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Case Report

A case of large left thigh liposarcoma recurrence in a 62 years old male: a case report

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ABSTRACT

We report a case of recurrence of a thigh liposarcoma in 62 years. old male, and its management. Several clinical studies of liposarcoma in extremities have been undertaken exploring the potential management and treatment of the same. Presentation of case A 62 years. old male presented with a large mass on his left thigh which was around 30×25 cm at the time of presentation, and has gradually increased since last 20 years. The patient had a similar but smaller swelling in his left thigh for which wide local excision was done earlier in the year 2000. The patient now presented with the current swelling increasing gradually since its first appearance after 5 months after the first surgery. The patient underwent CT of his left lower limb; embolization of feeder artery and debulking surgery of the mass after 10 days of the feeder embolization. Histopathology was suggestive of liposarcoma. The patient made a good recovery post procedure and was able to stand with support 8 days post-surgery.

Keywords: Liposarcoma, Soft tissue tumor debulking, Surgery case report

INTRODUCTION

Overall, liposarcoma is the most common STS (Soft tissue sarcoma). It may present anywhere on the body liposarcoma is a rare type of cancer that begins in the fat cells.

Liposarcoma can occur in fat cells in any part of the body, but most cases occur in the muscles of the limbs or in the abdomen. Liposarcoma occurs most often in older adults, though it can occur at any age.[1]

Although noninvasive testing, such as CT scans, MRI, can support diagnosis, histopathological evaluation is required for making a certain diagnosis.[2] Even then, it can be often confused with its benign counterpart (Lipoma), if the cells are very well differentiated. It is important for clinicians to utilize history and physical exams, aided by MRI and histopathological evaluation, in order to adequately recognize and treat liposarcoma. We describe a case of liposarcoma which recurred on the patients thigh after wide local excision, for which a debulking surgery was done in our institution.[3] Wide local excision could not be done for the patient as the mass was spreading in the inguinal region and gluteal region. So, a decision to debulk the tumor for symptom relief of the patient was decided.

CASE REPORT

A 62 years old male presented with a lump on his left thigh which has started growing about 5 months after a wide local excision of a mass (around 5 kg 600 gm) on his left thigh in the year 2000. Mass grew gradually and painlessly, increasing to its present size of around 30×25 cm with a circumference of around 75 cm (Figure 1).

As the mass grew, it started hampering the patients ability to walk so much so that patient was unable to stand altogether by the year 2019. Due to unaffordability, and

his residence being in a rural area the patient could not seek medical help early.

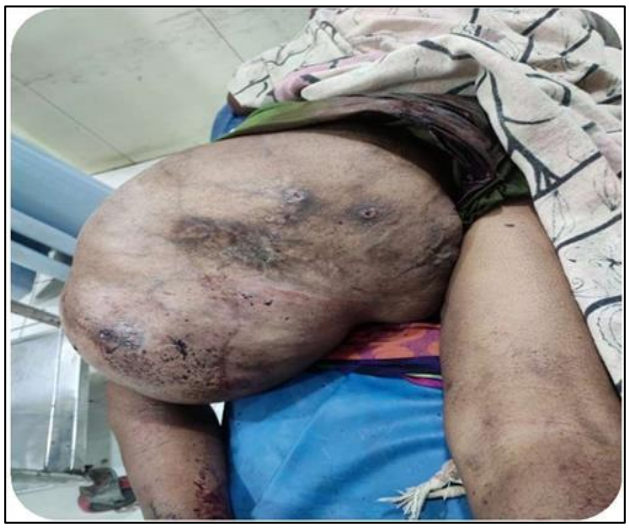

Figure 1: Clinical picture.

Patient, when presented to the hospital was vitally stable, had a pulse rate of 88/ min, BP-108/68 mmHg, was afebrile, conscious and oriented, S1S2 were heard with no murmur, B/L wheeze was present as the patient was a known case of asthma since last 20 years and was on medications for the same.

