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CASE REPORT

Giant Pleomorphic Liposarcoma of Anterior Chest Wall

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Abstract

Soft tissue sarcoma (STS)can arise from any anatomic site and can affect young as well as elderly people. It is a diverse group of more than 60 neoplasms. The most common STS is liposarcoma and the common sites of occurrenceare the thigh and retroperitoneum.The rare sites include the head and neck, chest wall and the mediastinum. Here, we report a case of pleomorphic liposarcoma of right side of anterior chest wall in a 62years old male which was excised and reconstructed using a latissimus dorsi myocutaneous flap.

Key Words

Chest wall Liposarcoma, Reconstruction,Soft Tissue Sarcoma, Wide Resection

Introduction

The most common STS is liposarcoma, especially of the thigh and retroperitoneum. [1] The rare sites include the head and neck, chest wall and the mediastinum. [2] It is most common in the lower extremity, particularly the thigh, followed by the upper extremity and the retroperitoneum. [3] Unusual sites affected include the mediastinum, paratesticular area, scalp (and other subcutaneous sites), abdominal cavity, pelvic cavity, orbit, and thorax3.Most soft tissue sarcomas (STS) of the chest wall present as pain-less slow growing masses and approximately 0.1-0.15% of alladult malignancy is chest wall STS. [4] Soft tissue sarcoma arises from primitive mesenchymal cells. Liposarcoma and undifferentiated pleomorphic sarcoma are the common STS. Extremity and trunk STS aremore common than intraperitoneal and retroperitoneal sarcoma.

Case Report

A 62 years old male presented to us with complaints of a largeswelling over right side of anterior chest wallfor the past 8 months which progressively increased in sizewithout any other significant symptoms. There was no previous history of surgery. The patient had no known comorbid illnesses. On examination, the vitals were stable. On local examination, a swelling of size 20 x 20 cm in right anterior chest wall was present with nodular surface, firm in consistency and well-defined margins extending 2 cm from above the clavicle to 4cmabove the right subcostal margin inferiorly along the midclavicular line and the mediolateral extent was from the right lateral border of sternumto the anterior axillary line (*Fig 1*). The plane of the swelling was of the pectoralis major muscle and the skin over the swelling was normal. There was no regional lymphadenopathy and the other systems were normal.MRI of the chest showed a fairly defined large lobulated hetero-intense enhancing soft tissue in the right antero-lateral aspect of the chest wall, predominantly in the intermuscular plane with involvement of right pectoralis major and pectoralis minor muscles and with no intrathoracic extension with features suggestive of soft tissue sarcoma (*Fig 2*). A core biopsy revealed well differentiated liposarcoma. We planned for surgical excision of the tumour with reconstruction of the defect along with the plastic surgical team.

The patient underwent wide resection of tumor with a

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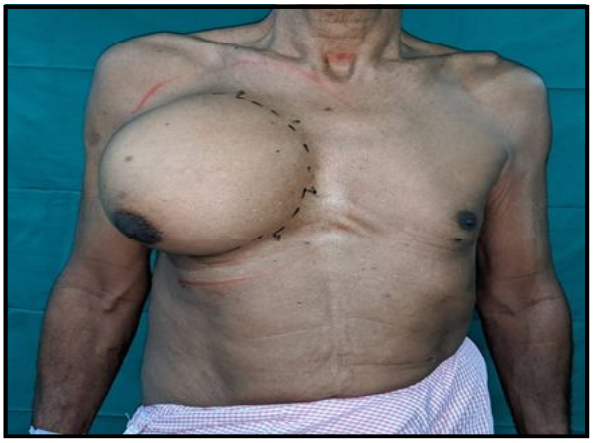

Fig 1. Clinical image of soft tissue sarcoma of chest wall

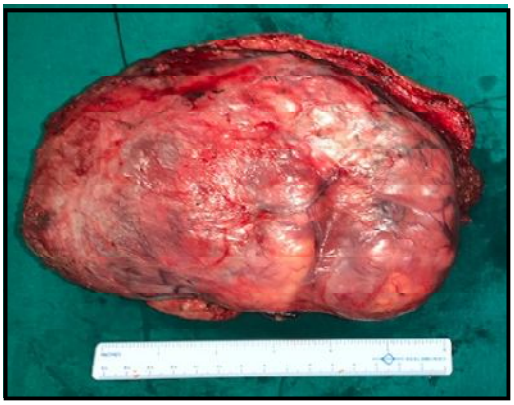

Fig 3. Gross appearance of the tumor

5cm clearance (*Fig 3*) and the defect was reconstructed using pedicled Latissimus dorsi myocutaneous flap (*Fig 4*). Post operatively patient was uneventful. Histopathological report revealed features of Pleomorphic liposarcoma, FNCLCC grade 2, pT4pNx (*Fig 5*). Patient was on regular follow up and medical oncologist had suggested post-operative radiotherapy.

