

Myxoid Liposarcoma in the Abdominal Wall

A Case Report

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Abstract: A liposarcoma is the most common type of soft tissue sarcoma, and most liposarcomas are malignant. The extremities are the most common site for liposarcomas. There are 5 histologic types of liposarcoma, as follows: well differentiated; myxoid; round cell; pleomorphic; and dedifferentiated. Myxoid liposarcomas (MLSs) represent a subgroup of liposarcomas. There has been no report of MLSs in the abdominal wall.

We report a rare case of a MLS of a 43-year-old male who presented with tensile force on the abdominal wall. Computed tomography (CT) found a tumor in abdominal wall. There was no other abnormal symptom and the laboratory testing was also unusual.

At last, the tumor was successfully excised, which was diagnosed MLSs in pathology. Following standard principles, after complete excision, the patient received radiotherapy. The patient was followed up for 8 months and no disease recurrence was identified.

MLSs are rarely seen in the clinic, irrespective of the presenting signs, but also based on histologic features. The aim of this report was to present the differential diagnosis of an abdominal wall mass, and to remind us of MLSs.

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Abbreviations: CT = computed tomography, MLSs = myxoid liposarcomas, MRI = magnetic resonance imaging, STSs = soft tissue sarcomas.

INTRODUCTION

Soft tissue sarcomas (STSs) are rare mesenchymal tumors, which originate in non-epithelial connective tissue sources; liposarcomas are the most common STS. The incidence of liposarcoma peaks between 40 and 60 years of age.¹ Five histopathologic subgroups of liposarcomas have been

identified, as follows: well differentiated; myxoid; round cell; dedifferentiated; and pleomorphic variants.² Liposarcomas most commonly involve the extremities, especially the thighs and buttocks, and sometimes the retroperitoneum.¹ There have been no reports of liposarcomas involving the abdominal wall.

CASE PRESENTATION

A 43-year-old man presented with a mass in the abdominal wall of 3 months duration, which increased in size rapidly from the size of a soybean. The patient experienced tensile force on the abdominal wall as the mass enlarged; however, there was no direct pain involving the mass and no other symptoms. On physical examination, the mass was tender and mobile, and had a diameter of approximately 7 cm. Laboratory testing (blood routine and biochemical examination, urinalysis) revealed normal results. Tumor markers, such as CEA, CA19-9, and CA-125, were within the normal ranges. A computed tomography (CT) scan showed the tumor to involve the subcutaneous to muscular layers, with a uniform density and a clear tunica. A general surgeon collaborated with a plastic surgeon to excise the tumor widely, and the surgical margins were clear. The pathologic analysis reported a 7 cm × 6 cm × 4 cm tumor that consisted of myxoid material and had a fish- and meat-like appearance (Figure 1); thus, the diagnosis of a myxoid liposarcoma was made. Microscopically, the tumor had cystic changes (Figure 2). Immunohistochemistry revealed the following: CK (–); vimentin (+); S-100 (partly +); CD34 (+); and SMA (+). The patient subsequently received adjuvant radiotherapy at a dose of 60 Gy. There were no recurrences in the following 6 months; nevertheless, long-term follow-up in the clinic was recommended.

DISCUSSION

Liposarcomas are rare malignant tumors of mesenchymal origin and are the most common soft tissue neoplasms in adults, accounting for 16–18% of all soft tissue tumors.³ Liposarcomas may arise in any fat region, and can be divided into 5 groups on the basis of the histologic pattern, as follows: well differentiated; myxoid; round cell; pleomorphic; and dedifferentiated.^{3,4} Myxoid liposarcomas (MLSs) are a subgroup of liposarcomas, and are the second most common subtype of liposarcoma, accounting for 40% of all liposarcomas.⁵ MLSs may spread to the following tissues: serosal membranes; the enterocoelia; distant soft tissues; and bones.⁴ The incidence of MLSs is high during the fourth and fifth decades of life, and there is no gender predilection. Most MLSs (more than two-thirds) occur in the lower limbs, such as the thighs, and rarely occur in the retroperitoneum.⁴

In most cases (approximately 95%), karyotypic aberrations of MLSs involve t(12;16)(q13;p11) fusing the DDIT3 gene on 12q13 with the FUS gene on 16p11; in other cases

