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주요 신경과의 연결이 없이 발생한 긴손바닥근의 신경초종

박정용 · 정성노 · 손원일 · 권 호

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Neurilemoma Localized in the Palmaris Longus Tendon with no Connection to the Major Nerve Trunk

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Purpose: Neurilemoma is benign tumor of the nerve sheath which arises from Schwann cells. It is usually formed along the path of a peripheral nerve but is rarely separate from normal nerve fascicles. We experienced a patient with an isolated neurilemoma localized in the palmaris longus tendon with no connection to the major nerve trunk, which was in an unusual location and has never been reported. We report our case with the review of the literature.

Methods: A 23-year-old female visited our clinic with mild pain on the mass at the flexor area of the right wrist which had been present for about one year. The physical examination revealed a 1 × 1 cm sized subcutaneous mass at the flexor area of the right wrist. Sonography and computed tomography showed an ovoid, superficial solid mass on the palmaris longus tendon. Upon surgical excision, a 1 × 0.5 cm sized mass attached to the palmaris longus tendon was found. The tumor had no connection with the median nerve and was detached easily from the palmaris longus tendon.

Results: Histological examination demonstrated the mass to be a neurilemoma, which consists of spindle shaped cells with oval elongated nuclei arranged fascicles. No sensory dysfunction or evidence of recurrence was found during the 12 months of postoperative follow-up.

Conclusion: We experienced a rare case of neurilemoma attached to the palmaris longus tendon with no connection to the major nerve trunk. We wish to emphasize its unusual location through our case and hope to expand our spectrum in exploring the upper extremity mass.

Key Words: Neurilemoma, Palmaris longus

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I. INTRODUCTION

A neurilemoma is one of the most common, benign, peripheral nerve tumors. They are normally painless and slowly growing, rarely causing motor disturbances. It is commonly found in the upper or lower extremities. The clinical presentation of a neurilemoma often occurs years after its formation, when the mass irritates the surrounding tissues by compression. The most recent report shows a neurilemoma localized in tendon of the flexor digitorum longus muscle, in the intra-articular area of the knee joint, with separation of the tumor from the major nerve. We report a case of a rare neurological tumor arising in the palmaris longus tendon with no apparent connection to the median nerve.

II. CASE

A 23-year-old female patient visited our clinic with chief complaints of mild pain on a mass at the flexor area of the right wrist which had been present for about one year and had gradually developed. On physical examination, there was a 1 cm sized subcutaneous firm, ovoid nodule, palpable in the region of palmaris longus tendon (Fig. 1).

Sonography showed a 1.0 × 0.8 cm sized hypoechoic solid mass and computed tomography (CT) reveiled an ovoid, attenuating superficial solid mass in the flexor area of right wrist (Fig. 2). Under local anesthesia, a zig-zag incision was performed to reveal a well-circumscribed 1.0 × 0.8 cm sized mass, which was adhered to the palmaris longus tendon (Fig. 3). Under loupe magnification the tumor is exposed sufficiently. And we make certain that the tumor had no connection with the median nerve and palmar cutaneous branch. And the tumor was detached easily from the palmaris longus

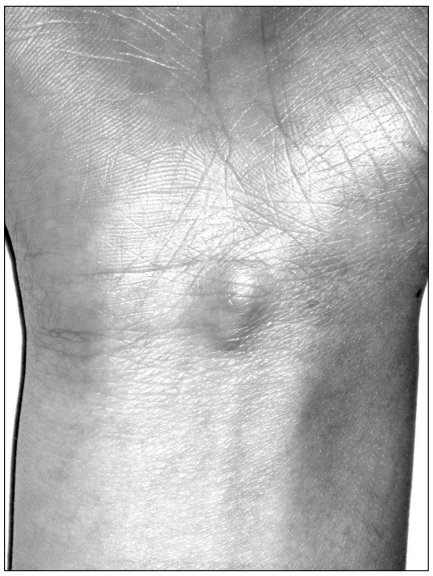

Fig. 1. A 23-year-old female who had a mildly painful mass on the flexor area of right wrist for 1 year.

tendon. Histological examination confirmed the diagnosis of neurilemoma (Fig. 4). There was no sensory dysfunction immediately after the surgery and there was no recurrence of neurilemoma for follow-up of one year.

III. DISCUSSION

Neurilemoma that originates from the upper extremity comprises about 5% of all upper extremity tumors and is most common in the peripheral nerves located in the flexor area, because of the higher concentrations of nerve fibers.[1] In cases of the relatively small sized masses, motor or sensory deficiencies were not reported. However, neurilemomas developing on the hand are characterized by pain because of the limited stretching capacity of the surrounding soft tissue.[1,2] Neurilemoma arises from the neuroectodermic component of myelinated nerves. The tumor is usually encapsulated, solitary and slow-growing. Neurilemoma usually has an eccentric position within

