SUPERFICIAL PERONEAL NERVE ENTRAPMENT

A CASE REPORT

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A case of entrapment neuropathy of the superficial peroneal nerve is presented. The diagnosis and aetiology are discussed.

Many peripheral nerves are susceptible to entrapment; compression of the median nerve at the wrist, of the ulnar nerve at the elbow, and of the common peroneal nerve at the fibular neck are common conditions. However, entrapment of the superficial peroneal nerve is relatively rare; a case history is presented.

Fig. 1

A, the course of the superficial peroneal nerve;
B, section through the deep fascia at the point where the nerve emerges; its long oblique course is shown.

CASE REPORT

A 40-year-old leather worker was referred with a two-year history of severe pain on the outer border of the right calf, and an associated feeling of numbness over the

dorsum of the foot. There was no history of trauma, but walking exacerbated his symptoms and the pain occasionally radiated into his thigh. He walked with a limp.

He had an exquisitely tender spot 10 cm above the lateral malleolus; percussion over this area caused pain to shoot down the leg onto the dorsum of the foot. Pressure over the common peroneal nerve at the fibular neck caused local pain, but with no radiation down the leg nor sensory symptoms. There was no muscle weakness, nor any definite sensory abnormality. The patient's back, hip, knee and ankle were clinically normal; radiographs of the tibia and fibula also were normal. There was no suggestion of nerve root compression, and electrophysiological testing demonstrated no abnormality of the common peroneal nerve, nor of the proximal nerve roots.

The site of maximal tenderness above the lateral malleolus was explored: the cutaneous terminal branch of the superficial peroneal nerve was found to run an oblique course of over 1 cm through the deep fascia; the nerve, which was adherent to the fascia, was dissected free (Fig. 1). The fascia was then split for a few centimetres above and below the point where the nerve emerged. This procedure completely relieved the patient's symptoms.

DISCUSSION

There have been few reports of compression of the superficial peroneal nerve. Henry first described the condition in 1945; he called it "mononeuralgia in the superficial peroneal nerve". The symptoms are pain in the distribution of the nerve over the dorsum of the foot, sometimes with a concomitant sensory abnormality. The pain occasionally radiates up into the thigh, as occurred in the case reported by Kopell and Thompson (1963).

The results of electrophysiological investigation did not support a diagnosis of compression of the common peroneal nerve at the fibular neck. Although exercise exacerbated the symptoms, they were unlikely to have been due to a compartment syndrome; the localised tenderness and the shooting nature of the pain were more in accordance with nerve entrapment.

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Although the pain was similar to sciatica, the signs did not indicate that it originated in the back. A case has been reported where the diagnosis of superficial peroneal nerve entrapment was made only after discectomy at L4-5 had failed to relieve the symptoms (Banerjee and Koons 1981).

The aetiology of entrapment neuropathies is not known, although compression is a common factor; mechanical irritation and hypoxia may play a part (Sunderland 1978). Inversion injury of the ankle or wearing tight boots might precipitate the symptoms of

entrapment of the superficial peroneal nerve. In the patient reported, the abnormally long course of the nerve through the deep fascia was thought to have caused compression; exercise may have exacerbated the symptoms by producing mechanical irritation or by raising the pressure in the peroneal compartment and thus increasing compression of the nerve.

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