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Giant Gluteal Liposarcoma: A Case Report

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Abstract

Background: Liposarcoma, a malignant neoplasm originating from adipose tissue, represents one of the most common subtypes of soft tissue sarcomas in adults. Its heterogeneous nature—encompassing well-differentiated, dedifferentiated, myxoid/round cell, and pleomorphic variants poses significant challenges in diagnosis, prognostication, and treatment. Recent advances in molecular biology and imaging have begun to reshape our understanding of liposarcoma's pathogenesis and therapeutic vulnerabilities. We are doing this case report for clinical awareness and early diagnosis due to its unique or rare presentations with its treatment challenges and outcomes with surgical and oncological insights.[4]

Case Report: Here we present a case of 47-year-old female with an unusual case of a rapidly growing giant lipoma-like liposarcoma of the left gluteal region. The patient had Large gluteal swelling in the past 2 years and managed by local excision. For such unusual case of this rapidly growing tumour, a longer follow-up is needed to evaluate the outcome in these cases. We report a case of giant gluteal liposarcoma that was surgically removed in toto.[3]

Keywords: Liposarcoma, Local Excision

Abbreviation: LPSs = Liposarcomas, DDLPS = dedifferentiated LPS, MLPS = myxoid LPS, PLPS = pleomorphic LPS

Introduction

Liposarcomas (LPSs) are malignant tumours of adipocytic differentiation. They make up 15% to 20% of all soft tissue sarcomas (STSs), making them one of the more prevalent subtypes of STSs. There are four main subgroups of this disease: myxoid LPS (MLPS), pleomorphic LPS (PLPS), dedifferentiated LPS (DDLPS), and well-differentiated LPS (WDLPS; sometimes called atypical lipomatous tumour). Adipocytic tumours represent the largest subgroup, of which liposarcoma is the most common. The unusual clinical course over a 4-year time span of a slowly growing, eventually untreated gluteal myxoid liposarcoma in a young woman is described and the outcome after surgery reported.[1]

Case Report

Presenting complains

A 47-year-old female visiting General surgery OPD with complain of swelling over left gluteal region since last 2 years and associated with abnormal limp , ugly looking and difficulty in sleep while trying to turn left side. The patient had no past medical history or Drug history or Surgical history.

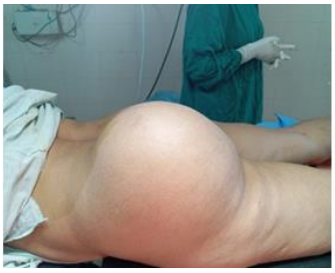
On Examination

Approx 25*20 cm large firm deep-seated asymmetric swelling over Left Gluteal Region with intact overlying skin with no discoloration or ulceration with less mobile when overlying muscle made taut .

Systemic examination findings were unremarkable.

Investigations

MRI Local Part (Left Gluteal Region)	There is approximately 19.9(cc) x 15.4 (TR) x 19.3 (AP) cm sized large well defined, multilobulated, abnormal signal intensity lesion with thin septations within noted in intramuscular plane involving left gluteus maximus, gluteus Medius , gluteus minimus and pyriformis muscle, medially it is seen to extend up to obturator foramen . - Intramuscular Lipoma.



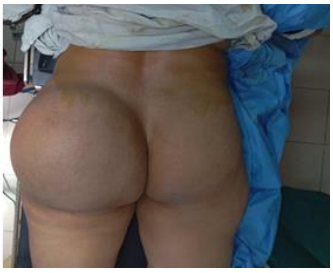


Figure 1 & 2: Clinical situation in January 2025. The patient noticed a slowly growing, painless mass on her left buttock.

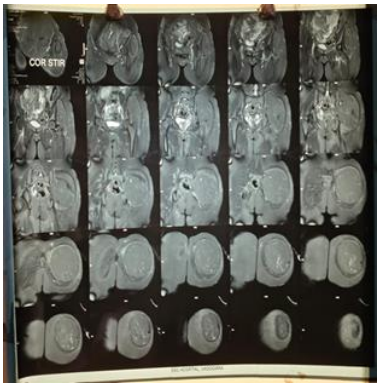


Figure 3: well defined, multilobulated, abnormal signal intensity lesion with thin septations within noted in intramuscular plane in MRI Local Part (Left Gluteal Region).

