, including arthroscopic excision or open surgical removal⁽¹²⁾. Arthroscopic treatment of calcific tendonitis refractory to conservative measures has been shown to be effective⁽¹³⁾.

Eight other cases of calcific tendonitis of the subscapularis tendon have been reported in the literature^(10, 12, 14-18). All 8 cases describe patients with calcifying subscapularis tendonitis who have failed by conservative therapy. Of the 8, 7 patients underwent arthroscopic removal with successful outcomes and pain relief at final follow-up.

Ark et al.⁽¹⁹⁾ reported good results in 91% of 23 patients with calcific tendonitis of the rotator cuff who underwent arthroscopic surgery.

Our patient was treated with using subscapularis debridement, (severe inflamed thick subacromial bursitis with type 3 acromion) subacromial decompression + acromioplasty was done using vaper shaver and burr, and (severe AC joint arthritis) distal clavicle resection was done using 4 mm burr shoulder irrigation.

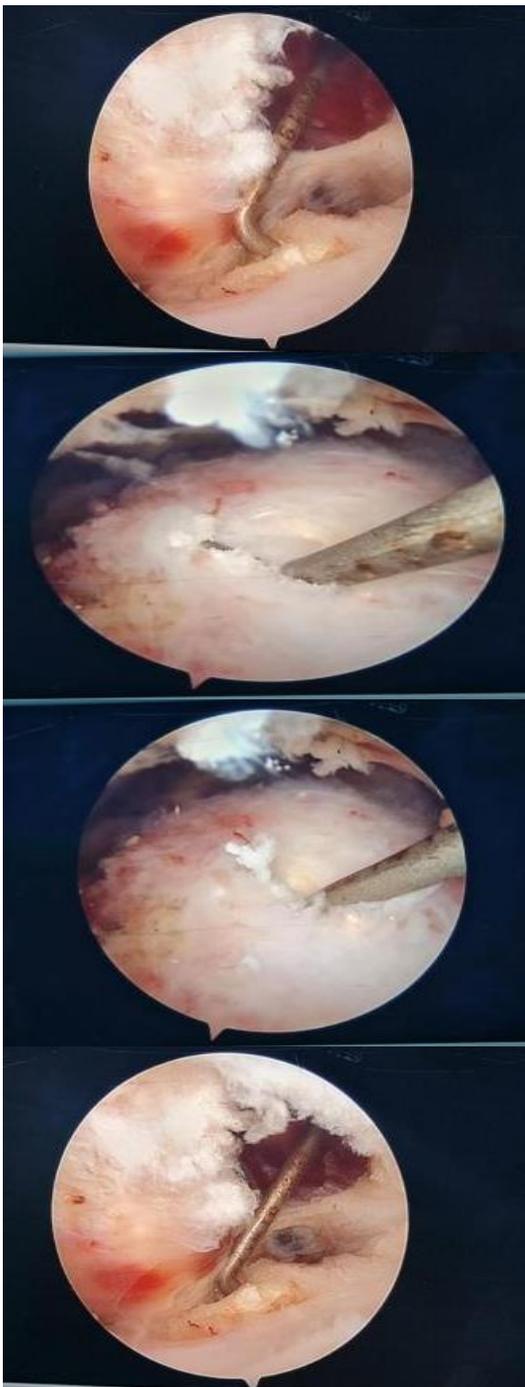


Fig. (3): Subscapularis debridement.

CONCLUSION

Arthroscopic treatment of calcific tendonitis refractory to conservative measures has been shown to be effective and safety.

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Conflict of interest: Nil.

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