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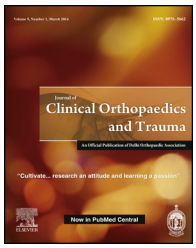

Case Report

Vascular leiomyoma of an extremity: Report of two cases with MRI and histopathologic correlation

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ABSTRACT

Vascular leiomyoma is a benign, usually solitary tumor arising from the tunica media of the vein. It can occur anywhere in the body wherever smooth muscle is present. These masses are commonly found in the uterus, urogenital tract and gastrointestinal tract but also less commonly in the extremities. They occur more often in the lower extremities than the upper extremities. Females are more affected than males and are generally seen in the third and fourth decades of life.

We present magnetic resonance imaging, and histopathologic features of two pathology proven subcutaneous vascular leiomyomas of the hand and lower leg.

1. Introduction

Leiomyoma is a benign, slow-growing tumor derived from smooth muscle cells. Leiomyomas are predominantly found in the uterus, esophagus, gastrointestinal system, pleura and lower extremities; wherever smooth muscle is present. It is more common in females than males and is generally seen in the third and fourth decades of life.[1,2]

Enzinger and Weiss described three types of leiomyoma: vascular, cutaneous and deep soft tissue.[3] Vascular leiomyomas originate from the tunica media layer of the vein. Cutaneous leiomyomas are generally intradermal, originate from the non striated muscle of erector pili. Deep soft tissue tumors originate from the vessels and unstriated muscles favoring the lower extremities.[4,5] The incidence of the leiomyoma of the lower extremities, particularly the lower leg is 50–70%, and the hand is less than 10%.[3,6] In this report, we present two cases of vascular leiomyoma of the hand and the lower leg with magnetic resonance (MR) imaging, and histopathologic features.

2. Case report

2.1. Case 1

58 year-old-man was referred to our clinic with one year history of painful, palpable mass on the volar aspect of his

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right index finger. On the physical examination there was a 2 cm soft, mobile, lobulated mass. Neurological examination was unremarkable. Mass was excised under local anesthesia and closed primarily. There was no local recurrence or sensory deficit at the 4-month follow-up.

Plain radiography demonstrated mild soft tissue swelling without bone involvement or calcification. On the coronal T1WI (Fig. 1), the mass was isointense to muscle. On the axial T2WI (Fig. 2) the mass was non-homogeneous and slightly hyperintense to muscle. There was no fat suppression within the mass (Fig. 3).

Macroscopically; the mass was solid, encapsulated, and greyish-white on cut surface. Microscopic examination revealed intertwining bundles of smooth-muscle cells without mitotic activity (Fig. 4). Immunohistochemical staining was positive for muscle-specific actin and desmin and negative for S-100 and CD-68 (Fig. 5). Histopathological examination confirmed the diagnosis of vascular leiomyoma.

2.2. *Case 2*

36-year-old woman was referred to our clinic with a 1 year history of painful, slow-growing palpable mass in the left posterior lower leg. Physical examination revealed a 1.5 cm tender, hard but mobile mass. The overlying skin was normal. The patient underwent surgical excision under local anesthesia. The mass was easily removed due to non-adherence to the neurovascular structures. Immediately after surgery, the patient had complete relief of pain. There was no local recurrence at 3-month follow-up.

Bone radiograph did not reveal any bone abnormality or calcification. Soft tissue sonography demonstrated a well-defined, hypoechoic, non-homogeneous subcutaneous solid lesion. Sagittal T1WI (Fig. 6) revealed a non-homogeneous, well defined subcutaneous mass isointense to muscle. On axial T2WI (Fig. 7), the mass was slightly hyperintense relative to muscle. There was no fat suppression within the mass (Fig. 8).

