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## Hemangioma of The Lumbar Sympathetic Ganglion

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Hemangioma is one of the most common soft tissue tumors (7% of all benign tumors) and the most common tumor of infancy and childhood (1). The majority of hemangiomas are superficial lesions that have a predilection for the head and neck region, but they may also occur internally, notably in organs such as the liver (2). Hemangiomas arising within the confines of the

epineurium are extremely rare tumors, and of the few cases described in the literature several are probably unacceptable because they appear to involve nerve secondarily (3). In the following case report, we present an additional rare form of hemangioma that involved the lumbar sympathetic ganglion.

Table 1. The site, age, sex and surgical treatment of 16 cases

Patient	Source	Involved nerve	Age,y/sex	Procedure
1.	Wood, (9) 1980	Peroneal	13/?	Intrafascicular dissection and en bloc resection
2.	Bilge et al, (10) 1989	Peroneal	10/M	Intrafascicular dissection and en bloc resection
3.	Coessens et al, (11) 1991	Median	12/M	Intrafascicular dissection and resection of tumor.
4.	Kojima et al, (6) 1976	Median	19/F	Resection of? type
5.	Patel et al, (12) 1986	Median	4/F	Multiple excisions
6.	Patel et al, (12) 1986	Median	15/F	Recurrence at 2y after intraneural dissection; patient then had resection with sural nerve graft.
7.	Peled et al, (13) 1980	Median	16/F	Partial excision; 3y later, patient underwent intraneural dissection and en bloc resection
8.	Sato, (8) 1913	Median	64/M	Resection of tumor with involved nerve segment
9.	Kon and Vuursteen (14) 1980	Digital	8/F	Excision, re-exploration 2y later with dissection and sural nerve graft
10.	Nagay et al, (15) 1980	Digital	22/F	Dissection and re-approximation
11.	Kline and Moore, (16) 1992	Ulnar	63/M	Epineurotomy with cubital tunnel release
12.	Linde and Gaab (17) 1982)	Ulnar	16/M	Microsurgical resection
13.	Losli et al, (7) 1952	Ulnar	49/M	Resection of ulnar nerve and tumor.
14.	Oliva and Aguilera, (18) 1989	Trigeminal	37/F	Biopsy
15.	Vigna Pa et al, (5) 1994	Posterior tibial nerve	22/F	Local surgical excision
16.	Yilmaz F et al, 1998	Right lumbar sympathetic ganglion	32/M	Right lumbar sympatectomy.

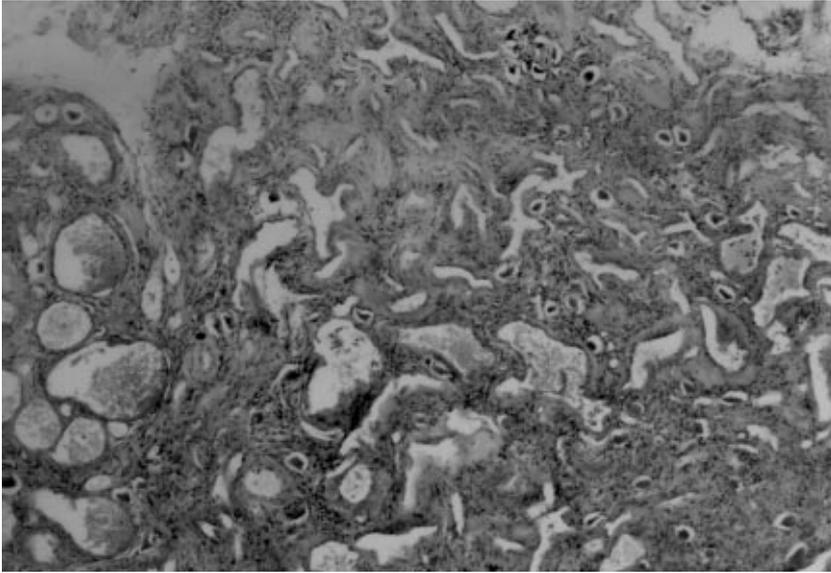


Figure 1. The dilated tumoral vessels within sympathetic ganglion (Hematoxylin-Eosin, x16).

