

# Acute Calcific Tendinitis of Flexor Tendon Sheath of Index Finger- A Case Report

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## Abstract

Acute calcific tendinitis is a common orthopedic problem around the shoulder and hip. It is commonly seen near the insertion of supraspinatus tendon in shoulder. It is rare in the hand and often overlooked and underdiagnosed. Clinically, it is a mimicker of other acute inflammatory conditions such as infection, acute gout, foreign bodies, and even fracture. The most common site in hand is near the insertion of flexor carpi ulnaris (FCU) tendon in women. We describe an unusual case of calcific tendinitis involving flexor tendon sheath of index finger.

**Keywords:** Acute calcific tendinitis, Index Finger, Flexor tendon.

## Introduction

Acute calcific tendinitis is a common orthopedic problem around the shoulder and hip. It is commonly seen near the insertion of supraspinatus tendon in shoulder. It is rare in the hand and often overlooked and underdiagnosed. Clinically, it is a mimicker of other acute inflammatory conditions such as infection, acute gout, foreign bodies, and even fracture. The most common site in hand is near the insertion of flexor carpi ulnaris (FCU) tendon in women. We describe an unusual case of calcific tendinitis involving flexor tendon sheath of index finger.

## Case Report

A 36-year-old female is presented in the emergency department with acute-onset pain and swelling of the right index finger. There was no antecedent history of trauma. Examination revealed swollen and sausage-shaped index finger. There were local warmth and redness over the palmar aspect. Prick marks or no injuries were visible. Palpation revealed local rise of temperature and excruciating tenderness over the flexor tendon near the

MCP joint. Swelling and tenderness was not extending proximally beyond the thenar eminence. Other finger flexors were not involved. Clinically was suspected an infective tenosynovitis, acute gout and foreign body.

Inflammatory markers showed a WBC count of 12,100, ESR of 27mm/h, and CRP 4 mg/l. Serum uric acid was 5.2 mg/dl. X-ray showed calcific shadows near the MCP joint of index finger, similar to sesamoid bone. Ultrasonogram was done and showed peritendinous fluid in flexor tendon. As the patient has no relief with supportive measures such as analgesic and physical therapy, decompression of the flexor tendon sheath was planned.

Brunner type incision was put over the palmar aspect of index finger centering MCP joint. Digital nerves were identified and protected. Flexor tendon sheath has calcareous deposit and attached to proximal phalanx of index finger. On opening the flexor sheath, there was large volume of synovial fluid. Thorough decompression and excision of calcareous material was done. The patient improved dramatically after the procedure. Histopathology proved calcific tenosynovitis. No organism was grown in synovial fluid culture.

Eventhough acute calcific tendinitis is a self-limiting condition, in acute stages, it is very difficult to exclude infective tenosynovitis in fingers. Decompression in such cases relieves severe pain, excludes infection, and prevents



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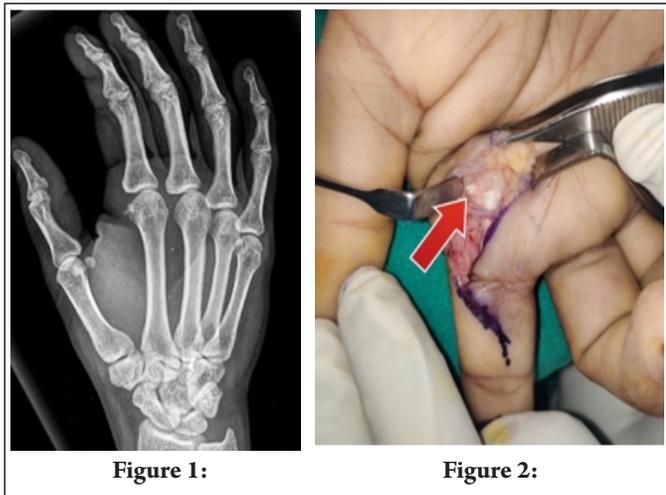


Figure 1:

Figure 2:

further damage to tendon vascularity.

### Discussion

Calcific tendinitis is a condition which involves the deposition of calcium pyrophosphate crystals in the tendons, ligaments, and fibrocartilages in the body [1,2]. It is usually found in the juxta-articular sites, the most common sites being shoulder and hip. The most common tendon involved is the supraspinatus tendon at its site of insertion [3]. The wrist and the hands are other common sites of involvement, with the former being more common than the latter. The most common site in the wrist is the FCU at its insertion on the pisiform [4].

There are mainly three types of clinical presentations – acute, chronic, and asymptomatic type [5]. The acute presentation is characterized by a sudden onset of pain and tenderness, associated with local warmth and swelling. Often, the patient is wretched with pain. A history of antecedent trauma may be present in less than a third of the patient population. All the symptoms mimic those of an acute monoarthritis. The patient may be afebrile or may have a low-grade fever.

Anatomically, the calcification is localized to tendons,

ligaments, and joint capsules. Blood investigation may reveal an elevated erythrocyte sedimentation rate and a normal or slightly raised white blood cell counts. Radiographic evaluation shows soft-tissue calcification at the affected site [6]. The size of the calcification does not correlate with the severity of the symptoms.

It is postulated that trauma or stress causes damage to the blood supply of the tendon which leads to the degeneration of tendon substance and dystrophic calcification ensues. The cause of pain is not the calcification as such, but the rupture of the calcific deposits. This causes hydroxyapatite to spill into the normal tissue, thus initiating an inflammatory response. Natural history suggests this to be a self-limiting disease. However, in some cases, decompression is needed with either needle or surgical, symptoms usually past 3 weeks [4].

Acute calcific tendinitis is infrequent in the fingers and is usually misdiagnosed as a septic arthritis, tenosynovitis, gout, or even an acute fracture [7]. Hence, a high index of suspicion and clinical acumen is warranted if a prompt diagnosis of acute calcific tendinitis of the finger is to be made. This is of significance because the calcific tendinitis is a self-limiting disorder and a misdiagnosis as a fracture, or septic arthritis may cause the patient to undergo an unwanted surgical procedure.

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