A RARE CASE OF VASCULAR LEIOMYOMA MASQUERADING AS AN EPIDERMOID CYST

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Abstract

Vascular leiomyomas are benign tumors arising from the muscular layers of veins. Here, we discuss a case of Vascular leiomyoma of the right knee which was misdiagnosed as an epidermoid cyst on ultrasonography. Treatment usually consists of excision and these swellings rarely recur. It is important therefore to consider vascular leiomyomas as a differential diagnosis for swellings in the subcutaneous tissue especially in the extremities.

Keywords: Vascular leiomyoma, benign, tumor, ultrasonography

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1. Introduction

Vascular leiomyomas are usually solitary, benign tumors arising from the tunica media of veins. It commonly occurs in the extremities, most commonly in the lower limbs (50%–70%). Clinically, it often presents as a small (<20 mm), slow‑growing, firm, mobile mass associated with pain in approximately 60%. (1)
The diagnosis of leiomyoma is frequently delayed due to its rare occurrence and due to the lack of awareness of the treating physicians. This study has described a case of swelling over the knee. Surgical excision confirmed it to be a vascular leiomyoma. (2)

Case Report
A 32-year-old male presented with complaints of swelling over the anterior aspect of the right knee since 2 months. The swelling was associated with pain, more on flexing the knee while sitting, which was insidious in onset, present on and off, non-radiating, aggravated for 1 week prior to presentation, and partially relieved on extending the knee joint. On examination, a solitary oval swelling over the anterior aspect o the knee, just distal to the lower border of the patella, which measured 3*3 cm, which was non-tender, minimally mobile, soft in consistency, and in the subcutaneous plane, was noted. Differential diagnoses of lipoma, a dermoid cyst, and bursitis were considered and the patient underwent an Ultrasonographic evaluation of the swelling. USG was suggestive of an epidermoid cyst and the patient underwent an excision biopsy of the swelling.

Histopathology was suggestive of a nodular well-encapsulated mass composed of spindle cell proliferation at many places seen around thin and thick-walled blood vessels. These spindle cells do not show significant cytological atypia or mitoses. This confirmed the diagnosis of Vascular leiomyoma. (No e/o malignancy)
The patient had an uneventful recovery period and the clinical follow up of the patient revealed no local recurrences.

2. Discussion

A vascular leiomyoma is a benign smooth muscle neoplasm arising from the tunica media of the veins that frequently occurs in the extra-skeletal sites which include the ovaries, uterus, bladder, lung, and gastrointestinal tract. They are usually less than 2 cm in the greatest diameter. These lesions can be found in the dermis, subcutaneous fat or deep fascia. In physical examination, the tumor is usually a painful and mobile subcutaneous mass. Leiomyoma of the lower extremities are more frequent than upper extremities. (3,4) Among all the extremity vascular leiomyomas 50–70% are found in the lower extremity and twice as common in females. On the contrary, head, neck and upper extremity lesions are more common in males than females. Vascular leiomyomas of the hand are rare, accounting for about 17% of all vascular leiomyomas. (5) Aetiology is still unknown. In the series reported by Hachisuga et al, (6) 375 of 562 (66.7%) occurred in the lower extremity, 125 (22.2%) in the upper extremity, 48 (8.6%) on the head and 14 (2.5%) on the trunk. (6) Morimoto et al reviewed the clinicopathology of the vascular leiomyoma and they showed that 70% of 241 cases located below the knee. (7) Approximately 80% of extremity leiomyomas were associated with pain, either spontaneously or secondary to touch.

Histopathological identification with staining techniques, such as Masson's trichrome, hematoxylin-eosin, alcian blue, van Gieson and periodic acid-Schiff (PAS) can be of great value for the diagnosis of leiomyoma. Also, immunohistochemical stains for vimentin, desmin and smooth muscle actin are adjunct to the histopathological identification of leiomyoma. (6) Immunohistochemical staining was performed on both of our cases and was positive for both desmin and muscle-specific actin.

In 1995, Ezinger distinguished clinically and pathologically into three main groups of leiomyomas: (8)
• Superficial leiomyomas: including piloleiomyoma (the most frequent type originating from arrector pili muscles, which can be isolated or multiple), genital leiomyoma (arise from the smooth muscles of the vulva, labia majora, scrotum, penis, and mammary areola)

• Vascular leiomyoma or angioleiomyomas: mainly localized in the subcutaneous region
• Deep leiomyomas: localized in the intrafascial‑intramuscular region and larger than the superficial leiomyomas, in which calcium deposits often develop.
Four histological subtypes of angioleiomyomas have been described: (8)

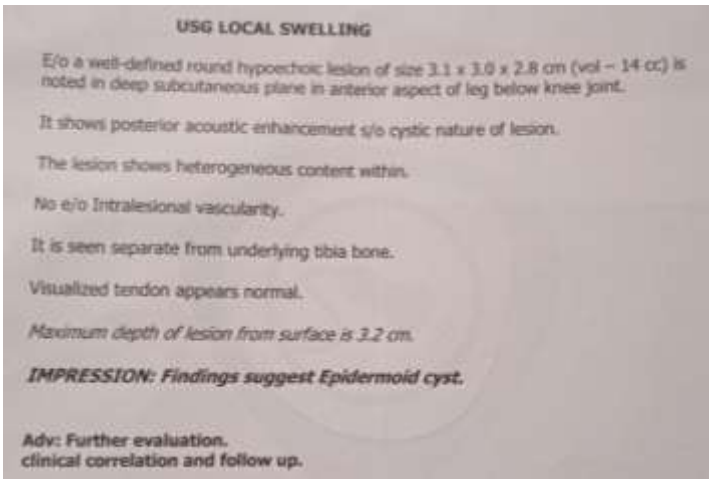
1. Capillary or solid angioleiomyomas which have a rich smooth muscle cell stratification that surrounds and holds a few thin vascular channels
2. Venous angioleiomyomas which are characterized by more numerous and thicker vascular channels than are found in capillary angioleiomyoma
3. Cavernous angioleiomyoma which has widened vascular channels which are surrounded by a thin layer of smooth muscle cells
4. Combined capillary and venous angioleiomyoma.

Complications, such as secondary calcification, myxoid degeneration, hyalinization, and malignant transformation, have been reported. Dystrophic calcification has been reported to occur due to minor pressure, an injury, a previous inflammatory process, or de novo. (5)

Treatment of the leiomyoma is simple excision with ligation of the feeding vessels. However, complexity occurs in cases of close proximity to the neurovascular bundle and the underlying bones. Recurrence is very rare after complete surgical removal. (9)

3. Conclusion

Although angioleiomyoma is an infrequent soft tissue tumour, it has a typical nonspecific presentation. It has to be considered in the differential diagnosis of subcutaneous swellings, especially in the extremities. Preoperative MR imaging is crucial to demonstrate the extent of the soft tissue mass and the relationship between the neurovascular structures as well as the underlying bones. Excision of the lesion and histopathology give a definitive diagnosis and a complete resolution of the symptoms in the patient.



USG LOCAL SWELLING

E/o a well-defined round hypoechoic lesion of size 3.1 x 3.0 x 2.8 cm (vol – 14 cc) is noted in deep subcutaneous plane in anterior aspect of leg below knee joint.

It shows posterior acoustic enhancement s/o cystic nature of lesion.

The lesion shows heterogeneous content within.

No e/o Intralesional vascularity.

It is seen separate from underlying tibia bone.

Visualized tendon appears normal.

Maximum depth of lesion from surface is 3.2 cm.

IMPRESSION: Findings suggest Epidermoid cyst.

Adv: Further evaluation.
clinical correlation and follow up.

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