Carpal Tunnel Syndrome Due To Tophaceous Gout

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abstract

Tophaceous gout is a recognized cause of carpal tunnel syndrome. Of 2649 carpal tunnel releases, 15 hands in 13 patients were identified with tophaceous gout in the carpal tunnel. The incidence of tophaceous gout in the carpal tunnel was 0.6%. Twelve of 13 patients were male, and 8 of 10 patients with a history of gout developed carpal tunnel syndrome despite adequate medical treatment. Thus, consideration should be given for tophi as a cause of carpal tunnel syndrome, especially in older men despite medical treatment for gout.

Carpal tunnel syndrome is well recognized as the most common peripheral neuropathy. Carpal tunnel syndrome has been associated with a number of medical conditions including tophaceous gout. By increasing the volume of the carpal canal contents, tophaceous gout can compress the median nerve.

MATERIALS AND METHODS

Fifteen cases of gout in the carpal tunnel were identified from 2649 carpal tunnel releases performed over the past 15 years. All cases of gout in the carpal tunnel had pathology specimens confirming the diagnosis. An open technique was used in all cases described; no endoscopic releases were performed. Gouty tophi were identified by the chalky white deposits found in the flexor tendons or in the floor and were confirmed by electron microscopy (Figure). Monosodium urate crystals deposited in gout appear as strongly negatively birefringent (light parallel to yellow axis) thin tapered rods.

Gout should be considered in the differential diagnosis for carpal tunnel syndrome, especially in males.

RESULTS

Gouty tophi in the carpal tunnel were identified in 15 hands (13 patients). Twelve of 13 patients were men and average patient age was 68. Three patients had no history of gout at surgery. Eight of 10 patients with a history of gout developed carpal tunnel syndrome despite medical therapy. All patients improved following surgery. No recurrences of carpal tunnel
syndrome were reported during mean 30-month follow-up. Tophaceous gout was identified in the canal and confirmed histologically in 15 hands, revealing a 0.6% incidence.

**DISCUSSION**

Tophaceous gout as an associated and causative factor in the development of carpal tunnel syndrome has been reported. Phalen\(^1\) reported 2 cases of gout in 439 patients treated for carpal tunnel syndrome. Cseuz et al\(^2\) reported 7 patients with gout in a series of 313. In both series, gout was not documented in the carpal tunnel. Several case reports found tophaceous gout in the carpal tunnel, causing carpal tunnel syndrome.\(^3\)-\(^10\) A large series has not been published to quantify the incidence of gout in carpal tunnel syndrome. Our study revealed a 0.6% incidence of tophaceous gout as a cause of carpal tunnel syndrome.

Gout should be considered in the differential diagnosis for carpal tunnel syndrome, especially in males. Three of our patients developed carpal tunnel syndrome due to tophaceous gout without prior clinical history or evidence of gout. Eight of 10 patients with a history of gout developed carpal tunnel syndrome despite adequate medical therapy. Given this evidence, consideration should be given for tophi as a cause of carpal tunnel syndrome, especially in older men despite medical treatment for gout.

**REFERENCES**


**What is already known on this topic**

- Gout is a recognized cause of carpal tunnel.

**What this article adds**

- This article identifies an incidence of gout as a cause of carpal tunnel syndrome in 0.6%.
- Consideration should be given for this problem, especially in older men, despite medical treatment for gout.