E-Poster

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Chronic Leg Pain Due to an Intraneural Foreign Body: A Rare Case Report

Topic: Pain

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BACKGROUND

Peripheral nerve injuries (PNIs) can be caused by various factors, ranging from penetrating injury to compression, stretch and ischemia, and can result in a range of clinical manifestations. However, intraneural foreign bodies are rarely considered in the differential diagnosis. This case report describes a patient with 15 years of refractory anterior leg pain, ultimately found to have an intraneural foreign body within the saphenous nerve.

CASE DESCRIPTION

A 32-year-old female presented with a 15-year history of chronic inferior left leg pain, which began after a sport-related fall. The pain was described as sharp and radiating along the medial leg, accompanied by loss of sensation in the affected area. Tinel's sign at the mid-shin elicited symptoms. She had undergone multiple prior evaluations, including neurological and orthopedic assessments. Conservative treatments such as analgesics and physical therapy failed to provide relief. Electromyography (EMG) was unremarkable, and both lumbar and lower left leg magnetic resonance imaging (MRI) showed no abnormalities. High-resolution ultrasound (US) identified a small, poorly defined structure within the saphenous nerve (SN). Ultrasound-guided SN nerve block and hydrodissection were performed, providing complete but transient symptom relief. To assist in surgical identification, methylene blue was injected perineural under US guidance, facilitating precise localization of the nerve injury. Surgical exploration confirmed an encapsulated foreign object within the SN, which was carefully excised. Histopathological analysis revealed organic material, a foreign body and areas of necrosis. Postoperatively, the patient reported complete resolution of symptoms, with no recurrence at her three-month follow-up.

DISCUSSION

Peripheral nerve injury due to intraneural foreign bodies is a rare and often overlooked cause of chronic neuropathic pain. This case highlights the limited sensitivity of EMG and MRI in diagnosing small and superficial nerve injuries. In contrast, US more effectively detects small nerve injuries, assesses the extent of damage, and facilitates both diagnostic and therapeutic interventions. Superficial nerve injuries should be considered in patients with a history of trauma and persistent neuropathic pain despite unremarkable imaging studies. The SN nerve, a purely sensory branch of the femoral nerve, may be affected by retained foreign material, leading to an undiagnosed, imbedded foreign object and prolonged symptoms.

CONCLUSION

This case underscores the importance of the US in diagnosing intraneural foreign bodies, particularly when MRI and EMG findings are unremarkable. Early identification, precise localization with US, and targeted surgical intervention can lead to complete symptom resolution and improved patient outcomes.

Statement of Disclosures

None

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