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CASE REPORT

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Presentation of Myopericytoma in the Lower Leg: A Case Report with a Brief Review of the Literature

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Abstract

Myopericitoma is a rare benign tumor of soft tissue that emerges from perivascular smooth tissue. Myopericitoma primarily derives from soft tissue and skin of the inferior extremities and is rarely found in internal organs. Considering the rare encounter with this neoplasia, it is often misdiagnosed as lipoma or atheroma. Our patient presents with a lump in the lateral region of the Achilles tendon on the right side. On inspection, a small, painful lump of approximately 5 mm × 5 mm is noticed without cutaneous changes. In histopathologic examination, branched blood vessels are detected with a characteristic "hemangiopericytoma look-alike" appearance surrounded by prolonged myoid cells.(**International Journal of Biomedicine. 2023;13(2):361-363.**)

Keywords: myopericitoma • myoid cells • lower extremities

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Introduction

Myopericitoma is a rare, benign, subcutaneous tumor that is characterized by the appearance of myoid-shaped cells that tend to form circular perivascular growth.[1] Although the origin of the tumor is from the hypodermis and soft tissue, there have been reports of myopericitoma occurring in internal organs such as the kidney and stomach or even as a primary intracranial myopericitoma. However, the frequency of the tumor in such organs is exceptionally low. These tumors are believed to originate from perivascular myoid cells and are usually diagnosed by histopathological analysis.[2-4] When the neoplasia originates from the subcutaneous or soft tissue, the most common location is the distal extremities, emphasizing the lower extremities. The tumor usually presents as a small, painless lump growing slowly. While myopericitoma is considered a benign tumor, it can cause discomfort and pain, particularly if it grows in a weight-bearing area or compresses surrounding tissues.[5,6] Treatment of myopericitoma usually involves surgical removal. Given the rarity of this neoplasia, reporting case studies is essential to enhance our understanding of its clinical features, treatment options, and prognosis. In this report, we present a case of a 58-year-old female who presented with a painful lump on the lateral side of her right leg's Achilles tendon. The surgical removal of the lump confirmed the diagnosis of myopericitoma, and the patient completely recovered after the procedure. The purpose of this report is to increase awareness of this rare tumor and highlight the importance of considering it in the differential diagnosis of subcutaneous and soft tissue tumors.

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Case Presentation

A 58-year-old female presented at the Orthopedic Department of the General Hospital with a complaint of a painful lump on the lateral side of her right leg's Achilles tendon. She stated that she faced difficulty while walking because of the discomfort caused by the mass when it came in contact with her footwear. The physical examination revealed a well-defined lump of 5mm×5mm, with no cutaneous changes and no signs of inflammation. However, the lump was extremely painful when palpated. The patient had no history of previous surgeries but was regularly taking anti-hypertensive medications. She denied any family history of a similar condition.

The initial diagnosis was atheroma, lipoma, or epidermal cyst. Following preparations, the senior author performed surgical excision under local anesthesia. During the procedure, the tumor was located and removed, and it was found to be encapsulated with no visible signs of local invasion. The skin was closed using Nylon 3.0 suture. The material obtained during the surgery was sent for histopathologic examination.

The histopathology report revealed the presence of numerous branched blood vessels with a characteristic appearance that resembled a hemangiopericytoma, surrounded by elongated myoid cells (Figure 1). However, no cytologic atypia or mitosis was observed, and no signs of cell invasion were identified.

In conclusion, the patient's lump was diagnosed as a benign hemangiopericytoma-like tumor successfully removed through surgical excision. Although the patient did not have any medical history of such a condition, monitoring and following up with patients with similar symptoms is essential, as early diagnosis and treatment can lead to better outcomes.

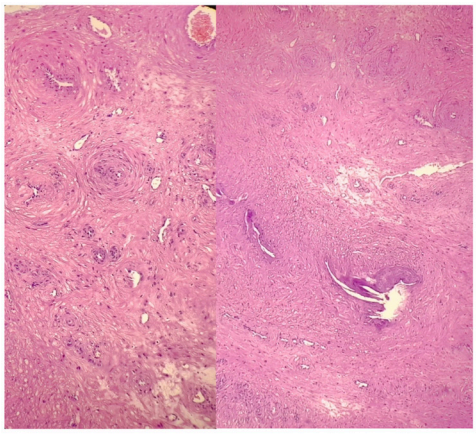

Fig.1. *Increased vascular structure, prominent hemangiopericytoma, elongated myoid cells arranged in a concentric pattern, set in the collagenous stroma with mild edematous changes (H&E). x10 magnification; x4 magnification*

Discussion

Myopericitoma is a rare and benign tumor of the skin and subcutaneous tissue, which was first described by Requena et al. in 1996[7] and then adjusted by Granter et al. in 1998,[8] who identified its histological pattern as a "premature-type" of myofibromatosis, tumors with characteristics of hemangiopericytoma, glomus tumor, and tumors with a peculiar concentric perivascular proliferation of spindle cells. These studies suggest that the structure of the described tumors derives from a common origin. In 2002, the WHO included myopericytoma in the pericytic group in the Classification of Tumors of Soft Tissue and Bone.[9]

Although myopericytomas are slow-growing tumors that commonly arise in the lower extremities, they can also be found in the upper extremities, head and neck region, and trunk.[10,11] While rare, myopericytomas have been reported in the region of the foot and ankle, with one case report of a myopericitoma presenting as a painful soft tissue mass in the plantar aspect of the first and second toes.[12] When the neoplasia originates from the subcutaneous or soft tissue, the most common location is the distal extremities, emphasizing the lower extremities.[5,13] However, there have been reports of myopericitoma in visceral organs such as the kidney and stomach, or even as a primary intracranial myopericitoma, although the frequency of the tumor in such organs is exceptionally low.[2-4]

Because myopericytoma is rare, it is often mistaken for lipoma or atheroma and can also be misdiagnosed as sarcoma.[14] Our findings align with the description of myopericytomas in general, being well-circumscribed and nonencapsulated masses with spindle-shaped cells and a concentric perivascular growth pattern.

The incidence of the tumor is higher in middle age, but it can occur between the ages of 10 and 70, and there is no proof of hereditary linkage. While recurrence is very rare, it has been reported and is correlated with either incomplete removal or indistinct borders.[15] Malignancy is also very rare, but it has been reported. In our case, none of the above-mentioned complications were noticed in the six-month and one-year follow-ups.

Surgical excision is the preferred treatment method, and several studies have shown good-to-excellent results with a low local recurrence rate.[16] It is important to emphasize the need for close monitoring of patients after surgery to ensure complete removal and prevent a recurrence. Overall, the rarity of myopericytoma underscores the importance of careful clinical evaluation and histological examination to reach an accurate diagnosis and inform appropriate treatment decisions.

Competing Interests

The authors declare that they have no competing interests.

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