CASE REPORTS

# CHEST WALL INTRAMUSCULAR MYXOMA: A RARE TUMOR

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## Abstract

*Intramuscular myxomas are rare benign soft-tissue tumors. The myocardium is the most common site for myxomas, while extracardiac myxomas are commonly localized in the musculature (broad muscle), upper extremities (shoulder and arm), thighs and gluteal muscles. We report the case of a 68-year-old with an extremely rare intramuscular myxoma localized in the chest wall. Difficulties include differentiation from sarcomas, intramuscular lipomas, hematomas and desmoid tumors.*

## INTRODUCTION

Myxomas are rare benign tumors that can occur in various parts of the body, including the heart, bone, subcutaneous and fascial skin tissue, genitourinary tract and skeletal muscle. They are known to arise from primitive mesenchymal cells that have lost the ability to produce collagen, but which produce excess hyaluronic acid and immature collagen fibers[1].

Intramuscular myxomas affect larger muscle groups, are common in the elderly and can reach relatively large sizes, like many soft-tissue sarcomas, making them difficult to distinguish. Microscopically, the lesion infiltrates the muscle despite a clearly encapsulated appearance and well-defined boundaries[2].

## CASE REPORT

A 68-year-old patient with no personal medical history consulted us for a swelling of the left paravertebral region. The swelling was painless and had progressively increased in volume since its onset 10 years before coming to see us. The swelling measured approximately 7.4 cm, was firm and vertically mobile.

Physical examination revealed no pathological signs. Ultrasound and soft-tissue MRI revealed an isolated, well-encapsulated intramuscular mass, with no distant lesions. Ultrasound revealed a hypoechoic, heterogeneous mass with calcifications and vascularization associated with a suspicious lesion. On MRI, the lesion was T1-isointense and T2-hyperintense, intensely enhanced with a necrotic center.

The main differential diagnoses included: soft tissue sarcoma, due to size, enhancement pattern and necrotic center, intramuscular lipoma, desmoid tumor and elastofibroma

While percutaneous core needle biopsy is generally indicated for soft tissue masses to establish diagnosis prior to definitive management, several factors supported proceeding directly to surgical excision in this case: The lesion demonstrated clear surgical resectability with well-defined margins, the long indolent clinical course (10 years) suggested benign etiology and the anatomical location was favorable for complete surgical excision

Blood and urine tests, included in the study due to a prior history of prostatic adenoma, revealed no abnormalities. All these examinations were performed prior to the patient's hospitalization at our institution (Figure1: A, B, C). The patient underwent surgery, an elective incision

