ENTRAPMENT OF THE SUPERFICIAL PERONEAL NERVE

THREE CASE REPORTS

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Entrapment of the superficial peroneal nerve is an unusual cause of pain in the ankle and foot. In such cases decompression of the nerve at the point of exit from the deep fascia will produce a good result. Three cases are described.

“Mononeuralgia in the superficial peroneal nerve” was coined by Mr A. K. Henry in 1945 to describe superficial peroneal nerve entrapment. He noted that the pain could be reproduced by pressing the nerve at the point where it emerged from the deep fascia.

CASE REPORTS

Case 1. A 39-year-old man presented with a six-year history of pain in the right foot below and in front of the lateral malleolus; his symptoms had started after patellectomy. He was incapacitated and distracted by the pain, which had led him to seek many medical opinions.

There was diminished sensation to light touch over the lower leg and dorsum of the right foot, with localised tenderness about 10 cm above the lateral malleolus. Percussing the tender area reproduced the pain.

The superficial peroneal nerve was dissected and, where it emerged through the deep fascia, the fascia was incised. This gave immediate and lasting relief.

Case 2. A 25-year-old woman presented with a 10-month history of pain in her right leg; this pain had developed after she had sprained her right ankle. The pain was mainly over the lateral side of the lower quarter of the shin and the dorsum of the ankle. There was a slight swelling over the distal third of the fibula, and percussing a point about 8 cm above the lateral malleolus reproduced the pain. Sensation was normal. (The patient had previously been investigated at another hospital where a tibial biopsy had been performed.)

The nerve was explored and found to be flattened as it emerged under the crescent of the deep fascia. Decompression produced almost immediate total relief of pain.

Case 3. A 33-year-old woman presented with a nine-month history of pain over the right lateral malleolus which had developed after manipulation for hallux valgus. The pain was severe, but sensation was normal. Tinel’s sign was strongly positive over the course of the superficial peroneal nerve in the lower leg.

The nerve was exposed and freed from the fascia for a distance of several centimetres. There was permanent and complete pain relief.

The common peroneal nerve is prominent behind the head of the fibula. The superficial peroneal nerve can be seen in the lateral compartment; it emerges through the deep fascia approximately one-quarter of the way up the leg from the lateral malleolus. As it emerges from the fascia it divides into two branches.

DISCUSSION

The superficial peroneal nerve arises from the common peroneal nerve at the neck of the fibula and runs down the lateral compartment of the leg. Approximately one-quarter of the distance up the leg from the lateral

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malleolus, the nerve pierces the deep fascia, and divides into medial and intermediate dorsal cutaneous nerves (Fig. 1). The nerve may divide into these branches before leaving the deep fascia (Romanes 1972).

Kaushal et al. (1976) and Rose et al. (1982) have reported peroneal nerve palsy at the knee caused by direct injury during total knee replacement. Stack, Bianco and MacCarty (1965) reported compression neuropathy of the peroneal nerve at the level of the fibular neck.

The peroneal nerve is tethered proximally and distally, so forced inversion and plantarflexion can pull it taut against its fascial opening and cause injury (Henry 1945; Kopell and Thompson 1963; Banerjee and Koons 1981). Direct injury of the nerve in the lower leg has also been reported (Tibrewal and Goodfellow 1984).

The skin supplied by the superficial peroneal nerve comprises the distal third of the front of the leg and the dorsum of the foot (Fig. 2). Entrapment at the point of exit through the deep fascia causes pain and sensory loss. Retrograde pain may be a feature (Kopell and Thompson 1963). Pressure at the point of exit should cause an increase in the radiating pain.

A not uncommon precipitating incident is a twist of the ankle. Occasionally the symptoms are thought to be due to a root lesion at the level of the lumbar spine for which a laminectomy may, mistakenly, be performed (Banerjee and Koons 1981).

A reliable diagnostic test is temporary alleviation of the pain after injecting lignocaine at the point where the nerve leaves the deep fascia. Operative decompression in the lower leg can be expected to alleviate the pain permanently.

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REFERENCES


