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Case Study

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A RARE CASE OF LIPOBLASTOMA IN A CHILD AT RIGHT GLUTEAL REGION- A CASE STUDY

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ABSTRACT

Lipoblastoma is a rare benign tumour that develops from embryonic adipose tissue cells. Lipoblastoma is occurring primarily in paediatric patients and formed by lipoblasts that proliferate after the postnatal period. Despite its potential for local invasion and rapid growth. The main differential diagnoses are myxoid and well-limited liposarcoma, whose treatment and prognosis are different. Surgical excision is the treatment of choice, and the risk of recurrence is very rare. Less than 200 cases are reported in the literature. Fewer than 10% of all paediatric soft tissue tumours, which approximately 5%-30% are of lipoblastomatous type.[1] Lipoblastoma often exhibit chromosome abnormalities at 8q11-13, whereas liposarcoma typically exhibits chromosome rearrangements in the region 12q14.[2,3] Ancient Ayurvedic Acharyas understands and explains this in terms of Beeja, beejabhaga and beejabhagavayava. The explanation about beeja, the role of beeja in the formation of Garbha (foetus) and hereditary diseases are explained in samhitas. The concept of Beejabhaga and Beejabhagaavayava are explained in shareerasthana of charakasamhita.[4] Case report: A 1 year male child with history of injection 2 months back and no other clinical sign and symptoms. Presenting a 70mm painless, well-limited, and mobile swelling of the in Ultrasound showed a well-limited, hyper-echoic mass, containing hypoechoic zones suggesting a lipoma. The patient underwent a complete resection of the mass. A histopathological study revealed a lipoblastoma.

KEYWORDS: Lipoblastoma, Complete Resection.

INTRODUCTION

Lipoblastoma is a rare, benign tumour of fatty tissue. It mainly affects male children under the age of three and develops from embryonic fat cells (lipoblasts). the main locations are the trunk and the limbs. Less than 200 cases are reported in the literature. Fewer than 10% of all paediatric soft tissue tumours, which approximately 5%-30% are of lipoblastomatous type.[1] We are reporting a rare case of lipoblastoma discovered in a child.

CASE REPORT

A one-year male child visited OPD with C\O- Swelling over medial lower aspect of right gluteal region up to gluteo-thigh fold since 2 months. Patient had history of injection but exact site of injection was unknown. It was noticed by parents from beginning within two months the mass increases in size and shape. Patient was irritable when visited to OPD. It might be because of discomfort while siting as it started just above midline of upper and lower medial gluteal region and extends upto gluteal thigh fold and sciatica nerve passes through it.

Clinical findings, it is a well limited mass of 70mm×25mm, located on the upper and inner part of right gluteal region, of soft consistency, painless, mobile, and without inflammatory signs in front of it. No neurological sign seen in lower limb.