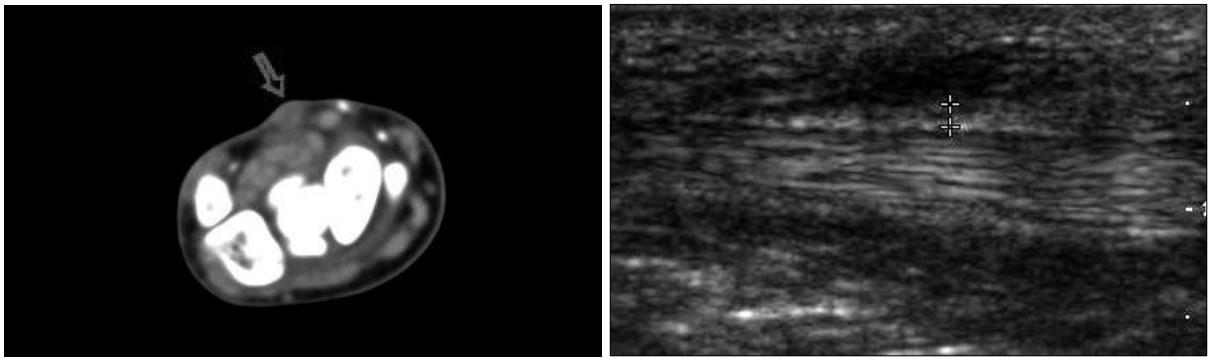

Fig. 2. (Left) CT shows a 1 × 1 cm sized solid mass on the palmaris longus tendon. (Right) Sonography image shows 1.0 × 0.8 cm sized hypoechoic lesion on the palmaris longus tendon.

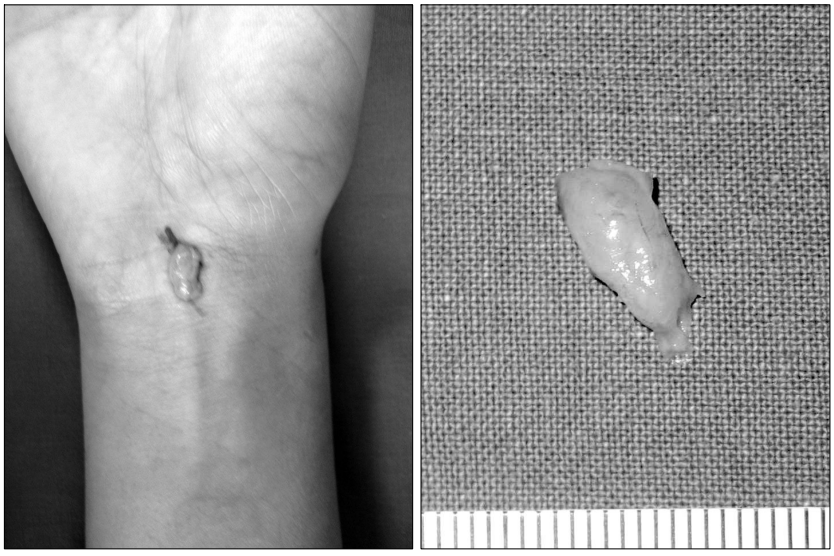

Fig. 3. (Left) A well-circumscribed 1.0 × 0.8 cm sized, subcutaneous mass was found, which was adhered to the palmaris longus tendon. (Right) Gross view of biopsy specimen.

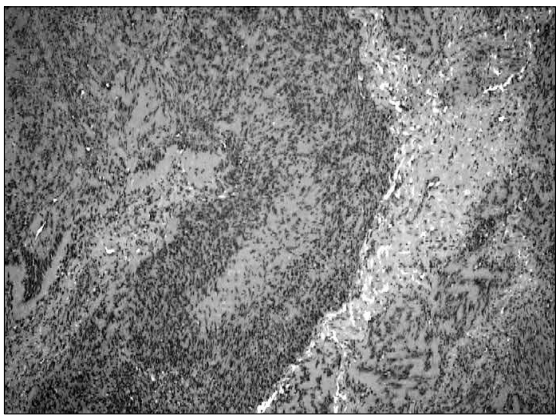

Fig. 4. Histologic findings show spindle shaped cells with oval elongated nuclei arranged fascicles (Hematoxylin and eosin stain, × 100).

the nerve, pushing the nerve fibers to one side. Histologically, neurilemoma are characterized by two different areas, one with a high concentration of cells and the other with a low concentration of cells, respectively called Antoni's type A and type B.

Like other soft tissue tumors, neurilemoma is difficult to diagnose by macroscopic findings only. Magnetic resonance imaging, CT, or sonography are useful for more detailed investigations and differential diagnosis. Differential diagnosis is needed to exclude neurofibroma, perineuroma, lymphangioma, hemangioma, desmoid tumors, granular cell tumors, ganglion cysts, lipoma, chondroma, osteoma, angioma, hemangioblastoma, hemangiopericytoma, sarcoma and metastatic tumors. Differentiation with neurofibroma is important, due to similarities in clinical findings. Neurofibroma, known as plexiform benign neurilemoma, is not encapsulated. The tumor is invasive in nature, and radical excision is difficult. Histologically, the stroma consists of dense connective tissue. Some 15% of all neurofibromas undergo malignant transformation into neurogenic sarcomas. Though neurilemoma is considered as the most frequent benign tumor of peripheral nerves, neurofibroma also originates from perineural cells and fibroblasts. Differentiation between them is difficult, but neurofibroma is rarely capsulized and rather localized in the center of the neural fiber in histological view.[2]

Neurilemoma is usually formed along the path of a peripheral nerve but is rarely separated from normal nerve fascicles. A recent report shows a neurilemoma localized in tendon of the flexor digitorum longus muscle, in an intra-articular area of the knee joint, with separation of the tumor from the major nerve.[3,4]

Surgical treatment for neurilemoma is recommended, especially when pain or neurologic deficit is present. It is reported in the literature that the majority of neurilemomas can be excised with good results.

To the best of our knowledge, this is the first case report of a neurilemoma attached to the tendon of the palmaris longus with no connection to the major nerve trunk. Therefore, this report could expand our spectrum in exploring the upper extremity mass.

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