

Varicose veins causing tibial nerve compression in the tarsal tunnel

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DESCRIPTION

A 66-year-old retired man presented with a 12-month history of atraumatic intermittent right foot pain and altered sensation of the second to fourth toes, associated with a mass over the postero-medial ankle.

On examination, Tinel's test was positive. The ankle was non-irritable, alignment was normal and there were no gross varicose veins.

Laboratory analysis demonstrated a normal C reactive protein. X-rays showed no soft-tissue calcification or bony changes. MRI demonstrated a non-enhancing 2×2.2×1.3 cm complex ganglion cyst positioned within the tarsal tunnel, with possible extension into the subtalar joint (figures 1 and 2). Ultrasound examination demonstrated venous varices in the right distal leg.

Intraoperatively, no obvious ganglion was identified near the tibial nerve. Varicosity of the posterior tibia vein was evident, extending into the tarsal tunnel. The patient was treated with decompression and neurolysis of the tibial nerve.

The patient was followed up 2 weeks after the operation and had improvement in paraesthesia symptoms.

Tarsal tunnel syndrome is caused by compression of the tibial nerve as it passes through the tarsal tunnel, underneath the flexor retinaculum at the level of the ankle joint.^{1,2} Symptoms can include pain and paraesthesia involving distributions of the tibial nerve. Extrinsic causes include trauma or deformity that can stretch or compress the tibial nerve. Intrinsic causes include space-occupying masses causing compression.² Differential diagnoses include venous structures, ganglion cysts or soft-tissue tumour such as a synovial sarcoma. Unlike a synovial sarcoma, which can appear iso/hyperintense with heterogeneity on MRI T1 imaging with contrast enhancement, the mass

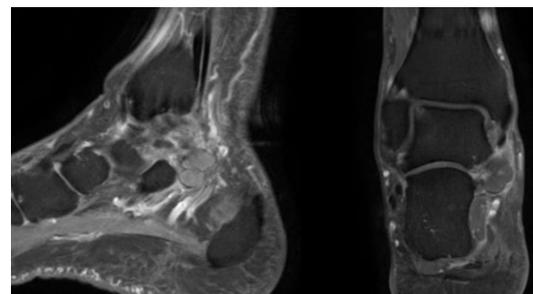


Figure 1 T2 MRI sagittal and coronal views suggestive of a ganglion cyst in the tarsal tunnel, arising from the subtalar joint.

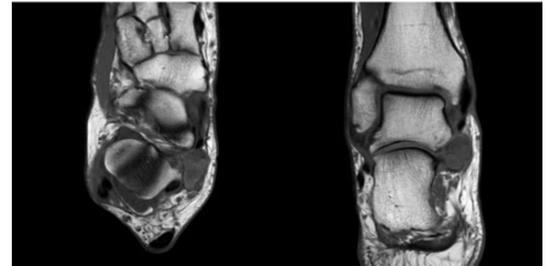


Figure 2 T1 MRI axial and coronal views demonstrating a ganglion cyst positioned within the tarsal tunnel, arising from the posterior subtalar articular articulation.

Learning points

- ▶ Tarsal tunnel syndrome is caused by compression of the tibial nerve.
- ▶ MRI and ultrasound imaging are important modalities to investigate causes of tarsal tunnel syndrome.
- ▶ Venous structures can cause compression symptoms, and caution should be exercised during exploration of the tarsal tunnel and decompression of the nerve.
- ▶ In the presence of varicosities, release of the retinaculum alone may be sufficient to relieve compressive symptoms.

in our patient was hypointense on T1 imaging and hyperintense on T2 imaging without contrast enhancement.³

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