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Acute calcific tendinitis of the wrist causing ulnar compressive neuropathy: A case report

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Abstract
We report a case of a 49 years old female, who presented to the emergency department with complaints of pain and swelling over the right wrist since 2 days. On examination, the swelling was tense, tender and there were restricted movements of the elbow. Xray revealed small opaque hypo intensities. Patient had started developing symptoms of compressive ulnar neuropathy (positive Tinel's sign and ulnar claw). Emergency surgical exploration was undertaken which revealed white chalky paste with calcific deposits within the Guyon's canal compressing ulnar nerve and artery. Postoperative course was uneventful and patient had full recovery from symptoms.

Keywords: calcific tendinitis, compartment syndrome, compressive neuropathy, tendinitis, ulnar nerve, wrist pain

Introduction
Acute calcific tendinitis is an acute inflammatory condition of unknown origin. It presents with sudden onset, progressive pain with tenderness, swelling and restricted range of motion. [1]. It is most commonly seen involving the shoulder joint, with relatively less involvement of the wrist joint [2]. These patients are otherwise healthy, with no medical or surgical history of any illness or infection. The affected site is extremely tender and incapacitates the patient form performing even day-to-day activities [3]. While literature suggests it to be a benign self-limiting condition, but the rapidly progressive nature of the symptoms sometimes mandates medical attention, more often surgical [4]. We present a case report of acute calcific tendinitis of the flexor carpi ulnaris causing compression of the ulnar nerve.

Case Report
A 49 years old female presented to the emergency department of our hospital with complaints of progressively increasing pain, swelling and restricted movements of the right wrist since 2 days. She had no history of trauma or massage. There was no history of fever or any other constitutional symptoms. Patient had visited a surgeon the previous day and had been prescribed antibiotics and analgesics in view of an infection, however there was no relief from her symptoms. Over the past 4 hours, she gave history of progressively increasing paraesthesias in the 4th and 5th fingers.

On examination, the swelling over the wrist was tense, tender and particularly protruding over the volar-ulnar aspect of the wrist. Sensations over the 4th and 5th fingers over the ulnar aspect were decreased, Tinel's sign was positive for the ulnar nerve. Peripheral ulnar arterial pulsations were slightly diminished on palpation as compared to the radial artery, but there was no delay in capillary refill time. Movements of the wrist were decreased.

Patient was provisionally diagnosed with acute compressive neuropathy of the ulnar nerve secondary to septic arthritis. Owing to the rapidity of progression of her symptoms, immediate surgical exploration was planned. Pre-operative investigations revealed all blood parameters within normal limits (WBC count 7,400 x 10^7/l, C - reactive protein 25mg/l, Erythrocyte Sedimentation Rate 40mm/ hour. On exploration, chalky white paste was seen extruding from the Guyon's canal and calcific deposits were seen overlying the tendon sheath of the flexor carpi ulnaris and in the Guyon's canal, compressing the ulnar nerve and artery (Fig 1). All the calcific deposits were removed, following which the compression over the neurovascular bundle was relieved. The retrieved chalky paste and the calcific deposits were sent for histopathology (Fig 2).

Post-operatively, patient had immediate relieve of symptoms will increase in the range of movement and sensations over the 4th and 5th fingers. Histopathology of the retrieved specimen confirmed the calcific mass to be of calcium phosphate origin. There was no evidence of infection on culture of the specimen. One month later, on follow up, patient had complete resolution of the wrist and ulnar nerve symptoms.

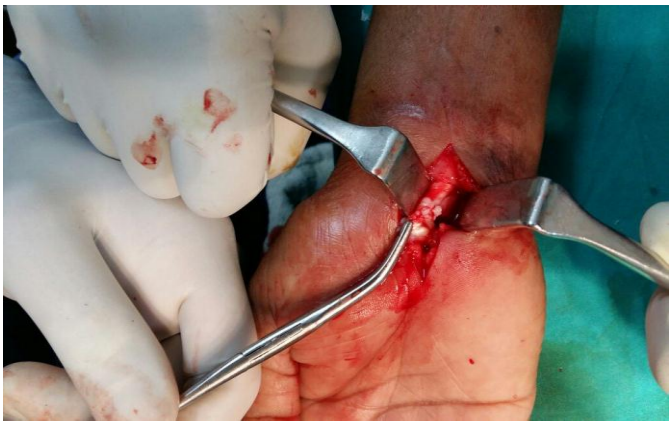

Fig 1: Calcific deposits overlying the flexor carpi ulnaris tendon

Fig 2: Removed calcific deposits from the Guyon's canal and overlying the flexor carpi ulnaris tendon.

