Lipomatosis of the Nerves in the Back

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Dear Editor:

A 73-year-old woman presented with an asymptomatic mass on her back that had been slowly increasing in size during the last 10 years. On examination, a mass (approximately 2.5~3.5 cm) was found deeply seated (Fig. 1A) without any other gross abnormalities. As ultrasonography did not show any specific findings, we performed a deep 4-mm punch biopsy, which revealed increased adipose tissue surrounding and infiltrating the nerve bundles be-

low the normal-appearing epidermis and dermis (Fig. 1B, C). Analysis of the histological features led to the diagnosis of lipomatosis of nerve, and we assumed that it originated from the posterior cutaneous branch of the thoracic spinal nerve. Although we recommended magnetic resonance imaging (MRI) to determine the precise location of the mass, the patient refused further evaluation. The remaining mass was observed without performing further excision, as she did not have any neurological symptoms.

Fig. 1. (A) A flesh-colored subcutaneous mass (arrows) was noticed on the left posterior scapula area. (B) A punch biopsy specimen revealed an increased amount of adipose tissue (asterisks) around nerve bundles in the deep subcutaneous fat layer (H&E, $\times 40$). (C) Enlargement of the nerve bundles due to fibrous thickening and an increased amount of adipose tissue (asterisks) (H&E, $\times 200$).

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Lipomatosis of nerve is a rare benign lipomatous tumor consisting of proliferating fibrofatty tissues in the nerve branches¹, and it was first described in the English-language literature in 1953². The tumor most often arises from the median nerve (66% ~ 80%), and typically presents as a gradually growing nontender mass. It may involve the brachial plexus, ulnar nerve, radial nerve, peroneal nerve, or plantar nerve¹. However, none of the previous cases presented as a subcutaneous mass involving a cutaneous nerve branch in the trunk. It is usually asymptomatic; however, pain, tingling, diminished sensation, motor deficits, or neuropathy can occur. It is accompanied by bone overgrowth and/or macrodactyly in one-third of the cases. It often presents at birth or during infancy, although patients are diagnosed with it later^{1,3}. The occurrence of lipomatosis of nerve in old age is uncommon. The pathognomonic MRI findings reveal longitudinally arranged cylindrical foci of low signal intensity surrounded by fatty signal intensity¹. Equivocal cases require histological confirmation, which reveals proliferation of the fibrofatty tissue within the nerve fascicles without inflammation or infiltration to other surrounding tissues. It may show disorganized overgrowth of the epineurium, perineurium, or endoneurium with fatty infiltration and fibrosis; however, axons are normal in size³. Limited excision is the mainstay

of conservative treatment for patients with neurological symptoms, macrodactyly, or the need for diagnostic surgical exploration. Complete excision is not recommended because of the high risk of neurologic morbidity². To our knowledge, this is the first histopathologically confirmed case of lipomatosis of the nerves in the back, presented in the English-language literature. Furthermore, it is not often included in differential diagnoses for lipomatous masses; however, complete excision under the clinical impression of lipomas may result in neurological complications, and therefore, histological evaluation should precede therapeutic excision.

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