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Myxoma of the Dorsal Aspect of the Hand – A Case Report of a Rare Condition

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Learning Point of the Article:

This case highlights the importance of considering myxoma in the differential diagnosis of dorsal hand swellings, despite its rarity. The successful surgical excision and follow-up in a 34-year-old female with a myxoma on the dorsum of the hand underscore the need for early diagnosis and treatment to prevent potential complications.

Abstract

Introduction: Myxoma is a rare benign tumor of primitive connective tissue, most commonly found in the heart. It can also occur in other soft tissues, such as the skin, muscles, jawbones, and near joints. Myxomas of the upper limb, particularly in the hand, are extremely rare. This case adds to the limited literature on hand myxomas, providing insights into its clinical presentation, diagnosis, and management. Apart from this case, only two more cases of myxoma with similar topography have been described.

Case Report: A 34-year-old Caucasian female with no prior significant medical history presented with a non-painful, gradually enlarging mass on the dorsum of her right hand, which had been growing for a year and a half. The lesion was oval and mobile, without involvement of the extensor tendons. Imaging revealed a well-defined nodular lesion in the subcutaneous fat layer of the dorsomedial hand, suggestive of a myxoid-type lesion. A surgical excision was performed and a histopathological examination confirmed the diagnosis of myxoma, describing a 3 cm nodular fragment of compact, soft, mucinous tissues. At the 2-month follow-up, the patient had a fully healed wound with complete finger and wrist mobility, preserved muscular strength, and no pain. At the 1-year follow-up, no recurrence of the lesion was observed.

Conclusion: This case emphasizes the need to consider myxoma in the differential diagnosis of dorsal hand swellings. Early diagnosis and complete surgical excision are essential to prevent recurrence and potential complications. The successful management and follow-up in this patient illustrate the potential for favorable outcomes with appropriate treatment. This case report provides valuable information to the literature, enhancing our understanding of the clinical presentation and management of rare myxomas in the hand and highlighting the importance of awareness and thorough evaluation in managing unusual soft-tissue tumors.

Keywords: Myxoma, hand tumor, soft-tissue tumor, surgical excision.

Introduction

A myxoma is a rare benign myxoid tumor of primitive connective tissue. Its designation was first used by Virchow to describe certain tumors that were grossly and microscopically analogous to umbilical tissue. It is the most common primary tumor of the heart in adults [1,2], but can also occur in other soft-tissue locations, most commonly in the skin, muscles (especially of the lower limb), jawbones, or in the vicinity of the joints (juxta-articular) [3, 4]. Myxomas of the upper limb are extremely rare and those in the hand are even rarer [3]. We present the case of a 34-year-old female with a myxoma of the dorsal aspect of the hand.

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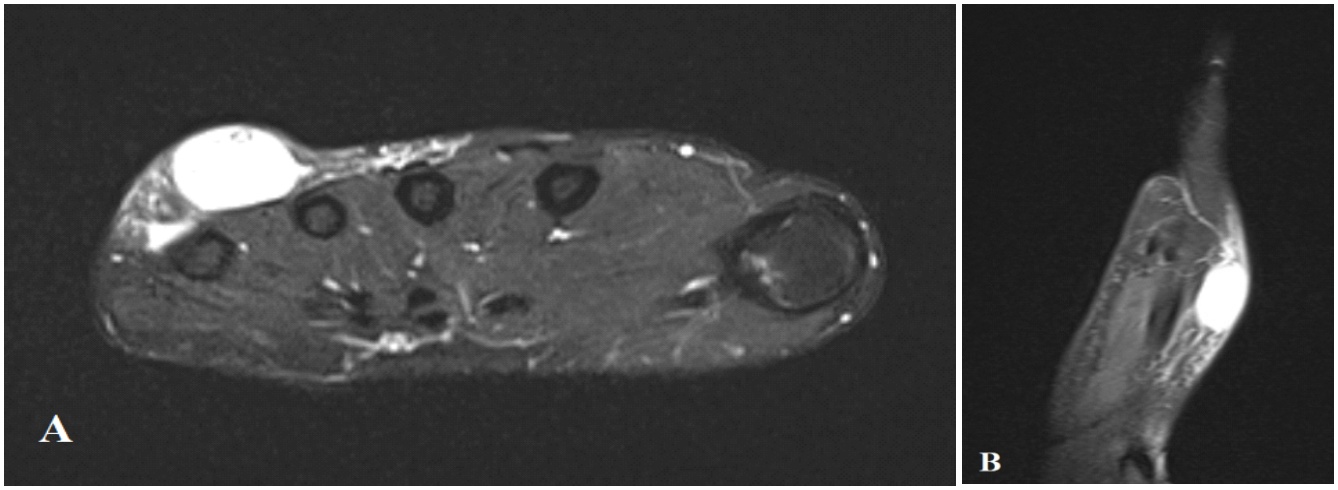

