



Case report

Fast growing myopericytoma of the hand: Case report and literature review[☆]Abdulaziz K. Alhujayri^{*}, Sulaiman I. Alsugair, Obaid Al Mishal

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A B S T R A C T

Introduction and importance: Myopericytoma (MPC) is a rare benign soft tissue neoplasm that arises from perivascular smooth muscle-like myoid cells that share features of both glomus and smooth muscle cells. It usually slow growing solitary tumor that might mimic aggressive sarcoma.

Case presentation: 45 years old male, with unremarkable medical history, presented with fast growing mass on the left 1st webspace that was noticed 6 months prior to presentation. Investigations with US and MRI showed highly vascular solid mass that was worrisome for malignant lesion. Surgical excision was done and histopathology confirmed the diagnosis of myopericytoma.

Clinical discussion: MPC is a rare perivascular neoplasm that's reported mainly in the extremities with lower limbs are most affected sites. Usually it presents as solid painless slowly growing mass. However, Multiple papers reported different rare presentations like multiple, painful and some with malignant transformation.

Conclusion: MPC is a benign tumor that might mimic aggressive sarcoma. Such cases should be approached with high suspicion and proper investigation and management should be followed promptly.

1. Introduction

Myopericytoma (MPC) is a rare benign soft tissue neoplasm that arises from perivascular smooth muscle-like myoid cells that share features of both glomus and smooth muscle cells, and it usually affects the extremities. MPC often presents as a solitary, well-demarcated, slow-growing, and non-painful palpable nodule or soft tissue mass present for several years [1,2]. Histologically, MPCs are made of oval-shaped myoid-like cells with smooth muscle differentiation, actin expression, arranged in concentric, perivascular pattern [3]. At Magnetic Resonance Imaging (MRI), tumors are mostly found to be superficial, well-defined, and showing highly vascularized, enhancing soft tissue often with areas of internal hemorrhage [4]. The cornerstone treatment of MCP is surgical excision. Since hand myopericytoma is rarely described in the literature, we are reporting this case of 45 years old who presented with painless swelling in the first web space diagnosed as myopericytoma.

2. Case presentation

A 45 years old male was referred from family medicine to plastic

surgery a with fast growing left first web space mass that was noticed for the first time six months prior to his presentation. His surgical and medical history were unremarkable. The patient is not on any medications and he denies any family history with similar presentation. Physical examination revealed a painless, firm, immobile mass, about 2 × 2 cm in size. Ultrasound was done and it demonstrated iso to hypoechoic nodule measuring 1.3 × 0.8 cm in size. The nodule was identified at the palmar aspect of the base of the left thumb. Also, it showed extensive vascularization with no surrounding inflammatory changes or abnormal echotexture (Fig. 1). For further clarification, MRI was requested and showed a rounded soft tissue lesion in the ulnar aspect adjacent to the first dorsal interosseus sized 1.2 × 1.3 × 1.4 cm. The lesion was homogeneously low on T1, and it was homogeneously high on T2. Additionally, mildly engorged vessel was seen (Fig. 2). As a result, the patient was counselled with the findings of the investigations and agreed on the surgical excisional biopsy. The surgery was performed by the senior author. During the surgery, the mass was well defined. However, extensively adherent to the surrounding structure and both neurovascular bundles of the thumb (Figs. 3, 4, & 5). The pathology report demonstrated a mass consisting of a polypoid, round white lesion with

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attached stalk. The external surface is smooth and congested. Bisection of the specimen reveals a tan-white cut surface with a pinpoint hemorrhage. No necrosis was identified. Furthermore, Plump cells arranged around blood vessels were noted microscopically. Hence, the diagnosis of myopericytoma was made. The patient tolerated the procedure very well and he was followed up in the clinic afterwards for wound assessment and care.

The case report was written following the guidelines of SCARE 2020 Criteria.

3. Discussion

Myopericytoma is an uncommon tumor of soft tissues which was described in 1998 by Granter [1]. Moreover, the world health organization classified MCP as independent perivascular neoplasm in 2002 [3]. It mostly affects the extremities [1] however, myopericytoma has been reported in the neck, stomach, and kidneys [6–8]. Myopericytoma can develop at any age, with males are more prone to develop myopericytoma [9]. Given their ability for mimicry and malignancy, MPC tumors cause a unique challenge for surgeons, that might be overlooked on the differential diagnosis [10]. Moreover, the majority of reported cases of MPCs are benign, though rarely some cases were found to be malignant.

McMenamin reported five cases of malignant myopericytoma. The tumor was in the lower extremity in three cases with the other two located in the neck and mediastinum. The tumor metastasized in three cases, and the liver was the most affected site of metastasis [11].