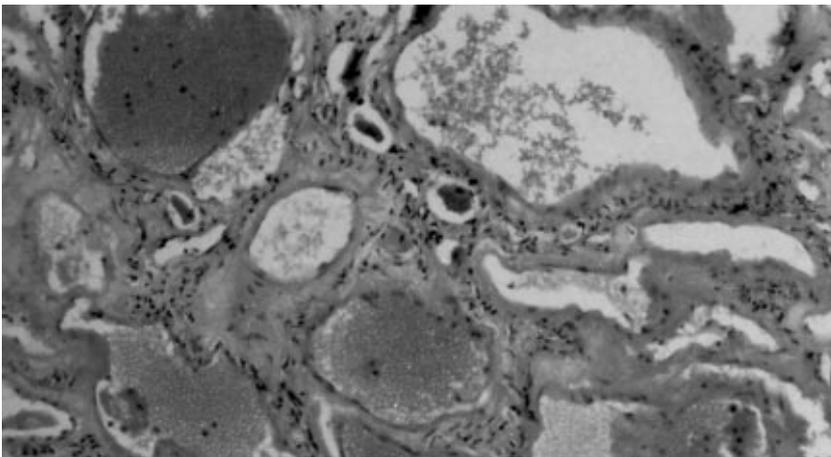


Figure 2. Mild thickening of the vessel walls and ganglia cells (Hematoxylin-Eosin, x82).

### Case Report

The patient was born in 1960, a 32 year-old man, and had a pain continuously occurring at the lower extremity during in the daytime for about one year. In addition, the patient complaining about a not healing wound and feeling cold at the distal part of the toes of each foot went to the Department of Cardiovascular Surgery, on 31 November 1992. The patient smoking thirty cigarettes a day for fifteen years was operated for appendectomy ten years ago. However, he had no significant medical history about skin or mucous membrane lesions and neuromuscular deficits.

The patient having these complaints was diagnosed as tromboangiitis obliterans, and operated on bilateral lumbar sympatectomy in February, 1992. After the operation, the patient got well and had no any symptoms.

### Pathologic Findings

Macroscopically, the mass was sent as two different tissue parts. The first material, including one part tissue in, measured 0.7x0.6x0.5 cm, medium firm, showing reddish-brown and having spongy appearance on the surface, was right sympatetic ganglia. The second one, including two parts tissue in, measured 0.7x0.5x0.5 cm, medium firm, grayish and the shape of spindle, was left sympatetic ganglia.

Routine hematoxylin-eosin stained, formalin fixed 5 micron tissue sections showed a cavernous hemangioma that involved the right lumbar sympathetic ganglion. The dilated tumoral vassels involved the sympathetic ganglion. The tumor endothelial-lining cells were inconspicuous, flat, and devoid of atypia or mitoses (Fig. 1). Vessel walls were generally thin, but occasional tufting and thickening

were identified (Fig. 2). The adjacent nerve bundles and ganglia were histologically normal although they were separated by the dilated vessels. The histological diagnosis was made hemangioma.

Although secondary neural involvement by cutaneous and soft-tissue primary tumors has been well described, (2-4) true hemangiomas that arise within the epineurium of peripheral nerves are rare lesions (2,5). Of the acceptable cases (2,6-9) there appears to be no characteristic age or anatomical distribution, although most cases occur in patients under the age of 40 years. Pain is a common symptom and may be accompanied by numbness and muscle wasting in the affected region. In one case symptoms of carpal tunnel syndrome were noted as a result of the location of the tumor in the median nerve. A history of trauma has not been a documented antecedent event. The site, age, sex, and surgical treatment of 16 (including our cases) previously described patients with an intraneural hemangioma are summarized in the Table 1.

Histologically, the majority of tumors have been cavernous hemangiomas with no features suggesting histological malignancy, but the capillary subtype also has been identified (16,18). Treatment of these benign tumors must be individualized. The benefits of total resection must be balanced against the morbidity of the procedure. Recently complete removal of an intraneural

hemangioma was accomplished by intrafascicular dissection using dissecting microscopy (2,9). Such an approach offers complete removal with minimal morbidity (2).

Although no sex predilection has been noted, the majority of cases have occurred in the first and second decades of life. The involved sites have included the peroneal (9,10), median (8,11), digital (14,15), ulnar (7,16), trigeminal (7,18), sciatic (18), cervical sympathetic ganglion (8), posterior tibial nerves (5,19) and peroneal nerves (19).

The consensus as to the histogenesis of peripheral nerve hemangioma favors origin in the capillary bed of the epineurium with subsequent extension into the nerve trunk (15). The endothelial differentiation character of the lining cells, including factor VIII related antigen staining and blood-filled channels devoid of inflammation, is characteristic of the benign neoplastic hemangioma (5).

Perhaps the most significant aspects of the intraneural hemangioma are the potential for recurrence, development of severe pain, and loss of function of the involved tissue site. Clinical identification is therefore of paramount importance to direct appropriate treatment (5). We conclude that the peripheral nerve hemangioma is a rare variant of hemangioma to be asymptomatic on presentation.

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