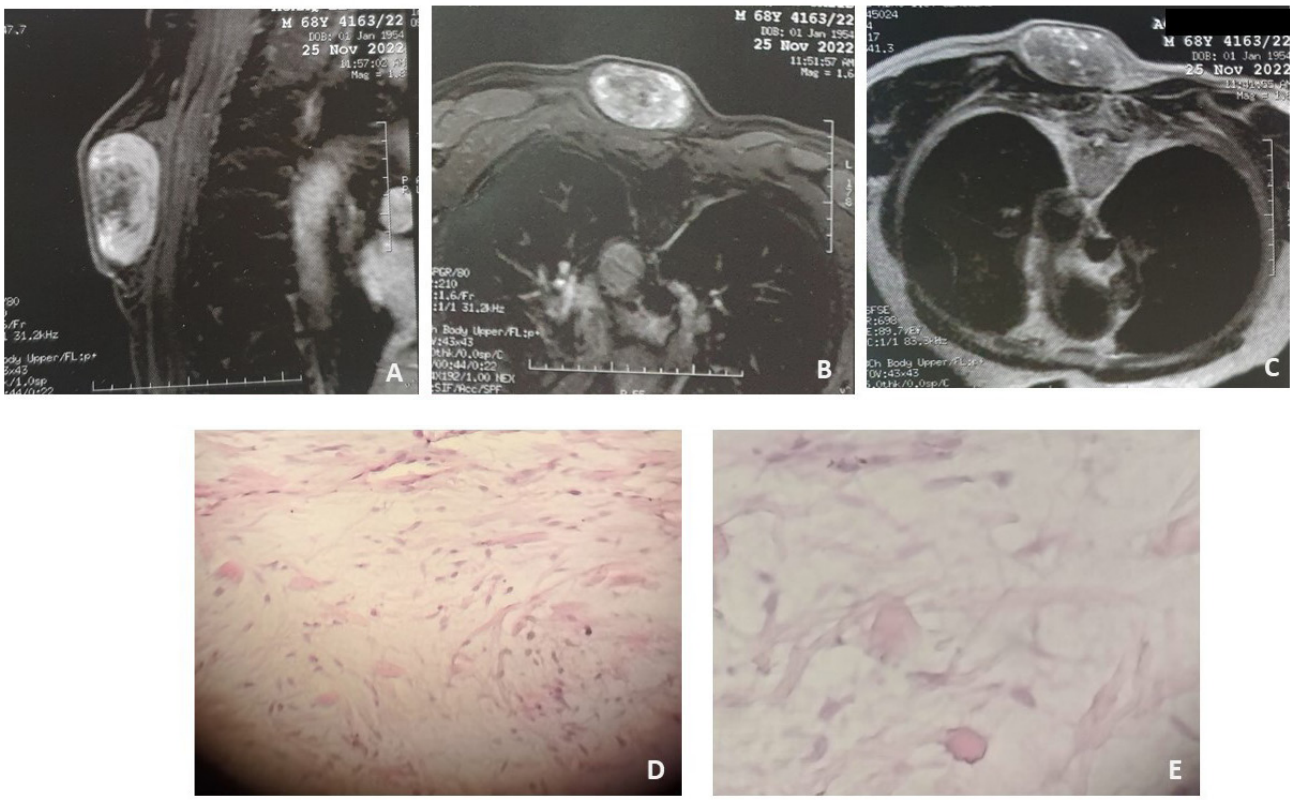


**Figure 1**

*Sagittal (A) and Axial (B) T2-weighted MR image of the chest shows high signal intensity within a lobulated lesion in the 7th-8th intercostal space (arrows). (C) Axial T1-weighted MR image of the chest shows a homogenously hypointense lesion (arrow). Photomicrograph of the resected mass. (D) HE (hematoxylin-eosin) x20. (E) HE x40 shows loose pauci-cellular myxoid appearance with few spindle cells and a few macrophages*

allowing complete resection of a well-encapsulated mass. The postoperative course was normal.

Histopathological studies revealed a solitary, spherical, clearly defined soft mass measuring 8x8x5 cm. Sections showed whitish, shiny, gelatinous areas. Microscopic examination revealed abundant mucosal material with relatively low cell density, consistent with a myxoma. There was no significant mitotic activity and the myxoma was surrounded by striated muscle bundles (Figure1: D, E).

## DISCUSSION

The term "myxoma" was first introduced in 1863 by Virchow to describe a mesenchymal tumor that histologically resembles the umbilical cord without further differentiation. According to Murphey et al., the histological criteria for diagnosing myxoma were established by Stout in 1948, who defined myxoma as "a true neoplasm composed of sparse stellate cells in a loose myxoid stroma of reticulin and collagen fibers" [2].

Intramuscular myxoma is an uncommon, benign mesenchymal neoplasm originating from the musculoskeletal system, with an incidence ranging from 0.1 to 0.13 cases per 100,000 population. These tumors typically manifest in the fifth and sixth decades of life, although they have also been reported in other anatomical locations, including the deltoid muscle, scapular region, abdominal wall, and paravertebral muscles. [1,2]

Intramuscular myxoma is a rare, benign musculoskeletal tumor, with an incidence of 0.1 to 0.13 cases per 100,000 individuals[1,2]. It typically occurs in the fifth and sixth decades of life [4], with a slight female predominance. These tumors can be solitary or may be associated with conditions like fibrous dysplasia or Albright syndrome [2]. When multiple lesions are present alongside fibrous dysplasia, the condition is known as Mazabraud syndrome [5]. Most intramuscular myxomas are characterized by solitary, painless, palpable, firm, mobile, and often undulating masses [1-3]. While they can develop anywhere, they commonly affect the muscles of the thigh, hip, and shoulder. Current imaging modalities include ultrasound and MRI. On ultrasound, intramuscular myxomas appear as well-circumscribed hypoechoic lesions, with possible anechoic cystic components. MRI typically shows the lesions as hypointense on T1-weighted images and hyperintense on T2-weighted gradient echo or STIR sequences [3,6].

Definitive diagnosis often requires biopsy and microscopic examination, as intramuscular myxomas can be challenging to distinguish from sarcomas, metastatic lesions, and other benign intramuscular tumors, such as lipomas, hemangiomas, hematomas, and desmoidomas. Surgical resection is the curative treatment, with a low risk of recurrence [1-3,6]. Another important consideration for surgeons is the potential coexistence of intramuscular myxomas with fibrous dysplasia, known as Mazabraud syndrome[5]. The identification of an intramuscular myxoma may necessitate a skeletal evaluation to detect any undiagnosed fibrous dysplasia lesions, which should then be monitored through routine follow-up examinations.

## CONCLUSION

Intramuscular myxoma is a very rare benign lesion of the musculoskeletal system with an unknown etiology. It typically presents as a solitary lesion, but the presence of multiple lesions may indicate a syndromic association. Surgical treatment is effective, with no risk of malignancy, and recurrences are usually the result of incomplete excision. The definitive diagnosis is based on histopathological examination.

## REFERENCES


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