Mentzel et al. reported the largest case series with 54 cases were included, the most commonly affected areas were the lower extremities followed by upper extremities. 2 cases were presented with multiple tumors whether in the same site or other body parts. Furthermore, only one case presented as multiple painful nodules. Upon following up on 46 cases, local recurrence was noted in two cases. Also, the tumors commonly characterized slow and steady growing [10]. Most of the cases have indolent course with slow grow reaching a period four and five years, respectively [9–12].

Another case was published by Morzycki describing a fast-growing myopericytoma of the index finger. The mass was presented for two months. Incisional biopsy was done, and it revealed cellular characteristics of MCP. The patient was treated with left index finger tumor resection with local advancement flap closure [13].

The etiology of MCP is unknown. However, Laga has documented two cases of MCP after traumatic injury at the alveolar ridge and forehead [14]. Moreover, Lau PP has reported a case series that showed MCP is associated with acquired immunodeficiency syndrome (AIDS). The first case was for a 31 years old female known case of AIDS with incidental bronchial mass has been found during bronchoscopy. The second case was for 42 years old male known case of AIDS has mucosal nodules in the tongue and vocal cord. Biopsy of the two cases revealed Epstein-

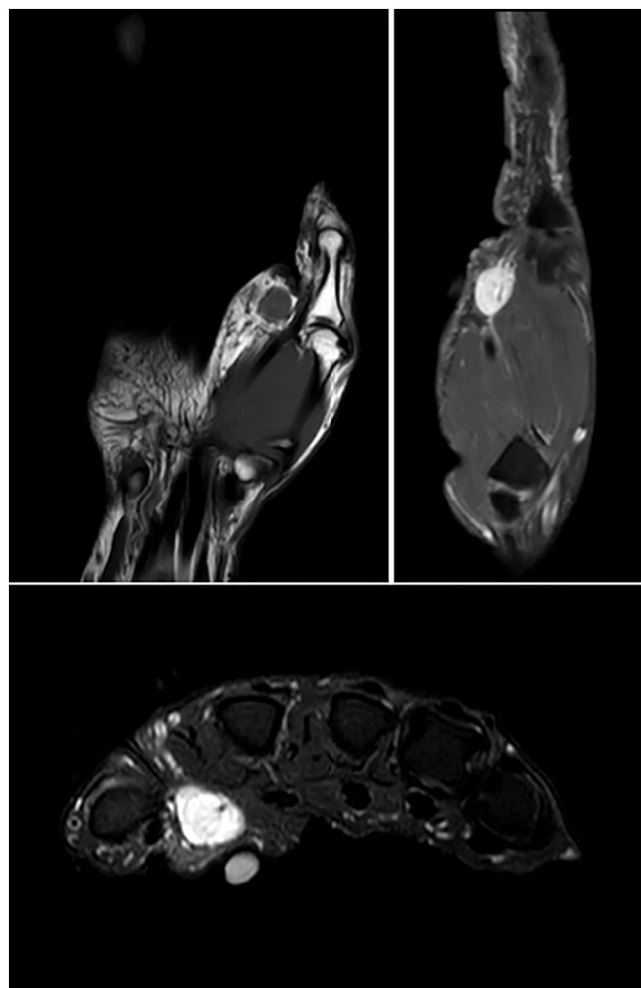


Fig. 2. Axial, Sagittal and Coronal cuts of the hand MRI showing the mass at the base of the thumb with low intensity signals in T1 and high in T2.

Barr virus-positive myopericytoma [15].

4. Conclusion

Myopericytoma is a rare tumor of the soft tissue. It usually behaves as benign lesions with slow indolent course. However, in our case, the patient presented with relatively quicker course that was worrisome for sarcoma. For that, with such unique presentation, we must keep on mind that the presentation might mimic more aggressive tumors that needs



Fig. 1. US of the palm in AP view showing iso-hypoechoic mass with extensive vascularity around it.



Fig. 3. The mass on thenar area of the thumb. It shows the close proximity of the ulnar digital nerve of the thumb.



Fig. 4. The site of the lesion after excising the mass.



Fig. 5. The mass after excision with feeding vessel at its base.

prompt actions and investigations.

CRediT authorship contribution statement

- Abdulaziz K. Alhujayri: Writing original draft, reviewing and editing the draft.
- Sulaiman I. Alsugair: Literature review
- Obaid Al Mishal: Visulaization and supervision

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Ethical approval

The paper has been approved by IRB of KAIMRC, MNG-HA, Riyadh for publication.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Research registration

N/A.

Guarantor

Abdulaziz K. Alhujayri.

Provenance and peer review

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Declaration of competing interest

No conflict of interest.

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