Clinics in Oncology

Case Report
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Myopericytoma in the Pre-Tibial Region in a Young Adult: A Case Report

Ruppen IC[1], Secco WG[2], de Araujo JD[3], Otani LH[3] and Barichello MP[2]*

[1]Centro Universitário Ingá-UNINGÁ, Brazil

[2]Hospital Norte Paranaense - HONPAR, Brazil

[3]Instituto Maringá de Imagem, Brazil

Abstract

Myopericytoma (MPC) is a rare, benign tumor often presenting as a cutaneous growth commonly in the lower extremities. It is distinguished by its concentric layering of spindle shaped myoid appearing cells perivascularly. This case study reviews the presentation of a 35-year-old male with a slow-growing, pre-tibial lesion developing over a 5-year period. This lesion was symptomatic and demonstrated vascular involvement on ultrasound scan. This lesion measured 1.2 cm × 0.5 cm × 1.2 cm histologically. The histological findings in correlation to clinical presentation led to a diagnosis of MPC.

Keywords: Benign tumor; Myopericytoma; Pretibial; Immunohistochemistry

Introduction

Myopericytoma, a term coined in 1998, is generally a rare benign tumor, which typically presents as a subcutaneous growth in the lower extremities of the body, head, and neck regions, affecting predominantly male patients aged between 30 and 40 years old [1]. Very rare cases of malignant myopericytoma have been diagnosed in superficial soft tissues and described in the literature, with the first documented appearance of benign myopericytoma dating back to 2002, reported by McMenamin and Calonje [2]. Due to its rarity, the biological behavior of this tumor has not been fully mapped and understood. However, it is known to be distinguished by concentric layers of spindle-shaped myoid cells presented perivascularly (myopericyte), with cells testing positive for staining that identifies smooth muscle alpha actin and in rare cases also staining positive for desmin. This case study reports the situation of a 35-year-old male patient with lesions on the anterolateral aspect of the right leg, painful to palpation and with blood flow identified by Doppler study. The nodule measured 1.2 cm × 0.5 cm × 1.2 cm, and its characteristics identified by immunohistochemical study classify it as benign myopericytoma.

Objectives

This work aims to report a clinical case, describing its infrequent occurrence and characteristics, thus contributing to a better understanding of the tumor.

Case Presentation

A 35-year-old male patient was admitted to the orthopedic specialty clinic with complaints of nodules on the anterolateral aspect of the right leg. The patient was in good health, with no history of previous skin lesions or family history of similar lesions. Upon physical examination, a movable and painful nodule in the region of the anterior tibial tendon was found, without signs of local peripheral circulation or inflammatory signs. An ultrasound of soft tissues was immediately requested, which revealed the presence of a solid nodule with regular contours, hypoechoic, measuring 1.2 cm × 0.5 cm × 1.2 cm, located within the subcutaneous fat of the middle third of the anterior leg, with blood flow present on Doppler study and preserved muscular planes. Upon return to the consultation, along with the ultrasound report, surgery was requested for the removal of the nodule. The lesion was completely excised, with a well-appearing surgical wound and good postoperative recovery, without evidence of recurrence after 8 months of follow-up. It was sent for histopathological analysis, with immunohistochemical study, diagnosing a vascular stromal tumor, without atypia, necrosis, or mitoses, measuring 1.1 cm in the greatest axis. The tumor cells tested negative for CD-4, with positive desmin testing, showing multiple concentric arrangements of cells with rounded nuclei and

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Correspondence:
Ian Caldeira Ruppen, Centro Universitário Ingá-UNINGÁ, Maringá–PR, Brazil,

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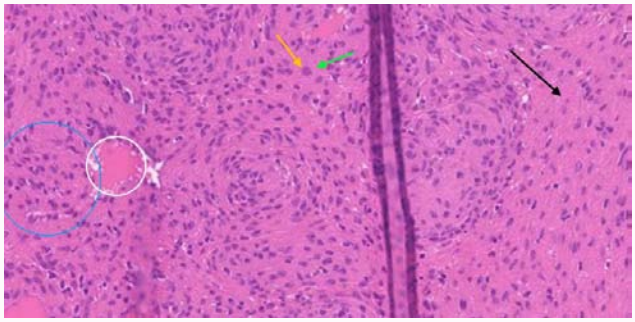

Figure 1: Histopathological slide stained with H&E, demonstrating multiple perivascular concentric arrangements (blue circle) of spindle-shaped smooth muscle cells around vessels with red blood cells (white circle), with smooth and rounded nuclei (yellow arrow) and prominent plasma membrane (green arrow), transitioning with healthy tissue in usual organization (black arrow).

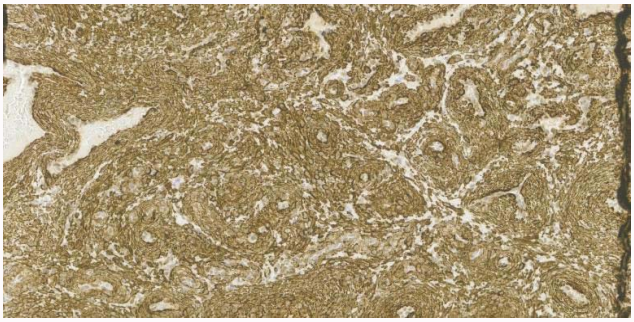

Figure 2: Slide with immunohistochemical marker h-Caldesmon, a marker of smooth muscle cells, demonstrating uptake of the marker (in brown) by the analyzed fragment on the slide.

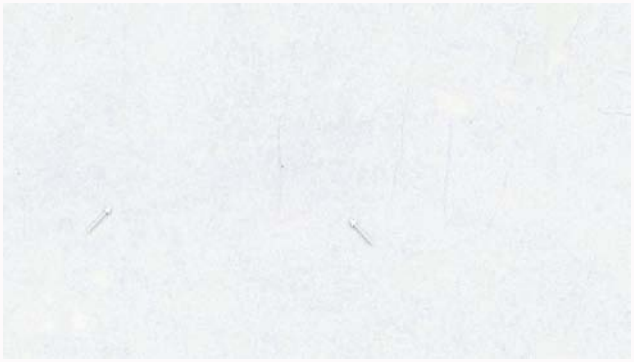

Figure 3: Slide with immunohistochemical marker desmin, demonstrating uptake of the marker by smooth muscle cells arranged circumferentially around vessels (white arrows).

abundant plasma membrane, arranged perivascularly. In conclusion to this immunohistochemistry, associated with the histopathological findings, it was compatible with Myopericytoma (Figures 1-3) [3-10].

Conclusion

In this case, the importance of surgical resection and referral for histopathological examination is evident for diagnosis and ruling out potentially aggressive lesions. The histological findings in analogy with the patient's clinical presentation and immunohistochemical examination led to the diagnosis of Myopericytoma.

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