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Angioleiomyoma of the Ankle

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Abstract

Leiomyoma is a benign soft-tissue mass of smooth muscle origin. Patients usually present to the outpatient clinic with a slow-growing subcutaneous soft-tissue mass. It was aimed to report that angioleiomyoma can be rarely localized around the ankle. A 54-year-old male patient was admitted to our outpatient clinic with a complaint of soft-tissue mass with periodic pain on the lateral side of the left ankle for 1 year. After clinical and radiological evaluation, a 22 mm × 18 mm septated soft-tissue mass that did not show any contrast was detected on magnetic resonance imaging. Soft-tissue mass excision was planned with extracapsular resection against the possibilities of malignant pathology. The soft-tissue mass was approximately 2 × 1.5 cm in size, and it was regularly encapsulated. Pathological examination results were determined as vascularized leiomyoma. Vascularized leiomyoma should be considered in the differential diagnosis of ankle soft-tissue tumors, and it should be excised with wide margins.

Keywords: Angioleiomyoma, ankle, leiomyosarcoma, soft tissue, subcutaneous

Introduction

Leiomyoma is a benign soft-tissue mass of smooth muscle origin. It is rarely seen in the extremities.[1] While solid type is more common in women, angioleiomyoma, which is a venous subtype, is more common in men.[2] Vascular leiomyoma is a benign tumor originating from tunica media and either the veins of smooth muscles or the middle layer of its arteries.[3] Patients usually present to the outpatient clinic with a slow-growing subcutaneous soft-tissue mass. Pain is rare.[1]

Differential diagnosis includes schwannoma, neurofibroma, ganglion cysts, liposarcoma, and myxomatous tumors. Surgical excision is performed for diagnosis, treatment, and ruling out malignancy. If surgery is performed with full surgical margins, the recurrence of these tumors is low, and they rarely undergo malignant transformation and turn into leiomyosarcoma.[4,5] Although angioleiomyoma is rarely localized around the ankle, clinicians should consider angioleiomyoma in the differential diagnosis.

Case Presentation

Informed consent for the study was obtained from the patient. A 54-year-old male patient was admitted to our outpatient clinic with a complaint of soft-tissue mass with periodic pain on the lateral side of the left ankle for 1 year. In the orthopedic examination of the patient, neurovascular deficit was not detected in the left lower limb. The range of motion in the patient's left lower limb joints was in normal values. A soft-tissue mass of approximately 15 mm × 20 mm was detected on the posterior of the left lateral malleolus. There was a slight sensitivity on the soft-tissue mass during palpation. No pathological changes were detected in the skin tissue on the soft-tissue mass. The range of motion of the left ankle was evaluated to be within normal limits. Achilles tendon integrity was complete, and it was thought that it was not related to soft-tissue mass. No pathology was detected in the x-ray of osseous structures. The presence of a 22 mm × 18 mm nodular appearance, which is indistinguishable from solid-cystic nature, within the boundaries of a smooth contoured in noncontrasted magnetic resonance imaging (MRI) in the posterolateral of left ankle lateral malleolus. Contrast MRI was

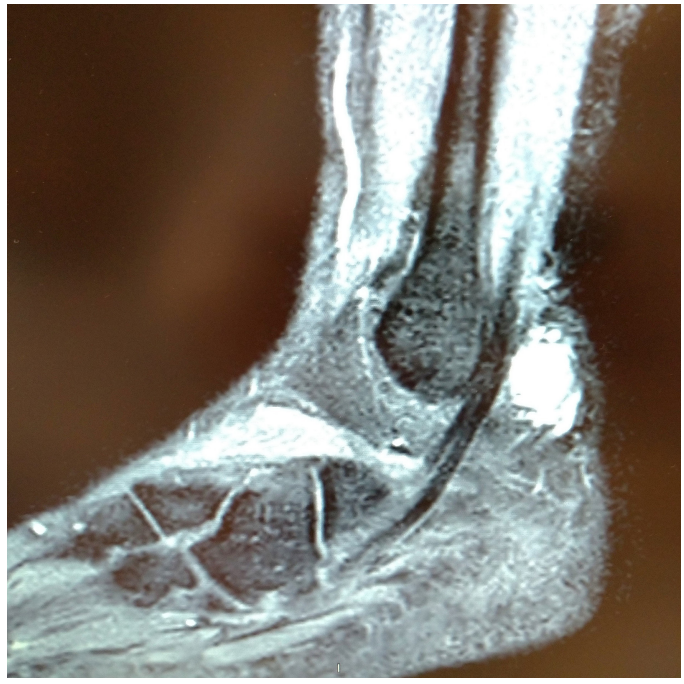

Figure 1. Preoperative sagittal magnetic resonance imaging sections of the ankle.