Intramuscular Lipoma

Intra OP Findings

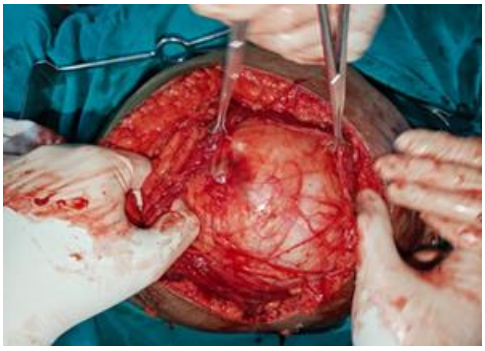


Figure 4: Muscle retracted with babcock forceps

Figure 5: Showing liposarcoma with intact capsule

Figure 6: 22 cm (Transverse Front side)

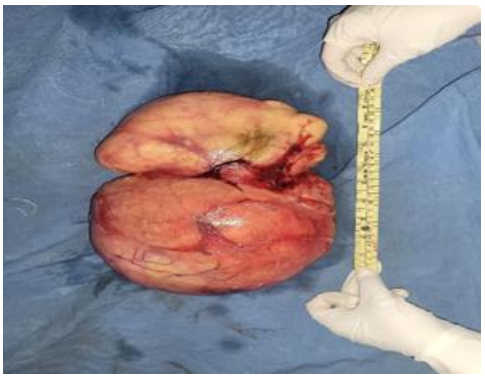


Figure 7: 18 cm (Superior-Inferior)

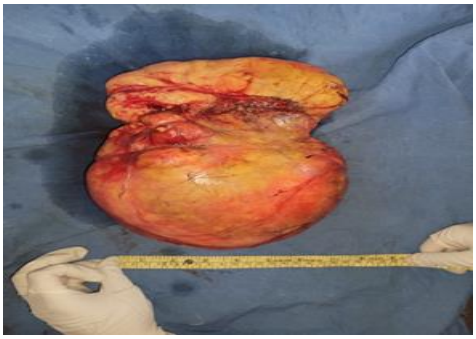


Figure 8: 22 cm (Transverse-Back side)

Figure 9: Approx 2.5 kg weight

Management

Under general anesthesia, the patient was placed in the prone position, and under aseptic precautions Transverse incision was made over skin up to the paper thin gluteus maximus muscle, the skin was dissect circumferentially at a distance of less than 1 cm from the palpable tumor mass anteriorly up to lesser sciatic nerve . After that, the tumor was removed in toto with pseudo pods, preserving the sciatic nerve and negative suction drain was placed. Following epifascial mobilization, wound closure was attained, followed by removal of drain after 3 days after achieving less than 20cc/day output in drain and then uneventful wound healing and a satisfactory cosmetic outcome occurs. Post Operation patient has persistent limp, so patient sent for physiotherapy exercise and for starting chemo or radiotherapy pt was sent to Radio-onco department for further management .[2]

Discussion

Due to the high frequency of lipomas and their variations, adipocytes are the largest group of mesenchymal neoplasms. About 20% of all instances of

soft tissue sarcoma in adults are liposarcoma, making it the most prevalent type. Its three main histological subtypes—pleomorphic, myxoid/round cell, and highly differentiated—are completely distinct illnesses with unique morphologies, genetic makeups, and natural histories. Atypical lipomatous tumors and well-differentiated liposarcoma are practically interchangeable, according to the main modifications in the most recent WHO classification, and site-specific behavioral differences are solely related to surgical resectability.

About 40% to 45% of all liposarcomas are well-differentiated, making them the bigger subtype of adipocytic malignancies. Even though up to 30% of cases can recur, this surgically treatable tumour acts like a benign neoplasm and is not known to spread, therefore less harsh treatment is needed. The anatomic position of well-differentiated liposarcoma is the most significant prognostic determinant; surface lesions are regarded as favourable, whereas deeply seated lesions, including retroperitoneal or mediastinal liposarcoma, are linked to higher risks of recurrence and metastasis.

The benefit of wide local excision over marginal excision is recognized in the literature [7]. In our case, we have excised the lesion with 1 cm margin down to a subfascial plane over the gluteal muscles to have good local control. We could not find any evidence in the literature suggesting a benefit in outcome with the use of postoperative radiotherapy. Some authors caution against its use to treat this lesion due to the uncertainty about its role in the dedifferentiation process.

Conclusion

A rare instance of a gigantic gluteal lipoma-like liposarcoma that was expanding was reported. The majority of initial soft tissue sarcomas are treated primarily by surgical excision. Therefore, every attempt should be made to remove the tumour completely. To assess the results in these patients, a lengthier follow-up is required. We wonder if radiotherapy could be utilized to improve loco-regional control in such big tumours, even though it wasn't done in this instance.

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