Figure 1: Magnetic resonance imaging T2-weighted images of the dorsal myxoma in axial (a) and sagittal (b) views. It is possible to identify a well-defined nodular lesion of oval morphology, in the subcutaneous fat layer of the dorsomedial aspect of the hand, sensitively at the transition planes of the metacarpal bones. It contacts the surface of the extensor tendons of the 4th and 5th fingers, apparently without involvement.

Case Report

We present the case of a 34-year-old Caucasian female with no prior significant medical history, who presented with a non-painful gradually enlarging mass on the dorsum of the right hand, which had been growing for a year and a half. The lesion was oval and mobile, without interference or mobility upon movement of the extensor tendons. A magnetic resonance imaging was performed, revealing a well-defined nodular lesion of oval morphology, in the subcutaneous fat layer of the dorsomedial aspect of the hand, sensitively at the transition planes of the metacarpal bones, contacting the surface of the extensor tendons of the 4th and 5th fingers, apparently without involvement, and suggestive of a myxoid type lesion (Fig. 1). Subsequently, the patient was referred for surgical en bloc excision of the lesion (Fig. 2).

A 4 cm dorsal curvilinear incision over the lesion was carefully planned and marked to provide optimal exposure while preserving key anatomical landmarks, including the extensor tendons of the 4th and 5th fingers, given the lesion's close proximity. Dissection was meticulously performed in a layer-by-layer approach progressing through the skin, subcutaneous tissue, and fascial plane to enhance visualization and minimize tissue damage. Special attention was given to identifying and preserving the extensor tendons and avoiding injury to the dorsal branches of the ulnar and radial nerves by employing blunt dissection near the tendon sheaths. No intra-operative extensor tendon or sagittal band involvement was observed. As a myxoid lesion was expected, gentle handling with atraumatic instruments and fine dissecting scissors was required due to its soft and mucinous nature and to avoid fragmentation. Clear separation planes from surrounding tissues were identified, allowing for the lesion's complete and intact excision. After thorough hemostasis, the surgical site was then closed in layers, with interrupted sutures applied to the skin, to minimize the risk

