



## CASE DESCRIPTION

- A 53-year-old male presented to the outpatient clinic with complaints of acute right sided medial-volar wrist pain, swelling, and erythema that he first recognized after driving a long distance.
- He also reported a rollerblading accident one week prior with an associated concussion.
- At that time of the rollerblading accident, he was wearing wrist guards and recalled no injury to his hands/wrists. He denied other injury to the wrist or similar traumatic episodes in the past.
- On examination, he had moderate erythema, effusion, and tenderness across the volar wrist, pisiform, and distal ulna. There was focal pain at end range of flexion and extension.
- Diagnostic ultrasound and radiographs (at right) revealed sub-centimeter calcifications along the volar aspect of the pisiform at the insertion of the flexor carpi ulnaris tendon with associated hyperemia.
- Patient was diagnosed with calcific tendonitis of the flexor carpi ulnaris.

## REFERENCES

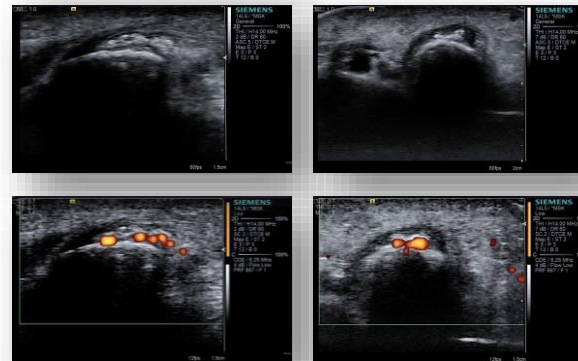
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- Ryan WG. Calcific tendinitis of flexor carpi ulnaris: an easy misdiagnosis. *Arch Emerg Med.* 1993;10(4):321-323.
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## IMAGING



### Radiography

“Amorphous mineralization is noted along the volar and ulnar aspect of the proximal carpus which may reflect an area of pericapsular hydroxyapatite deposition in the setting of acute calcific peri-arthritis. There is swelling of the volar wrist.”



### Ultrasound

“Ultrasound imaging of the right wrist demonstrates sub-centimeter calcifications along the volar aspect of the pisiform at the insertion of the flexor carpi ulnaris tendon with associated hyperemia, consistent with calcific tendonitis.”

- Top left: long axis view of the flexor carpi ulnaris tendon overlying the pisiform with irregular hyperechoic densities and increased fluid within the tendon sheath
- Bottom left: long axis view with color doppler
- Top right: short axis view
- Bottom right: short axis view with color doppler

## DISCUSSION

- Calcific tendonitis is a basic-calcium-phosphate-associated syndrome which presents more commonly around large joints such as the shoulder (eg. supraspinatus).
- The etiology is poorly understood, but is theorized that mineral formation occurs at sites of local tissue damage, injury, and inflammation. Local stress necrosis or hypoxia due to mechanical or vascular changes may be implicated. This leads to transformation of the tendinous fibrocartilage and production of calcifications through chondrocyte activity.
- Conventional management involves three main goals: elimination of pain, reduction of inflammation, and dissolution of calcific deposits. NSAID therapy alone or with bracing and injection of intralesional glucocorticoids can be used.
- There is no clear diagnostic approach, but this report demonstrates that diagnostic ultrasound is useful in distinguishing it from other differentials.

## CONCLUSION

- Due to its rare occurrence and overlap of clinical symptoms with other entities, calcific tendonitis of the hand is frequently misdiagnosed as acute infection, fracture, tenosynovitis, or crystalline arthropathy.
- Understanding the clinical manifestations and use of diagnostic ultrasound can save patients from misdiagnosis and unnecessary treatments and/or procedures.