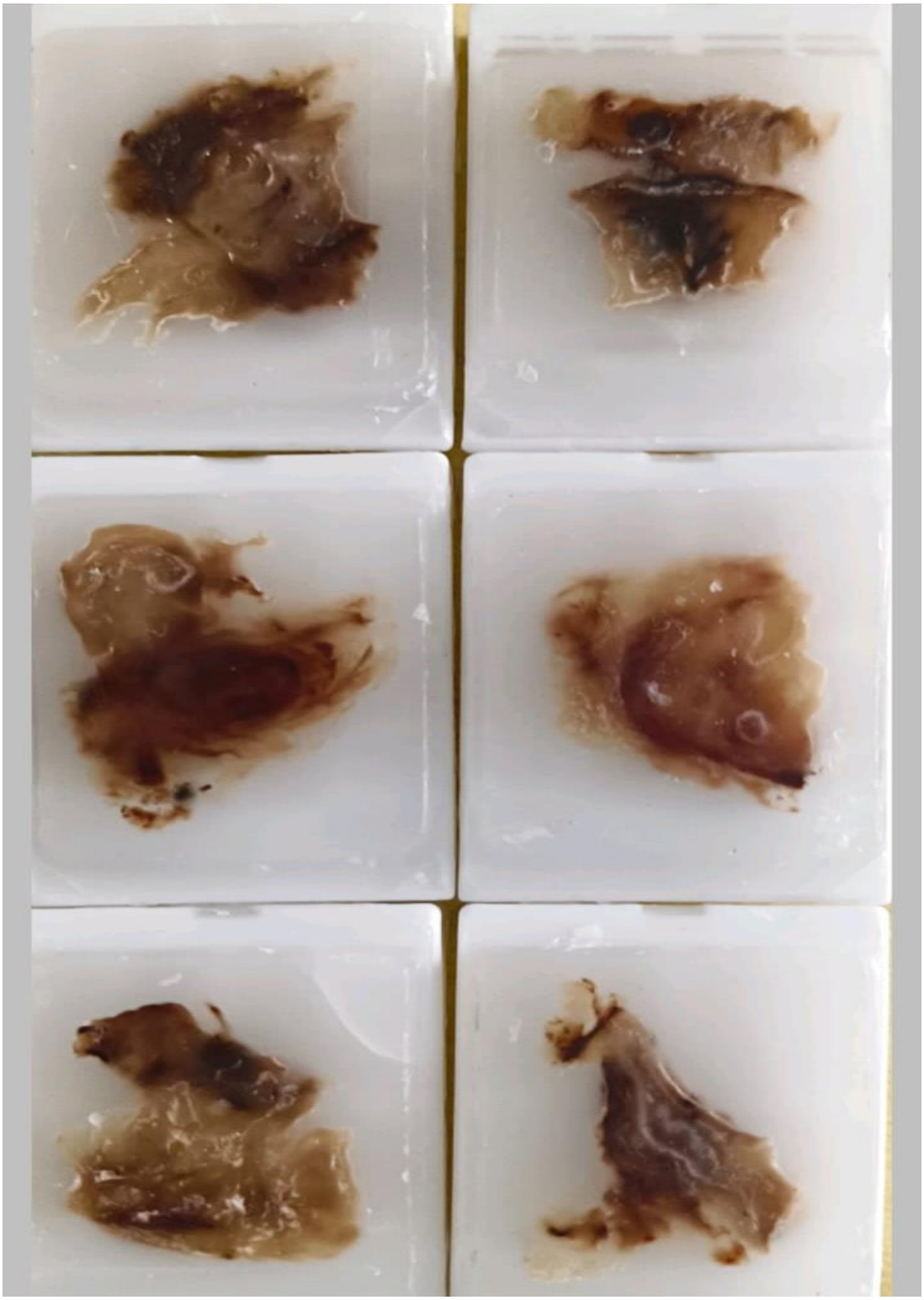
Investigations: -Hb-11.4, WBC- 5.4, Platelet count-293×10^3, PT-INR- 0.9,

HIV and HBsAg- Negative, BT-1.3, CT-5.0, Chest X-ray- NAD.

Diagnostic assessment: The ultrasound showed a well-limited mass, hyperechoic, containing hypoechoic zones suggesting a lipoma.

Therapeutic intervention: The patient underwent a complete resection of the mass followed by an anatomopathological study (histology and immunohistochemistry) which revealed a lipoblastoma.

FOLLOW-UP and Outcomes: - No local recurrence was noted, after 4 months of follow-up.



Histopathology Report
Final Report

Test Requested : HISTOPATH - Medium Biopsy

SSL No
6101/23

Specimen
Swelling over gluteal region; Excision.