Discussion

Cohen was the first to describe acute calcific tendinitis in the hand, in 1924 [5]. Acute calcific tendinits (ACT) affecting the wrist most commonly occurs at the insertion of the flexor carpi ulnaris (FCU) tendon. ACT affecting the FCU tendon can compress the ulnar nerve as the nerve traverses the Guyon's canal, as in our case, which caused ulnar compressive neuropathy [6]. It is commonly misdiagnosed condition. It usually is mistaken for septic arthritis, tenosynovitis, and gout or sometimes in literature, as a fracture [7]. Plain radiographic imaging is not always helpful, and needs special views. Despite this, the calcific mass may not be seen, like in our case. Serologic investigations are also not helpful [8]. Hence, in such diagnostic dilemma, surgical exploration is indicated and thereafter, the diagnosis is made.

Literature describes acute calcific tendinitis as a self-limiting condition, which heals within several weeks [9]. The symptoms of ACT are postulated to be due to rupture of the calcific deposits in the surrounding tissue, rather than due to the calcific mass itself. This leads to an acute inflammatory reaction causing pain and edema. [10] NSAID's along with splinting the affected joint shortens the course of the disease. Corticosteroid injections are also indicted in patients having severe symptoms. However, surgical management is indicated if patient does not respond to either of these [11]. Harris *et al* in 2008 reported a case of acute calcific tendinits of the hand, causing compression of the median nerve in the carpal tunnel. Surgical exploration was mandated in their case after a trial of conservative management was unsuccessful [12]. Sam Yasen in 2012 had reported a case where ACT of the FCU tendon caused acute compressive neuropathy of the ulnar nerve, similar to our case. Surgical intervention was performed after a trial of conservative management [13].

In our case, we had provisionally diagnosed the patient of having acute septic arthritis. However, it was not until surgical exploration revealed it to be ACT affecting the wrist. Hence, diagnosis was not made until surgery was performed.

Conclusion

Acute Calcific Tendinitis is an often mismanaged and misdiagnosed condition affecting the wrist. Although literature suggests ACT to be managed conservatively, sometimes surgical management is necessary, especially like in our case, where ACT was associated with a compressive neuropathy.

References

1. Thompson GR, Ting MY, Riggs GA, Fenn ME, Denning RM. Calcific tendinitis and soft tissue calcification resembling gout. JAMA 1968; 203: 73-4
2. Uhthoff HK, Sarkar K, Maynard JA. Calcifying tendonitis. A new concept of its pathogenesis. Clin Orthop Relat Res 1976; 118: 164-8
3. Yosipovitch G, Yosipovitch Z. Acute calcific periarthritis of the hands and elbows in women. A study of the literature. J Rheumatol. 1993; 20:1553-8
4. Doumas C, Vazirani RM, Clifford PD, Owens P. Acute calcific periarthritis of the hand and wrist: a series and review of literature. Emerg Radiol. 2007; 14(4):199-203
5. Cohen I. Calcareous deposit at the insertion of flexor carpi ulnaris tendon following trauma. Am J Surg. 1924; 38:172-3.
6. Carroll RE, Sinton W, Garcia A. Acute calcium deposits in the hand. J Am Med Assoc. 1955; 157:422-6.
7. Selby CL. Acute calcific tendonitis of the hand. An infrequently recognized frequently misdiagnosed form of periarthritis. Arth Rheum. 1984; 27:337-40.
8. Moyer RA, Bush DC, Harrington TM. Acute calcific tendonitis of the hand and wrist: a report of 12 cases and review of the literature. J Rheumatol 1989; 16(2):198-202.
9. Moradi A, Kachooei AR, Mudgal CS. Acute Calcific Deposits in the hand and wrist. J Hand Surg Am. 2014; 6:11-4
10. Omololu B, Alonge TO, Ogunlade SO. Acute calcific tendonitis simulating tendon sheath infection. West Afr J Med. 2001; 20:73-4
11. McAuliffe JA. Tendon disorders of the hand and wrist. J Hand Surg Am. 2010; 35:846-53
12. Harris AR, McNamara TR, Brault JS, Rizzo M. An unusual presentation of acute calcific tendinitis in the hand. Hand (NY). 2009; 4:81-3
13. Yasen S. Acute calcific tendinitis of the flexor carpi ulnaris causing acute compressive neuropathy of the ulnar nerve: a case report. J Orthop Surg. 2012; 20(3):414-416