Local examination revealed a 30x25 cm mass on his left thigh which was mostly occupying the lateral and posterior aspect of thigh with slight involvement of lateral part. The skin over the lump was thickened and had multiple visible dilated veins on it. The inferior edge was not palpable but grossly the lesion was not crossing the knee joint and patella, lateral and medial condyles of femur were distinctly palpable. No restriction of movement or pain was at the knee joint. Superiorly, the upper edge was not palpable and was found to be extending in the groin and gluteal region without any distinct edge.

All the movements on the hip joint were restricted, albeit, without pain due to mechanical effects of the mass.

To know about the actual extent of the mass, MRI was tried twice but could not be completed due to patient's inability to stay still in the MRI machine for long. Patient was not able to hold his breath for adequate amount of time due to his asthma. So, CT of the lower limb along with CT angiography was done.

Management

CT findings were suggestive of 19×26×36 (AP×ML×SI) sized large fairly defined, heterogenous predominantly hypodense lesion noted involving left thigh. Large areas of fat were noted within. Multiple enhancing septae are noted within. Multiple calcifications are noted scattered throughout the lesion. The lesion is supplied by left deep femoral artery. No e/o bony erosion of femur noted. No obvious cutaneous irregularity noted.

To reduce the vascularity of the tumor, embolization of feeder artery of deep femoral artery was done and a waiting time of 10 days was kept. After 10 days, patient developed skin color changes and a reduction of circumference of the thigh to 72.5 cm.[4]

Surgical aspects

Position

Patient was supine with his right leg extended and partially abducted. The left hip was flexed, abducted, externally rotated and was hung with the help of an IV stand (as shown in Figure 2).

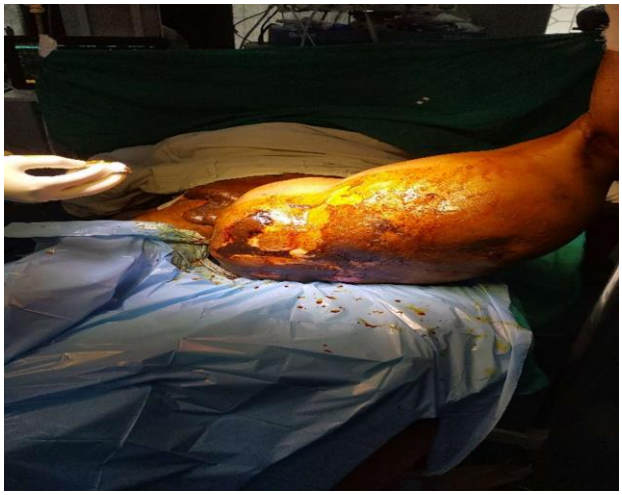

Figure 2: Intra-op picture (After painting and draping).

Debulking surgery of the tumor was done by taking an elliptical incision on the medial aspect of thigh of around 25 cm in length. Anterior and posterior flaps were raised after reaching subcutaneous tissue (Figure 3). Muscles covering the tumor were split and cut to reach the tumor and it was removed from all sides taking care not to injure the major vessels and nerves (Figures 3). Two of the lobes of the tumor were cystic with yellowish brown thick liquefied material coming out of them. Proximal edge of the growth could not be reached and tumor tissue was removed as much as possible. Surgical dissection and resection around vital structures were avoided. A total of 17 kg and 300 g of tissue was removed and sent for histopathological examination (Figure 4). Two Suction drains were placed in the subcutaneous regions and closure was done in layers. Due to raising of flaps in the initial part of the surgery, redundant skin was present which was cut and primary closure was done. Charging of drains were confirmed. Sterile compression bandaging was done and limb elevation was given to the patient. Patient tolerated the procedure well.