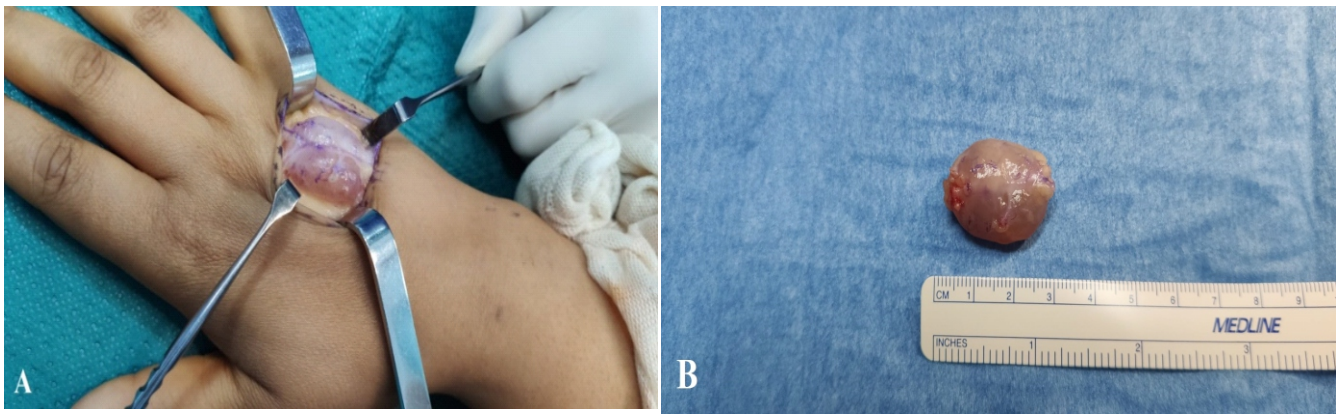

Figure 2: Intraoperative view of the lesion. (A) Lesion in the dorsal topography of the 4th and 5th metacarpals, before excision. (B) Lesion after surgical excision, measuring approximately 3 cm.

Site	No. of cases	Reference no
Subungeal	5	[1, 12, 13, 14, 15]
Fingertip	2	[14, 16]
Other finger regions	3	[11, 17, 18]
Palmar	2	[10, 19]
Intramuscular	4	[7, 20, 21, 22]
Dorsal hand	2	[3, 23]
Juxta-articular	2	[24, 25]
Total	20	

Table 1: Location of myxomas of the hand described so far in the literature

of hematoma or seroma formation and to promote optimal healing. Histopathological examination confirmed the diagnosis of myxoma, describing a nodular fragment of 3 cm, apparently limited and non-encapsulated, and consisting of compact, soft, mucinous tissues.

At the 2-month follow-up, the patient presented with a fully healed wound, complete finger and wrist mobility, fully preserved muscular strength, and no pain. At the 1-year follow-up, no recurrence of the lesion was observed.

Discussion

About < 1% of all upper-limb tumors occur in the hand [5], therefore, tumors at this body site are not well-studied [6]. Myxomas are rare, benign, soft-tissue tumors formed by the accumulation of mucinous tissue. They are most commonly found in the heart (incidence of 0.5–1 case per 106 individuals per year) [2]. Myxomas can be classified into various types based on their tissue of origin (bone or soft tissue) [7]. Originating from the bone itself, myxomas are predominantly found in the jaw, whereas periosteal myxomas typically occur in the long bones (e.g., the femur) [8]. The juxta-articular types are most commonly found in larger joints, such as the knee [9], shoulder, elbow, foot, and ankle, and only rarely in the hand and wrist [10]. Al-Qattan classified myxomas according to their origins and thought that they were subungual, bony, or from soft tissues [11]. On the hand, various sites have been described, including the subungual [1, 12-15], fingertip [14,16], other finger regions [11, 17, 18], palmar [10, 19], intramuscular [7, 20-22], dorsal [3, 23], and juxta-articular [24, 25] (Table 1).

Myxomas clinically present as a slowly enlarging mass and do not necessarily provoke pain [26,27]. They present as cystic formations [27] of soft or friable consistency, white to yellow, ranging from 2 to 6 cm in size [24]. Due to the anatomical features of the hand, patients tend to notice a hand mass early in the course of the disorder. Consequently, individuals with hand myxoma typically seek medical attention within the 1st year of the condition and present with a mass of small to medium size [3].

Treatment of a myxoma is complete surgical excision. Continued follow-up is important because the local recurrence rate after resection is high [25]. Incomplete resection may be the reason for this recurrence rate [9]. Although classified as benign lesions, myxomas can be locally destructive and thus cause symptoms such as pain or nerve palsy [28-30]. In the setting of local tissue destruction, one must consider malignancy in the differential diagnosis [24].

Conclusion

Myxoma of the hand is an extremely rare condition. To our best knowledge, only two more cases of myxoma with similar topography have been described, one from the intermetacarpal space [23] and the other purely dorsal [3]. Despite its rarity, it should be considered part of the differential diagnosis of dorsal hand swelling.

Clinical Message

The successful management of this rare entity, as represented in this case, emphasizes the need for early and accurate identification of myxomas to prevent recurrence and potential complications. This report provides valuable insights into the clinical presentation, imaging characteristics, and management strategies for hand myxomas, contributing to the limited literature on this rare condition. It underscores the significance of thorough evaluation and awareness in managing uncommon soft-tissue tumors, offering guidance for clinicians who may encounter similar cases.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflict of interest: Nil **Source of support:** None

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