

Gouty Wrist Arthritis Causing Carpal Tunnel Syndrome - A Case Report

M F Sikkandar, MBBS, J Sapuan, MS Ortho, R Singh, MS Ortho, S Abdullah, MS Ortho

Department of Orthopaedics, Faculty of Medicine, National University of Malaysia, 56000 Cheras, Kuala Lumpur

SUMMARY

A 63 year old male with a history of gout and hypertension presented with carpal tunnel syndrome. He gave history of bilateral wrist pain associated with numbness over the median nerve distribution of the hand. Tinels sign and Phalens test were positive with no obvious thenar muscle wasting on examination. Tophaceous deposits in the flexor tendons and within the synovium of the wrist joint was seen during surgery and this established gout as the cause of median nerve entrapment in this patient.

KEY WORDS:

gout, carpal tunnel syndrome, flexor tendons

INTRODUCTION

We report a case of carpal tunnel syndrome in a 63 year old male with gout. Tophaceous deposits in the flexor tendons and within the synovium of the wrist joint was seen during surgery and this established gout as the cause of median nerve entrapment in this patient¹.

CASE REPORT

The patient has a history of gout for four years and hypertension for the past 6 years. He presented to us with six

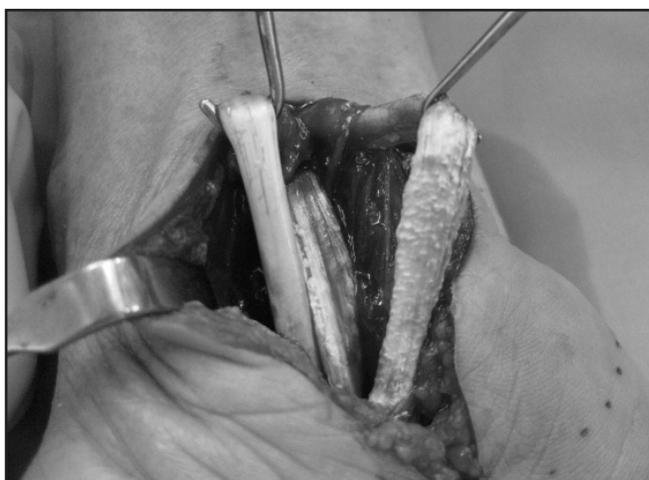


Fig. 1: Intra operatively, the flexor digitorum superficialis of the index finger (extreme right lifted up using the tendon hook) showed gross morphological changes – enlarged and gritty as compared to the other flexor tendons (left)

months duration of bilateral wrist pain associated with numbness over the median nerve distribution of the hand with difficulty in flexing his fingers. At presentation, his serum uric acid was on the higher side and there was poor compliance to his antigout medications. There was no sign and symptoms of tenosynovitis and examination revealed a positive Tinels sign over both hands with a positive Phalens test, though no obvious thenar muscle wasting was observed. Plain radiographs of the wrist joint showed erosion of the proximal carpal bones with narrowing of the radio carpal joint space. A diagnosis of carpal tunnel syndrome of bilateral hands was made and the patient was scheduled for an open release of his right carpal tunnel. Intraoperatively, we noted a thickened transverse carpal ligament with gouty deposition over the synovium and tendon sheath – primarily over the flexor digitorum profundus and superficialis to the index and little finger. Approximately 8 cm of the flexor digitorum superficialis to the index finger was excised and removed as it was thickened and abnormal. Other tendons were relatively normal. The median nerve was of normal consistency but its vasa nervorum became engorged upon release of the transverse carpal ligament.



Fig. 2: Plain radiographs of the wrist joint showing erosion of the proximal carpal bones with narrowing of the radio carpal joint space, with evidence of sclerosed vessel. There is appreciable soft tissue mass over the volar aspect of the wrist joint with no juxtaarticular erosions.

This article was accepted: 26 January 2012

Corresponding Author: Mohamed Faizal b Hj Sikkandar, Department of Orthopaedics, Faculty of Medicine, National University of Malaysia, 56000 Cheras, Kuala Lumpur Email: drfaizal786@yahoo.com

Biopsy of the tendon confirmed the diagnosis of gout – multiple necrobiotic foci surrounded by palisading histiocytes were described, in keeping with gouty tophi. Post operatively, patient recovered well, and the symptoms over his right hand improved. Unfortunately, this patient succumbed to a massive stroke one month after his surgery and became bed bound. As the patient had multiple admissions for his other medical conditions and was admitted to various other hospitals, he was lost to follow up.

DISCUSSION

Though it is not routine for radiographs to be done in suspected median nerve compression, evidence of extrinsic compression of the nerve, specifically by tophaceous gout deposits, with a clinical suspicion of osteoarthritis of the wrist joint, was an indication for imaging in this particular patient. Gouty tophi should be entertained as a cause of carpal tunnel syndrome in such a patient². Typically, upper-extremity presentation of gout is tophi within the subcutaneous tissues, more commonly around the extensor surface of the elbow joint followed by interphalangeal joints of the hand. Though relatively uncommon, nerve entrapment may be another manifestation of gout in the upper extremity. Gouty deposits may also manifest themselves with tenosynovitis or bony erosions and occasionally even tendon ruptures may occur.

The concomitant presence of finger movement dysfunction occurring in carpal tunnel syndrome secondary to gout is rare and suggests the involvement of the flexor tendons inside the carpal tunnel. High frequency ultrasound may be helpful in delineating superficial structures of the hands and wrist, including the tendons, ligaments, nerves and vessels, as well as soft tissue masses. Surgery is recommended to decompress the median nerve, to confirm the diagnosis, and for immediate improvement of flexor tendon excursion³. In our patient, the flexor tendon most affected was the flexor digitorum superficialis to the index finger which was the main culprit in compressing the median nerve, and once excised, there was symptomatic relief post operatively. In summary, carpal tunnel syndrome can be associated with gout and we hope that the medical community will be aware of this differential diagnosis.

REFERENCES

1. Mockford BJ, Kincaid RJ, Mackay I. Carpal tunnel syndrome secondary to intratendinous infiltration by tophaceous gout. *Scan J Plastic Reconst Surg HandSurg.* 2003; 37 (3): 186-7.
2. Clement KHC, Christien BC, LeeRen Y. *et al.* Carpal Tunnel Syndrome Caused by Tophaceous Gout. *Am Roentgen RaySoc.* 2000; 175: 655-9.
3. Janssen T, Rayan G. Gouty Tenosynovitis and Compression Neuropathy of the Median Nerve. *Current Orthop Prac.* 1987; 216 (2): 211-2