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### Introduction

The saphenous nerve is the cutaneous branch of the femoral nerve and originates from the L3-L4 nerve roots. It is a purely sensory nerve that travels along the adductor canal, descends along the medial side of the knee, and travels behind the medial border of the tibia, at the lower third of the leg. Saphenous neuropathy results in loss of cutaneous sensation in the medial leg, usually due to orthopedic surgery, bypass surgery, and trocar placement during knee arthroscopy. We report a case of a patient with saphenous neuropathy due to wire stabbing and remaining foreign body.

### Case report

A 60-year-old male who was a carpenter visited the emergency room due to hypoesthesia and neuropathic pain in the left anteromedial lower leg. He was stabbed by a wire four days ago during work and the symptom aggravated without any other neurologic signs such as motor weakness. Before visiting our emergency room, he visited the local hospital and no foreign body was found on the x-ray. On the neurologic examination, muscle strength of the left lower extremity was 5/5 Medical Research Council grade. Hypoesthesia was observed on the left anteromedial lower leg at the saphenous nerve dermatome. There was a pinpoint scar on the medial aspect of the left knee below the tibial tuberosity. The fluoroscopy found two dot-like metal materials on the posteromedial aspect of the proximal tibia and the anterior aspect of the lower leg (Fig. 1). At the emergency room, foreign body removal was tried after 1 cm of incision on a pinpoint scar. The patient had severe pain as the nerve was irritated while the procedure, so the explorative operation was done under general anesthesia. Two foreign bodies were removed which were 0.3 x 0.3 cm in the anterior tibia, and 0.2 x 0.1 cm in the posteromedial knee around the saphenous nerve (Fig. 2). After the operation, symptoms persisted and electrophysiologic studies were done to reveal the severity of the nerve injury. The studies showed decreased sensory nerve action potential at the left saphenous nerve. There were no abnormal findings in motor nerve conduction studies and needle electromyography, and an incomplete lesion of the left saphenous nerve was diagnosed.

Gabapentin, tramadol, and short-term prednisolone were used for the management of saphenous neuropathy. After six months, follow-up electrophysiologic studies were done and the sensory nerve action potential of the left saphenous nerve improved compared with the previous study suggesting regeneration evidence.



Fig. 1. The fluoroscopy showing two dot-like metal materials on the posteromedial aspect of the proximal tibia and the anterior aspect of the lower leg.



Fig. 2. Two foreign bodies were removed which were 0.3 x 0.3 cm in the anterior tibia, and 0.2 x 0.1 cm in the posteromedial knee around the saphenous nerve.

### Conclusion

Saphenous neuropathy is usually caused by nerve entrapment at the adductor canal or secondary to trauma or a surgical procedure. We report a rare case of a patient who had saphenous neuropathy due to wire stabbing and remaining foreign bodies. Initial removal of foreign body and short-term steroid therapy may have been effective in the management of saphenous neuropathy in this case.