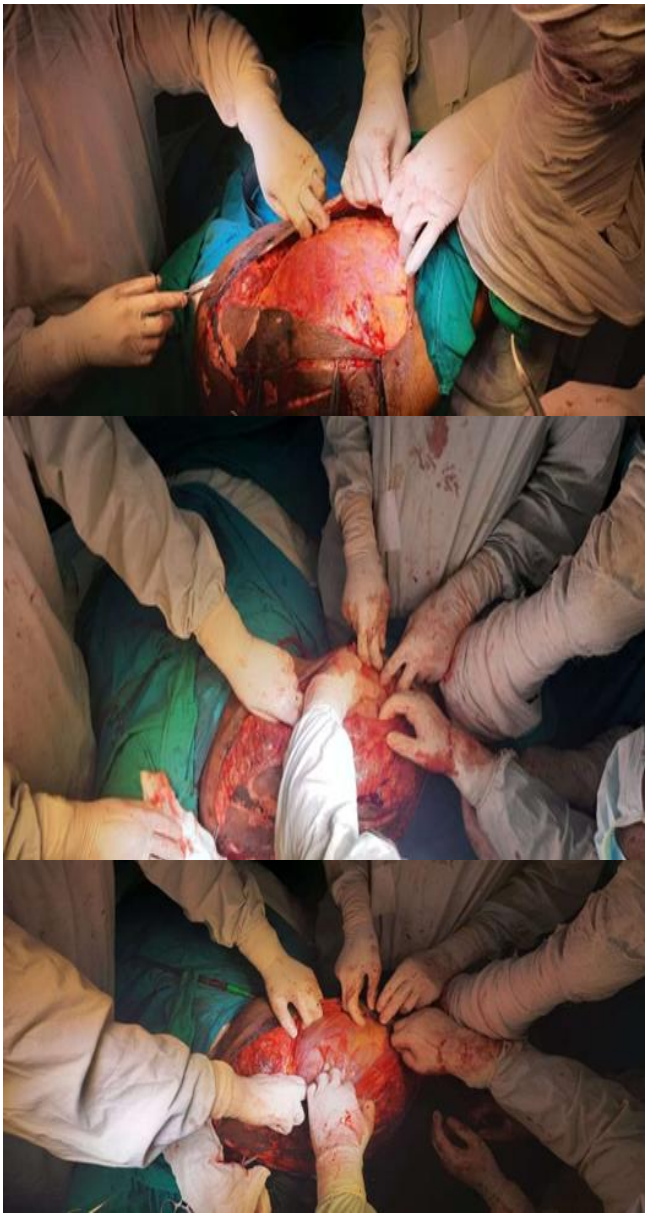

Figure 3: Intra-op pictures.

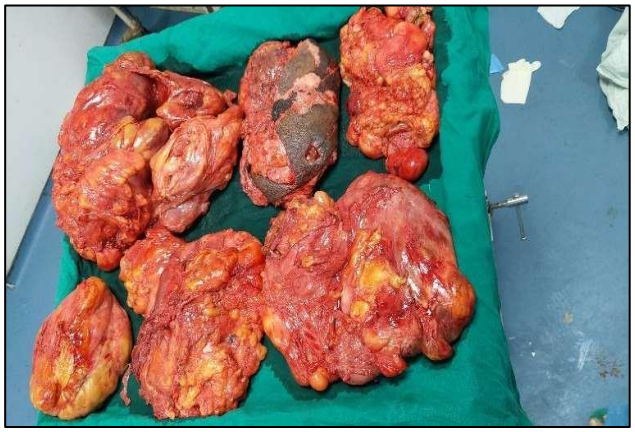

Figure 4: Post op picture of tumor resected; total tumor mass removed from the left thigh after debulking surgery (17 kg 300 gm).

Post operative management

The patient was given 1 PCV, was started on injectable antibiotics and fluids accordingly. Oral sips were given after 6 hours. and full diet was started the next morning. Limb elevation was given with tight compression bandaging. Anti-inflammatory drugs were also started.

