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Chronic pain: illusion or pathology? A case report of a vascular leiomyoma in the leg

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Summary—Patients with chronic pain constitute a major problem for the surgeon as the cause of their pain is often difficult to diagnose and is only rarely a well circumscribed lesion which is amenable to surgical or other treatment.

We report a case of chronic pain due to a vascular leiomyoma beneath the deep fascia of the leg. Angioleiomyomas are rare tumours that are usually found in the subcutaneous tissue.

Case report

A 59-year-old female patient had suffered since the age of 16 from a hypersensitive spot located on the antero-lateral aspect of the leg below the knee. The pain was often paroxysmal and was initiated even by a light touch or by exposure to wind or cold; it was relieved only by morphine derivates. She had previously undergone two surgical explorations of this region without success and had been regularly referred for psychiatric treatment.

Clinical examination revealed normal skin. No mass was palpated but percussion in the 4 cm^2 area indicated by the patient caused intense pain irradiating into the whole of the lower limb. Neurological examination of the lower limb was normal and X-ray examination displayed no bone abnormality.

Because the two former explorations had apparently been superficial, it was decided to re-explore the most painful area. The operation was performed under pneumatic tourniquet and a light general anaesthetic. Careful dissection of the subcutaneous tissue with loupe magnification revealed nothing abnormal but palpation of the deep fascia provoked a remarkable 30 mm rise in the arterial blood pressure and an increase of 20 beats/minute in the heart rate. These reactions, which occurred every time pressure was exerted on the deep fascia, were attributed to a pain reflex under light anaesthesia and completely disappeared when the anaesthesia was deepened. The fascia was incised. A brown tumour was found which measured 2 × 3 cm and infiltrated the head of the peroneal muscles. An artery and a nerve were entering its proximal side. After resection, a small cavity in the upper end of the fibula was observed. Transection of the tumour displayed fibromuscular tissue, partially necrotic in the centre, with a relatively thick nerve entering it.

Histological examination revealed a tumour partially surrounded by a fibrous capsule and containing many capillaries. The tumour cells were typical muscle cells and in the centre, smooth muscle cells were observed (Fig. 1). The capillaries were lined by small or hypertrophic endothelial cells. A reticular network, visualised by a silver staining technique, separated the tumour cells from each other. No signs of malignancy were seen. The tumour was diagnosed as a leiomyoma of vascular origin.

Postoperative progress was uneventful and to the great relief of the patient, her pain had completely disappeared.

Discussion

In a review of 12 663 benign soft tissue tumours, Hachisuga *et al.* (1984) found 562 vascular leiomyomas, 89% of which occurred in the extremities, most frequently in the lower extremity. This tumour appears especially between 40 and 60 years of age and is twice as frequent in women than in men. The most common complaint is the development of a mass during a period of time varying from a few weeks to a few years. Pain is a prominent feature in about half of the cases and can be induced by pressure, temperature changes, pregnancy and menses. This sensation is attributed either to active contraction of the smooth muscle elements in the tumour (Hauswald *et al.*, 1975) or to irritation of the involved nerves (Enzinger and Weiss, 1983) which could be the explanation in our case.

The tumour is usually encapsuled, round or oval and blue or reddish. The size may vary between 1 and 3 cm but occasionally reaches 7 cm (Neviaser and Newman, 1977). Angioleiomyomas are usually located in the deepest layer of the dermis or more commonly in the subcutaneous tissue. To our knowledge, location beneath the deep fascia, as in our case, has not been described before.

Malignant degeneration has never been reported (Hauswald *et al.*, 1975) though a single local recurrence has been reported by Neviaser and

Fig. 1

Figure 1—Microphotograph showing several small vessels and compact smooth muscular tissue (× 175).

Newman (1977) after 7 years. In that case biopsy demonstrated a higher degree of cellularity than usual and a loss of cellular organisation. A careful follow-up is consequently indicated when biopsy shows a very cellular tumour.

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