

CLINICAL CONUNDRUM

Sleep disturbance due to hand discomfort

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mononeuropathy, type 2 diabetes

A 57-year-old male with a long-standing history of type 2 diabetes complains of night-time discomfort affecting his hands and forearms, characterised as numbness. More recently, there has been some loss of dexterity in his right hand but no symptoms affecting his feet.

1 | CLINICAL QUESTIONS

1. Describe the clinical sign in [Figure 1](#).
2. What is the diagnosis and cause?
3. What is the initial assessment and management plan?

2 | DESCRIBE THE CLINICAL SIGN IN FIGURE 1

There is muscle wasting of the thenar eminence, more pronounced in the right hand.

3 | WHAT IS THE DIAGNOSIS AND CAUSE?

The diagnosis is carpal tunnel syndrome (CTS) with secondary thenar muscle atrophy.

CTS is caused by median nerve compression between the carpal bones and the transverse carpal ligament. It is the most prevalent compression mononeuropathy and manifests as paraesthesia, numbness and tingling in the median nerve distribution.¹ Symptoms are usually more

pronounced at night and can extend into the forearm. People often describe having to shake their hand to try to 'wake it up'.

In advanced stages, CTS can result in thenar muscle atrophy which causes weakness in thumb abduction and opposition, grip function and dexterity. Painful peripheral diabetic neuropathy is highly unlikely in the absence of symptoms affecting the feet. Diabetes increases the risk of developing CTS due to peripheral nerves being more susceptible to compression.²

4 | WHAT IS THE RECOMMENDED INITIAL ASSESSMENT AND MANAGEMENT PLAN?

4.1 | Assessment

CTS is usually a clinical diagnosis based on typical history and signs in the median nerve distribution. Several manoeuvres can aid diagnosis if symptoms are provoked³:

- I Phalen's test—wrist flexion for 60s
- II Tinel's test—tapping over the carpal tunnel on the volar surface of the wrist.
- III Durkan's test—applying direct pressure over the transverse carpal ligament.

Nerve conduction studies are indicated if diagnosis is uncertain or in cases where surgery is considered.

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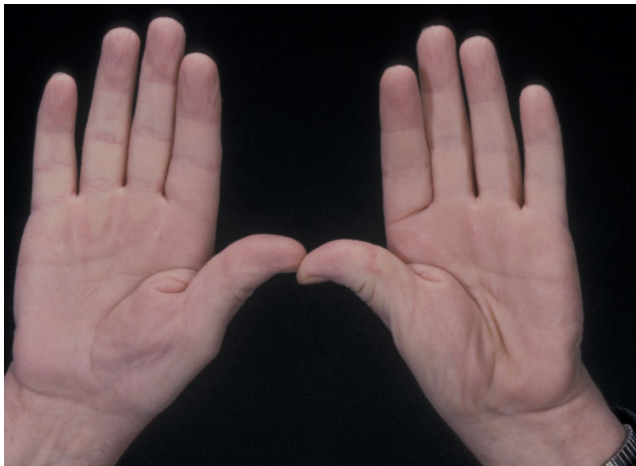


FIGURE 1 Image showing the palmar aspect of both hands of the case

4.2 | Management

Causes of swelling, such as hypothyroidism, should be excluded or treated. Fluid retention during pregnancy is a common cause and symptoms typically resolve postpartum.⁴ Primary management of CTS involves conservative therapy and may include wrist splinting to reduced wrist flexion/extension, typically worn at night and local steroid injections to reduce swelling.⁴ In severe cases, surgical decompression may be indicated, where the transverse carpal ligament is incised under local anaesthetic to release pressure on the median nerve.

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None.

Key points

- Compression mononeuropathies are more common in people with diabetes.
- Neuropathic symptoms affecting the hands are unlikely to be due to peripheral diabetic neuropathy in the absence of symptoms in the feet.

CONFLICT OF INTEREST STATEMENT

None.

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