

CASE PRESENTATION: IATROGENIC AXONAL INJURY OF THE SURAL NERVE

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Background

The sural nerve is a purely sensory nerve formed by branches of the common peroneal and tibial nerves. It provides cutaneous innervation to the lateral surface of the ankle and the foot extending to the base of the fifth toe. Isolated injuries to this nerve represent a rare clinical entity. Symptoms typically include paresthesia or pain along the lateral ankle and foot, which worsen with foot inversion and plantarflexion. Known causes include acute trauma (such as fractures of the base of the fifth metatarsal, talus, calcaneus, or the cuboid bone), traction injuries leading to secondary fibrosis of the nerve, tendinopathies of the Achilles or peroneal tendons, space-occupying lesions (e.g., ganglia), and gastrocnemius muscle injuries. This report presents a case of iatrogenic sural nerve injury with corresponding electromyographic findings.

Case report

A 22-year-old woman presented to the Electromyography Laboratory of the Department of Physical Medicine and Rehabilitation at GNA KAT, complaining of pain and paresthesia in the distribution of the sural nerve, ongoing for four months. According to her medical history, symptom onset followed a dermatological skin cleansing procedure near the lateral malleolus of the right ankle. Clinical examination revealed hypoesthesia in the sural nerve distribution below the right lateral malleolus, while muscle strength and tendon reflexes were normal. Sensory evoked potentials of the sural nerve were recorded bilaterally, with the recording electrode placed below and anterior to the usual recording site to examine the region distal to the injury. The results showed a significantly prolonged latency and reduced amplitude of the sensory nerve action potential on the right compared to the left. These findings are consistent with axonal damage to the right sural nerve.

Conclusion

This case highlights a rare cause of sural nerve injury and emphasizes the importance of clinical vigilance when performing medical procedures in the affected area.

Keywords: iatrogenic, sural nerve, axonal, injury