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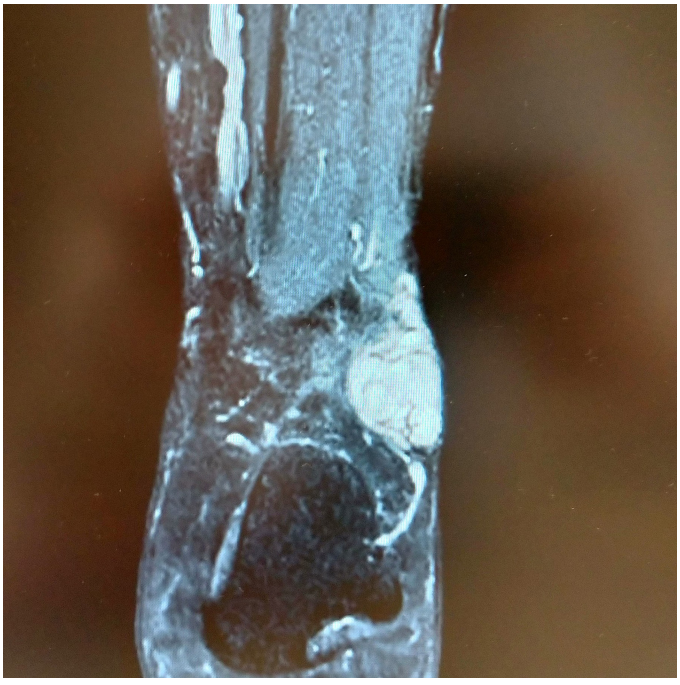

Figure 2. Preoperative coronal magnetic resonance imaging sections of the ankle.

performed. Following intravenous (IV) contrast, 22 mm × 18 mm septated structure that did not show any contrast was detected. The appearance of the soft-tissue mass was compatible with ganglion cyst (Figures 1-3). Biopsy was not planned according to MRI reports, but soft-tissue mass excision was planned with extracapsular resection against the possibilities of malignant pathology.

Surgical Treatment

A 3 cm longitudinal incision was made over the soft-tissue mass from the posterior lateral malleolus and the mass was reached.

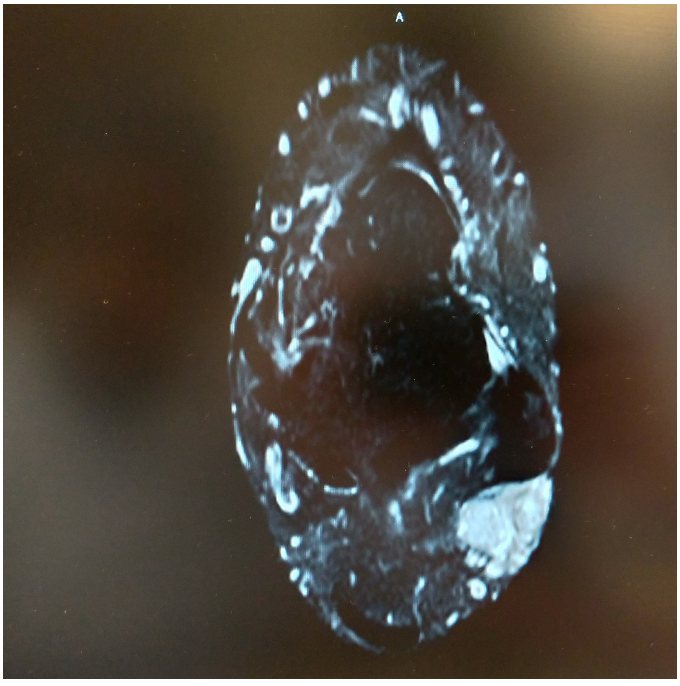

Figure 3. Preoperative axial magnetic resonance imaging sections of the ankle.