Histopathology

Multiple sections studied show mainly mature adipocytes with interspersed areas of fibrovascular tissue. Within the fibrous tissue there are seen few atypical cells with abundant clear cytoplasm and peripherally pushed pleomorphic nuclei lipoblast. Binucleation and multinucleation seen. Areas of hemorrhage and necrosis see. Dystrophic calcification noted. Areas of acute inflammatory infiltrate secondary to surface ulceration seen. Skin margins were free of tumors.

Impression: well differentiated liposarcoma

Post-op recovery

Physiotherapy of left lower limb was started on 2nd post-operative day with passive flexion and extension of knee and hip joint. Drains were removed on 10th and 12th post operative day. Patient was able to bear weight on his own by 6th post op day and was able to stand using support. Patient has been advised adjuvant radiotherapy for further management of the tumor.

DISCUSSION

Liposarcomas are the most common subtype of soft tissue sarcomas, accounting for at least 20% of all sarcomas in adults. All liposarcomas consist of at least some cells that bear a resemblance to fat cells when examined for their histopathologic appearances under a microscope. However, the liposarcomas do have several forms based on differences in their clinical presentations (e.g., ages, gender preferences, sites of tumors, signs, and symptoms), severities (i.e., potential to invade local tissues, recur after surgical removal, and metastasize to distal tissues), genetic abnormalities, prognoses, and preferred treatment regimens. The world health organization in 2020 reclassified liposarcomas into five more or less distinct forms:[5,6] 1) atypical lipomatous tumor/well-differentiated liposarcoma; 2) dedifferentiated liposarcoma; 3) myxoid liposarcoma; 4) pleomorphic liposarcoma; and 5) myxoid pleomorphic liposarcoma. (Pleomorphic indicates the presence of cells that have abnormal and often large variations in their size and shape and/or the size and shape of their nuclei). A well differentiated liposarcoma may provide equivocal microscopic picture which can be confused with a benign lipoma although radiological features and immunohistochemistry helps in differentiating between two of them.

CT features s/o malignancy-Tumor size larger that 10 cm, presence of thick septa (>2 mm), presence of non-adipose

areas, lesions less than 75% adipose tissue, adjacent organ invasion, areas of necrotic and cystic changes and areas of focal nodularity and water density while liposarcoma forms are classified as being aggressive and malignant or, in the case of the atypical lipomatous tumor/well-differentiated liposarcoma, as relatively non-aggressive and benign, all five liposarcoma forms can infiltrate locally to injure nearby tissues and organs, occur in surgically inaccessible sites adjacent to vital organs (e.g. the retroperitoneum), recur after surgical removal, and progress to life- threatening diseases.[7,8] Studies to date find that all five liposarcoma forms, while usually treatable at least initially by surgical resection, are often only marginally responsive to currently used chemotherapy and radiotherapy regimens. The liposarcomas require a wide range of further studies to determine their responsiveness to various radiotherapy, chemotherapy, and more novel treatment regimens as used individually and in various combinations that would include, where possible, surgical removal.

Principal goal of surgery is gross complete resection sas incomplete resection is associated with recurrence and may lead to mortality. For extremity liposarcoma, goal is limb sparing resections with negative margins. Well differentiated liposarcoma has very low risk of distant metastasis and has a favourable overall survival.

CONCLUSION

Liposarcoma is the most common soft tissue sarcoma which can occur at any age but usually occurs in old age. It may occur on any part of the body but mainly occurs in retroperitoneum and extremities. Clinically it may mimic a benign lipoma and can even be equivocally labelled as one on histopathology. Slowly growing, invasion to surrounding structure and its sheer size may help the clinician diagnose this potentially fatal disease. Wide local excision is required to eliminate the disease as surgery is the only modality that achieves the greatest success in terms of overall survival. Chemotherapy and radiotherapy are not very useful in cases of liposarcoma.

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