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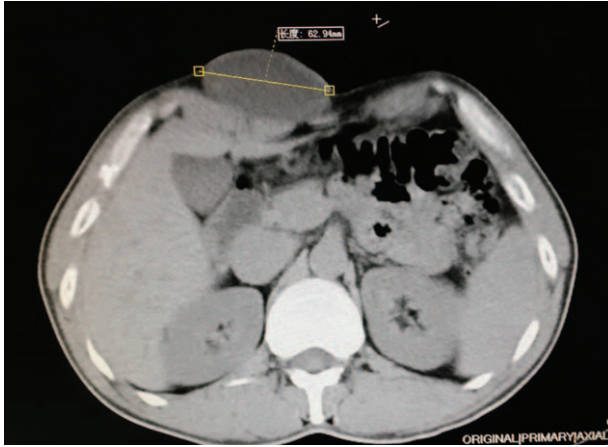


FIGURE 1. Computed tomography (CT) scan showed the tumor involved the subcutaneous to muscular layers, and had uniform density and a clear tunica.

(approximately 5%), karyotypic aberrations of MLSs involve t(12; 22) (q13; q12) fusing DDIT3 with EWSR1 on 22q12.⁶

We report a rare case of a MLS in the abdominal wall, a finding, which has not been previously reported. The tumor was not painful and progressively increased in size; nevertheless, the patient remained asymptomatic.

Based on a CT, the size of tumor was measured and a cystic space-occupying lesion was noted, which was important to know pre-operatively; all other findings were normal. Benign masses, such as lipomas, angioliomas, leiomyomas, or neuroilemmomas, were considered and the mass was completely excised by a general surgeon and a plastic surgeon; there was a clear surgical margin. Based on immunohistochemistry CK (–), vimentin (+), S-100 (partly +), CD34 (+), and SMA (+), the diagnosis of a MLS was established.

In the current patient, the mass was thought to be benign pre-operatively, so an accurate diagnosis was needed. Although chest X-ray, abdominal X-ray, ultrasound, CT, and magnetic resonance imaging (MRI) are common examinations, surgery or biopsy is the most reliable method for making a diagnosis. Pathologic evaluation based on the surgical specimen is the gold standard; however, it is preferred to determine the character of the tumor by biopsy so that surgeons can evaluate the risk and difficulty involved.

When diagnosing a liposarcoma, the subtypes are closely related to the prognosis. Therefore, it is important to perform a histologic examination because liposarcomas have different probabilities of local recurrence and distant metastasis.³

For treatment of the current patient, complete excision of the mass was the most optimal choice. MLSs are a common subtype of liposarcoma. Local recurrences are frequent and the rate of malignancy is low.⁵

Excision of some MLSs does not always yield clear surgical margins. There are some reports to demonstrate that MLSs are radiosensitive, whether pre-, intra-, or post-operative.⁷ The optimal radiation dose may be 50 Gy in the neoadjuvant setting and 60 Gy in the adjuvant setting.⁷

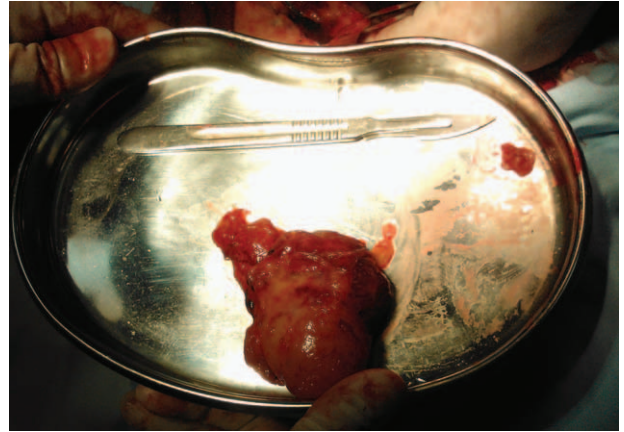


FIGURE 2. Tumor with cystic changes.

In the current case, although the tumor was completely excised, the recommendation was to undergo radiotherapy (60 Gy) to strengthen the treatment effect and reduce the incidence of recurrence. Post-operatively, the patient has been healthy for 8 months. Follow-up surveillance will continue.

CONCLUSION

MLSs are rare soft tissue malignancies. MLSs in the abdominal wall are extremely rare tumors, and have not been previously reported. Pathologic evaluation of the surgical specimen is the gold standard. Complete excision is the most effective therapeutic method, and radiotherapy is also a good approach to treat patients in which clear surgical margins were not achieved. We report this case to avoid misdiagnosis and sub-optimal treatment.

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