

## Atypical Presentation of Superficial Peroneal Nerve Schwannoma

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### Introduction

Schwannoma or neurilemmoma are benign tumours of the nerve sheath. They are homogeneous tumours consisting of schwann cells which produce myelin. Schwannomas grow along the nerve sheath itself and cause symptoms through compression of the nerve and the surrounding structures. Schwannomas are usually slow growing and only 1% undergo malignant transformation to become a neurofibrosarcoma [1].

Traumatic damage to nerve tissue accounts for 90% of the cases seen either through recurrent soft tissue injury or a discrete event such as fracture. Non-traumatic schwannoma account for less than 10% and generally can be linked to underlying pathology such as neurofibromatosis type 1 [2].

### Case study

A 52 year old female presented to our institution with a 6 month history of worsening pain that was well localized to just above the lateral aspect of the left ankle joint. The pain was not made worse on weight bearing and the ankle itself had a full range of pain free passive and active movement. There was no neurological deficit distal to the site of tenderness and Tinel's sign was negative. The only positive finding was pain on palpation in the area. There was no preceding history of trauma and the patient had no significant past medical history.

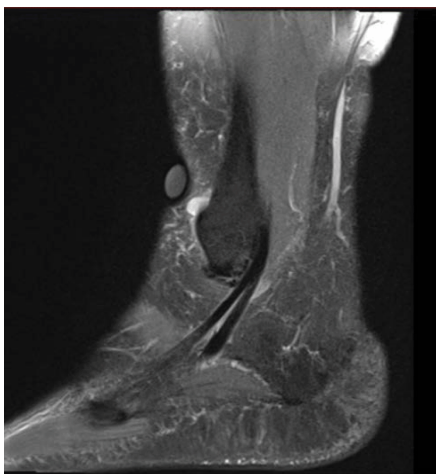


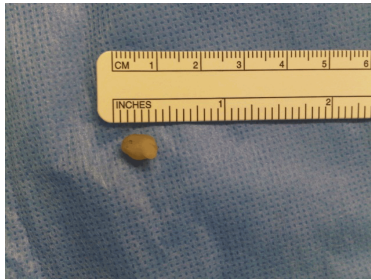
Figure 1: T2 weighted sagittal MRI with a cod liver oil marker on the skin to mark the lump.

A Magnetic Resonance Imaging (MRI) scan of the ankle was performed. This demonstrated an 8 mm cystic lesion arising from the anterior aspect of the inferior tibiofibular joint. The MRI appearance of the lesion was indeterminate but was felt to most likely be a ganglion (Figures 1 and 2). On the basis of the clinical examination demonstrating no neurological symptoms and the MRI findings suggesting a possible ganglion an Ultra-sound (US) was performed. This demonstrated a solid 8 mm lesion within the soft tissues near, but not intrinsically linked to the superficial peroneal nerve. The lesion displayed peripheral neo-vascularity making it suspicious for a neurogenic tumour.

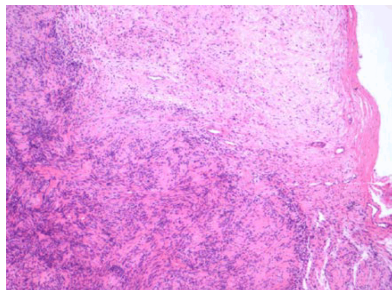


Figure 2: T1 weighted coronal MRI with well circumscribed lesion visible laterally.

An excision biopsy was performed with the incision made over the antero-lateral aspect of the ankle. Blunt dissection through subcutaneous tissues revealed a well circumscribed, firm yellow lump measuring approximately 10 mm in diameter (Figure 3) which had one feeding vessel. There was no obvious deep attachments to the underlying ligaments or neurovascular structures. Microscopy confirmed a benign neurilemmoma (schwannoma) with no evidence of atypia or malignant changes (Figure 4).



**Figure 3:** Lesions macroscopic appearance - 9×6×5 mm well circumscribed lesion of homogenous tissue.



**Figure 4:** Microscopy revealed a benign neurilemmoma (schwannoma) with no evidence of atypia or malignant changes.

Post-operatively the patient had complete resolution of her pain with no neurological deficit. In particular there was no sensory loss over the dorsum of the foot. At latest follow-up there was no evidence of recurrence.

## Discussion

Previous case reports of peripheral nerve schwannoma [3-7] document a presenting complaint of either paraesthesia or neuropathic type pain in the territory supplied by the affected nerve. As a result these cases are commonly investigated for proximal nerve entrapment before the diagnosis of peripheral nerve schwannoma is reached [8,9]. In this case however the patient presented with a very discrete and painful lump. There were neurological signs or symptoms. Furthermore, there was no preceding trauma and no nothing any associated underlying pathology such as

neurofibromatosis. MRI failed to accurately delineate the nature of the lesion and it was not until USS demonstrated neo-vascularisation that a possible neurogenic tumour was suspected [10].

## Summary and Conclusion

Whilst the classical presentation of a schwannoma is from neurological symptoms mimicking that of nerve compression or entrapment, they can sometimes merely present with pain out of proportion for a lump of its size [11]. This case reports such a presentation of a schwannoma in the vicinity of the superficial peroneal nerve at the ankle. Although MRI demonstrated the anatomy of the lump it was only with an US scan that the diagnosis was established.

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