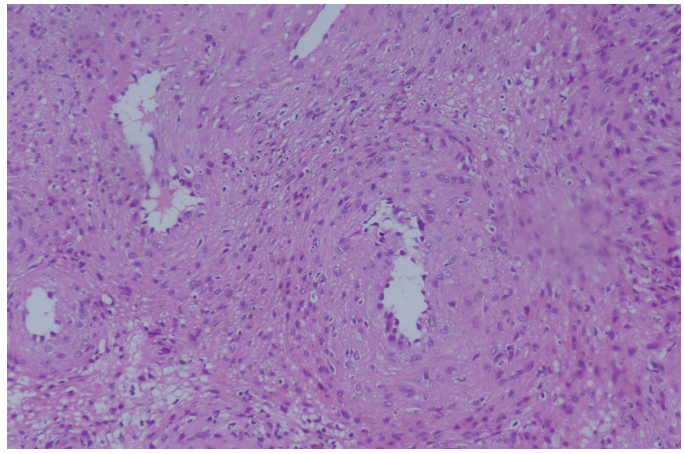

Figure 4. Histomicrograph of angioleiomyoma (original magnification 10×, hematoxylin and eosin).

The soft-tissue mass was dissected and excised with extracapsular resection. It was observed that the mass was approximately 2 cm × 1.5 cm in size and was regularly encapsulated. The tourniquet was deflated. After bleeding control, incision was closed in accordance with the anatomy. No neurovascular deficit was detected in the left lower limb after surgery, and no infection was detected in the follow-up.

Histological Evaluation

Smooth muscle cells surrounding the vascular lumens lined with normal endothelial cells were detected. Mitosis, necrosis, and hemorrhage were not detected. Pathological examination results were determined as vascularized leiomyoma (Figures 4 and 5).

No local recurrence was detected after 1 year of follow-up. The patient had no clinical complaints. The range of motion of the left ankle was fully evaluated. It was determined that the examination of the Achilles tendon was natural.

Discussion

Soft-tissue masses in the foot and ankle are rare. Eight percent of benign soft-tissue masses and 5% of malignant tumors are seen in the foot and ankle.[6,7] Vascular leiomyomas can be divided into three subcategories as solid or capillary lesions, venous lesions, and cavernous lesions.[4] Minor trauma, hamartomatous changes,

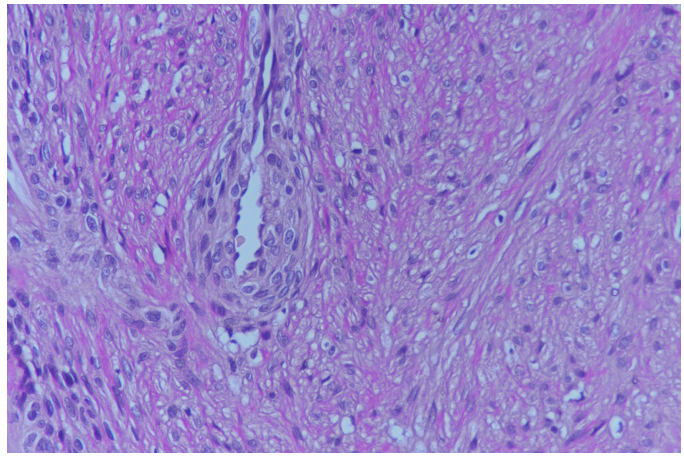

Figure 5. Histomicrograph of angioleiomyoma (original magnification 40×, hematoxylin and eosin).

venous stasis, and hormonal changes, especially estrogen, are noted as etiological factors.[2] Seventy-eight percent of vascularized leiomyomas are smaller than 2 cm in foot, but some have been reported to be as large as 6 cm.[4,8] The size of the soft-tissue mass in our case is approximately 2 cm × 1.5 cm in size and is compatible with the literature data.

A 60% recurrence rate is noted in leiomyosarcoma after local excision. Recurrence and inclusion of osseous structures should suggest leiomyosarcoma.[8-10] No local recurrence was observed after the patient's 1-year follow-up.

There are vascular channels consisting of environmentally regulated inner layer and an outer layer that mixes with less regular smooth muscle tissue histologically.[11] Histologically, examination results are compatible with the definition in the literature.

Classically, clinic sensitivity and pain triggered by temperature changes and touch usually occur in 50%-70% of patients.[4] It was stated that there were sensitivity and pain in the mass of five patients in the series of eight cases reported, and there were no sensitivity and pain in the masses of three patients.[12] Angioleiomyomas usually have pain. This may be due to nerve compression or local hypoxia that occurs due to the construction in the blood vessels.[13] Localized sensitivity was detected in our patient's preoperative examination.

In conclusion, angioleiomyoma can be rarely localized around the ankle. Ganglion, lipoma, fibroma, hemangioma, schwannoma, synovial sarcoma, leiomyosarcoma should be considered in the differential diagnosis and it should be excised with wide margins.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

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Declaration of Interests: The authors declare that they have no competing interest.

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