

# CARPAL TUNNEL SYNDROME DUE TO A CALCAREOUS MASS IN THE CARPAL TUNNEL

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## SYNOPSIS

Carpal tunnel syndrome can present either acutely or insidiously and the causes are innumerable. Some of the causes can be due to local pathology in the carpal tunnel or may be related to certain systemic diseases. Diagnosis is usually made on clinical examination, electromyography and nerve conduction studies. Roentgenograms of the wrist are not usually done.

An unusual case of carpal tunnel syndrome is presented due to the presence of a radio-opaque calcareous mass in the carpal tunnel.

## INTRODUCTION

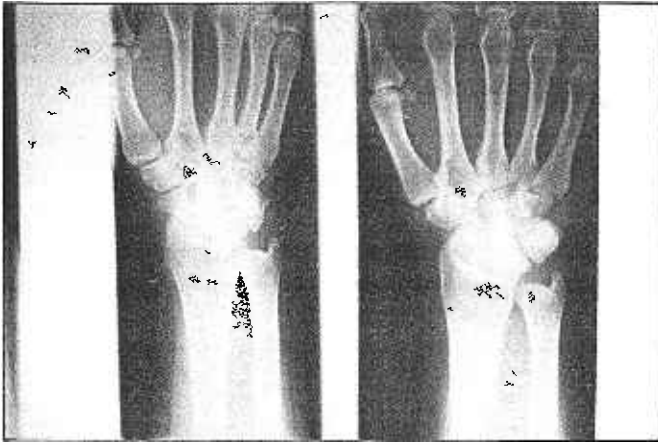
Carpal tunnel syndrome has been attributed to many causes either systemic or local. Some of the systemic conditions include pregnancy, rheumatoid arthritis, hypertension, hypothyroidism, amyloidosis, hyperparathyroidism, gout and acromegaly (1-4). Local causes can cause carpal tunnel syndrome either acutely or insidiously. Some of the causes of an insidious onset of carpal tunnel compression can be the presence of a ganglion, a lipoma, anomalous muscle bellies (5-12), malunited Colles' fracture, presence of gouty tophi and diffuse deposits of calcium around the tendons and median nerve in the carpal tunnel (1, 13). Occasionally median nerve compression can arise from a tendon graft prosthesis in the carpal tunnel (14). Bilateral carpal tunnel syndrome has been reported in a child with mucopolysaccharidosis III (pseudo-Hurler polydystrophy (15). This is a case report of carpal tunnel compression caused by the presence of a large calcareous deposit in the carpal tunnel.

## CASE REPORT

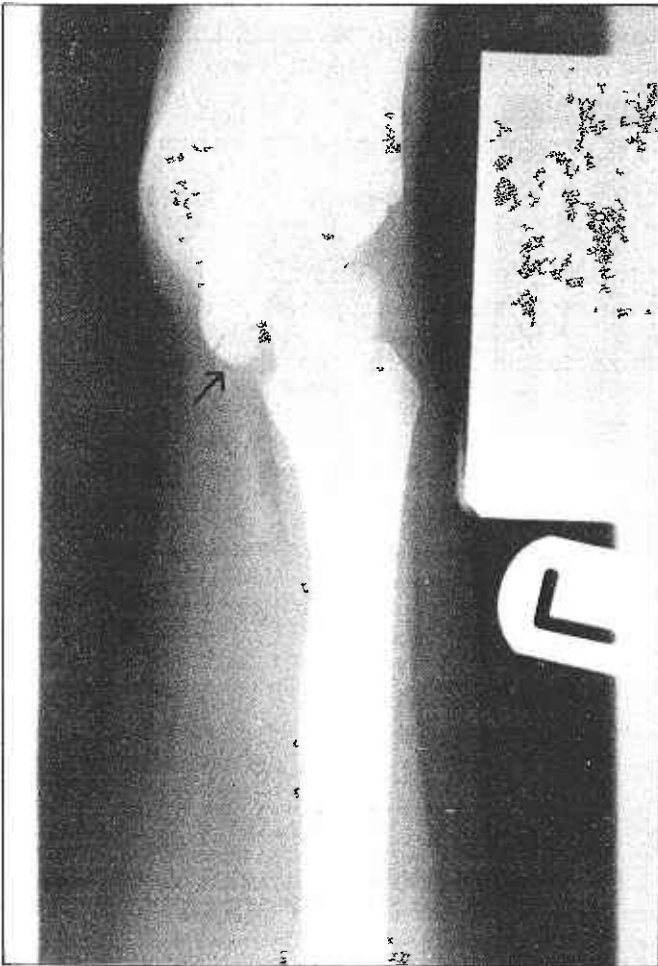
J.L. a healthy 32 year old housewife complained of progressive paraesthesia and weakness in her left hand of 3 months duration. There was paraesthesia in the distribution of the median nerve in the hand. There was radiation of pain towards the elbow. There was no history of trauma to the hand or wrist. The pain was not helped by rest or with anti-inflammatory drugs. There was no other joint involvement. Local examination of her hand and wrist showed very slight fullness over the volar aspect of the wrist. No definite mass was palpated. There was no wasting of the thenar eminence. Anteroposterior and lateral roentgenograms of her left wrist showed an interesting radio-opaque ovoid shaped mass overlying the lunate in the region of the carpal tunnel (Fig 1 and 2). Roentgenogram of the right wrist was normal. Full blood count, ESR, blood biochemistry including serum calcium, phosphate and alkaline phosphatase levels were all normal. At surgery, the left transverse carpal ligament was divided under tourniquet control and general anaesthesia. An ovoid calcareous mass 2.5 x 0.8 cm at its maximum diameter was found overlying the carpus and deep to the median nerve and flexor tendons. This was easily removed. There was no evidence of any other calcareous deposits around the median nerve or tendons. Post-operatively her symptoms improved and she was totally asymptomatic 6 weeks later.

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**Figure 1** Anteroposterior and oblique roentgenograms of the left wrist showing the presence of an oval radio-opaque mass.



**Figure 2** Lateral roentgenogram of the left wrist showing the presence of an ovoid radio-opaque mass in the carpal tunnel overlying the carpus.

**DISCUSSION**

Carpal tunnel syndrome has been attributed to many causes, some of which have been mentioned earlier. Acute carpal tunnel compression has been noted in thrombosis of a persistent median artery (16, 17), in haemophilia (18), spontaneous intraneural haemorrhage in the median nerve in the carpal tunnel (19) and from leukaemia and bleeding into a giant cell tumour of tendon sheath (20). Distal

radial fractures, transscaphoid perilunar dislocation of wrist and dislocation of the lunate can also give rise to acute carpal tunnel syndrome (1, 20, 21, 22). This can also follow from haemorrhage and haematoma formation into an anomalous muscle belly (12) or after an insect sting in the carpal tunnel (23).

Abnormality of the distal end of the radius can also cause carpal tunnel syndrome (24). Carpal tunnel syndrome has also been reported in a case of hypertrophic neuropathy of the median nerve (25).

In this case report the presence of a large calcareous mass of predominant calcium content on biochemical analysis lying isolated just volar to the carpal bones but deep to the tendons and median nerve is a rare cause of carpal tunnel syndrome. Systemic disorders like gout, pseudogout and hyperparathyroidism was not present in this patient. The value of having roentgenograms done for a non traumatic cause of carpal tunnel syndrome is alerted in this case.

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