Macroscopically, the mass was firm and encapsulated with a grayish white cut surface. Microscopic examination revealed intertwining bundles of the smooth-muscle cells without mitotic activity (Fig. 9). Immunohistochemical staining was

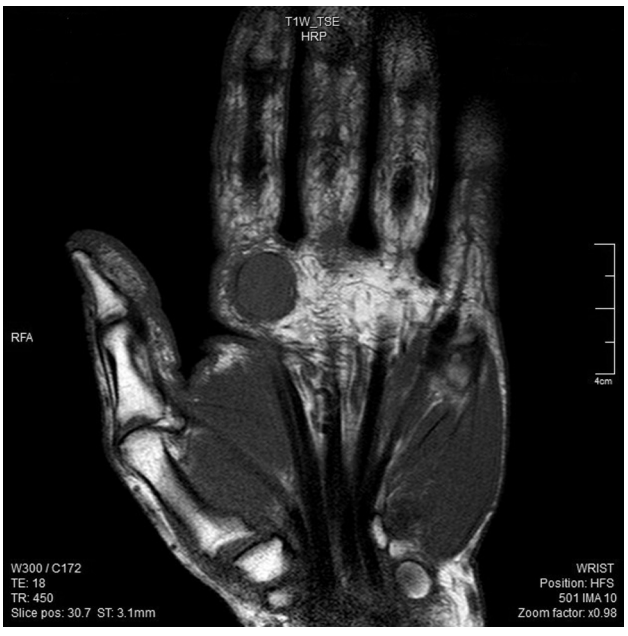

Fig. 1 – Coronal T1-weighted MR image (TE: 18, TR:450) of the right 2nd metacarpophalangeal joint shows a homogenous, well-defined mass isointense to muscle.

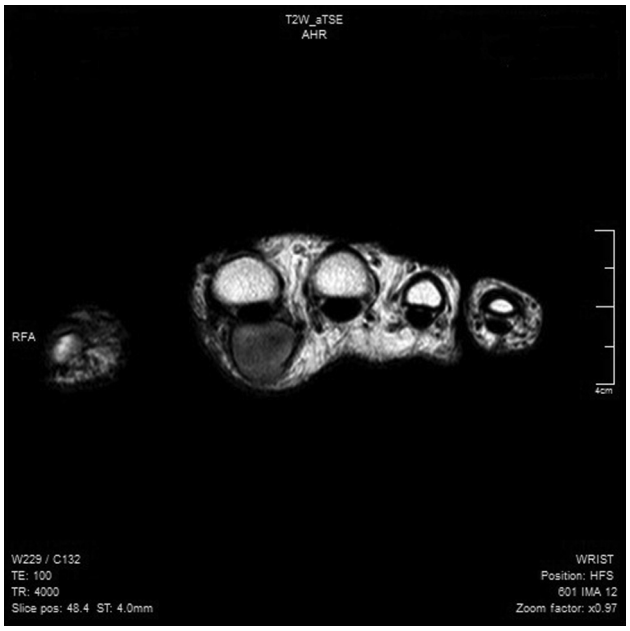

Fig. 2 – Axial T2-weighted MR image (TE:100, TR:4000) shows, well-defined mass with slightly higher intensity than muscle.

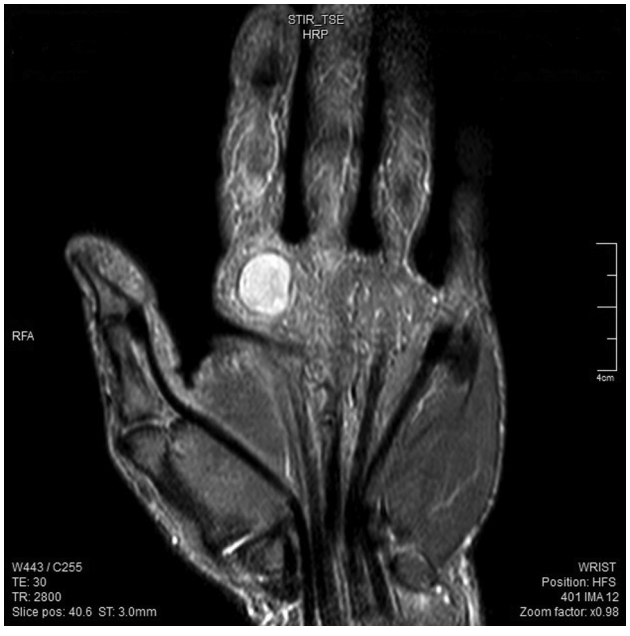

Fig. 3 – Coronal STIR image (TE:30, TR:2800) of the right hand shows a hyperintense smooth, soft tissue mass.