Discussion

Liposarcoma is the second most common primary STS of chest wall. It comprises 20% of all STS. STS of chest wall is a rare entity. Three types of liposarcoma varieties are known. They are well differentiated and dedifferentiated, pleomorphic and myxoid / round cell liposarcoma. [5] Well differentiated and dedifferentiated are seen more commonly in retroperitoneum than extremities whereas pleomorphic and myxoid variety are common in extremities. Well differentiated is common in 50 - 70 years of age, with less rate of metastasis. Dedifferentiated type is common in 50 - 70 years with high rate of metastasis. The myxoid type is common in 25 - 45 years with high rate of metastasis. Pleomorphic liposarcoma represents the rarest of lipomatous malignancies, accounting for no more than 5% of all liposarcomas and it has poor prognosis. [3] Liposarcoma

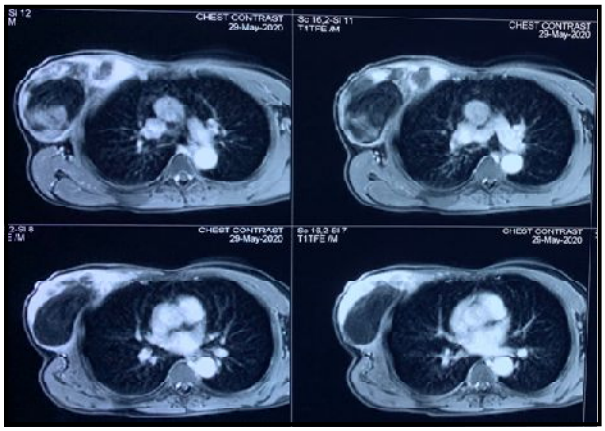

Fig 2. MRI chest showing a lobulated hetero-intense enhancing soft tissue lesion

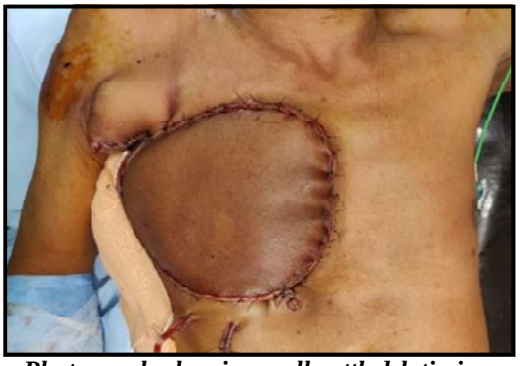

Fig. 4 - Photograph showing well settled latissimus dorsi myocutaneous flap

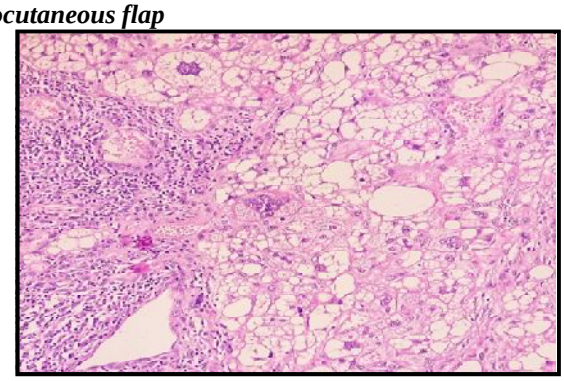

Fig 5. HPE showing lipoblasts

spreads through blood and common site of distant metastasis being lungs for extremity tumor and liver for intra-abdominal tumor. Extent of tumor is assessed by MRI which also determines the vascularity, relation to blood vessels and fascial planes, invasion. MRI is the imaging of choice as it gives excellent soft tissue delineation, without radiation and multiplanar imaging. CECT Abdomen scan is needed for retroperitoneal and intra-abdominal STS. Tissue diagnosis is done by core biopsy and when inconclusive incision biopsy is taken. Microscopically liposarcoma shows

lipoblasts with signet ring malignant cells.Staging of tumor is done depending on tumor size, nodal status, metastasis and histological grading. Most primary chest-wall soft-tissue sarcomas (70%) are low grade and complete surgical excision is the preferred therapeutic choicewith reconstruction wherever needed. [3] Primary tumors rarely infiltrate the ribs or other bones, whereas in recurrent cases, even in the absence of infiltration, the tumor extends close to the bone in many cases precluding the acquisition of an adequate margin and making chest wall resection necessary. [6] Radiotherapy and chemotherapy are given for deep-seated high-grade tumors.The use of chemotherapy in chest wall sarcomas remains debatable. However, the use of radiation therapy in conjunction with resection has given a favorable response, especially in those cases which are resected with close or positive margins . [2] The presence of local recurrence has no significant effect on the overall survival.The approach to metastatic and recurrent disease should be case based and should be by multidisciplinary team.Our case is presented due to the large size in an unusual location of chest wall and also being a pleomorphic liposarcoma as a histological report which is also rare. The patient is doing well with careful planning and execution by a multidisciplinary team, which involved wide excision with negative margins and reconstruction by latissimus dorsi myocutaneous flap.

Conclusion

Chest wall liposarcomas are a rare occurrence. Management should ideally involve a multidisciplinary approach with surgery being the mainstay of treatment. Surgery should achieve macroscopically negative margins and should attempt to minimize microscopically positive margins. Depending on the extent of the disease chemoradiation can be given. Timely diagnosis and management give a favorable prognosis

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Conflicts of Interest
There are no conflicts of interest.

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