Superficial peroneal nerve entrapment

Report of two cases

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Two cases of entrapment of the superficial peroneal nerve are presented. This is an unusual cause for leg discomfort and should be considered in the differential diagnosis of leg pain.

Key Words • nerve entrapment • myofascial band • peripheral nerve • peroneal nerve

Paresthesias from peripheral nerve involvement are common. In approximately 25% of the cases, a history of local trauma is reported. Most sites of compression are well recognized. We are presenting two cases of entrapment neuropathy of the superficial peroneal nerve in the distal part of the leg, a site rarely recognized.

Case Reports

Case 1

This 54-year-old man was admitted with a history of pain near the left ankle and the lateral aspect of the left leg for about 1 year. The pain was precipitated by twisting the ankle, and was particularly severe when he walked. It was relieved by sitting and with dorsiflexion of the ankle.

Examination. The pertinent physical findings were related to the site of the complaint. The pain and paresthesia could be reproduced by percussing the anterolateral aspect of the left leg about 9 to 10 cm above the ankle. There was no evidence of gross motor weakness. His gait was normal. Bilateral leg raising was normal and reflexes were symmetrical. Dorsalis pedis and posterior tibial pulses were normal in both legs. Orthopedic consultation failed to show any ankle pathology to explain the discomfort. The left common peroneal nerve was blocked by lidocaine. This produced a sensation of numbness and temporary relief of the pain while the patient was walking as well as plantar-flexing the foot.

Operation. The superficial peroneal nerve was exposed on the anterolateral aspect of the leg. The deep fascia was incised at the point that the nerve exits, and it was traced proximally until it was felt to be lying freely between the peroneus longus and extensor digitorum longus. During the operation, the ankle was moved to check the effect of stretching the nerve at the fascial orifice, and indeed the nerve appeared to be significantly compressed. The nerve was enlarged at the distal part of the fascial opening. His postoperative course was uneventful. He is free of pain, and the Tinel's sign has disappeared.

Case 2

This 52-year-old woman was admitted with a history of pain and paresthesias affecting the area of the right ankle and foot for approximately 1 year. It is pertinent that about 6 months earlier she had undergone a laminectomy and discectomy at the L4-5 level for a small extradural defect to relieve the above symptoms; however, the symptoms persisted postoperatively.

Examination. There was a slight swelling 10 cm above the ankle and a positive Tinel's sign. The paresthesias spread to the second and the third toe. Plantar flexion aggravated her symptoms. The tender area was infiltrated with plain Xylocaine which caused prompt but temporary relief of her pain.

Operation. The superficial peroneal nerve was exposed by a vertical incision. Two branches were iden-
The nerves were traced proximally. The fascial opening was scarred and a lipoma was found (Fig. 1 left). The mass was excised and the nerve traced until it was seen to be free between the peroneus longus and the extensor digitorum longus (Fig. 1 right). The patient has done well since the operation and has returned to work.

Discussion

Entrapment of the superficial peroneal nerve is an unusual type of neuropathy. Kopell and Thompson have called the entity "mononeuralgia of the peroneal nerve." The site of the opening in the deep fascia is the basis for this symptomatology. The nerve is purely cutaneous past this point, and therefore there is no specific muscular weakness and the electromyogram is negative. It has been reported that retrograde pain distribution may be a marked feature of this neuropathy. It is significant that the pain distribution may mimic an L-5 radiculopathy and may cause confusion in diagnosis, as in our Case 2. The mechanism of pain production is not clearly understood but seems to be similar to the carpal tunnel syndrome. It has been suggested that an inversion injury, or the wearing of high boots with tight laces may precipitate the event. It is a matter of speculation as to what role the inversion injury played in our first patient, but the nerve was clearly seen to have a narrow neck at the site of fascial exit. A lipoma probably attracted the second patients' attention, and constant massage might have aggravated the neuropathy.

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References


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