Clinical History
? Abscess

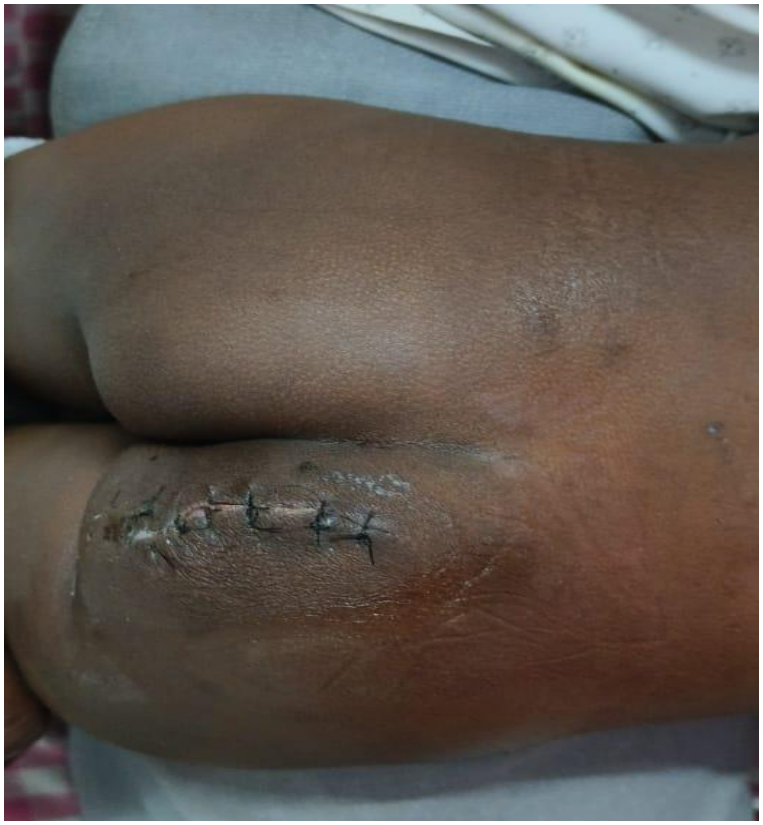
Gross
Specimen consists of multi-lobulated mucinous tumor. Specimen is measuring 6 x 6 x 2.5 cm which is partly covered by thin fascia
Cut surface is gelatinous with few areas of hemorrhage.
Representative sampling in 6 blocks.

Microscopic
Section shows encapsulated tumor with lobules of mature and immature adipose tissue separated by fibrous septa with numerous capillaries and venules . Within the lobules, focally blood vessels shows a plexiform pattern. The adipocytes show a spectrum of maturation consisting stellate or spindled primitive mesenchymal cells, multi-vacuolated lipoblasts, and mature adipocytes.
Mitoses are not seen.
No necrosis is seen.
Margins of excision are unremarkable.

Impression
Swelling over gluteal region, Excision:
Histological features are suggestive of Lipoblastoma.
No evidence of malignancy.

Notes
Total 6 blocks issued with report.

————End Of Report————



DISCUSSION

Jaffe coined the term 'lipoblastoma' in 1926 to describe an atypical lipomatous lesion that consisted of cells resembling embryonic white fat. This term was intended to differentiate these lesions from common lipomas, which contain no lipoblasts.[5]

Lipoblastoma is a spreading benign tumour of adipose tissue. It mainly affects male children with an age below three years. Its discovery in adults is exceptional.[6] The lipoblastoma is located preferentially in the trunk and the limbs,[7] but other locations have been reported such as the ENT sphere, the inguinal region, the scrotum, and the mesentery.[8,9] Recurrence has been reported in 14%-25% 0f cases most often due to incomplete removal.[10] Recurrent lesions quite often show maturation towards a simple lipoma.[11]

Two forms are described, the most frequent corresponds to the well-encapsulated and superficial form. the second, rarer, corresponds to lipoblastomatosis which is infiltrative and deeper.[12] Clinically, it is an asymptomatic mass, especially in its superficial location, but it can have a symptomatic character depending on its size and location.[13] The contribution of imaging remains limited and does not make it possible to make the diagnosis. Ultrasound shows a mass of mixed echogenicity containing one or more hyper vascularized Doppler septa. The differential diagnosis is mainly made with lipoma, hibernoma, myxoid liposarcoma and well-differentiated liposarcoma. Lipoma is differentiated from lipoblastoma by the absence of lipoblasts on histology.

Lipoblastoma often exhibit chromosome abnormalities at 8q11-13, whereas liposarcoma typically exhibits chromosome rearrangements in the region 12q14.[2,3]

Ancient Ayurvedic Acharyas understands and explains this in terms of Beeja, beejabhaga and beejabhagavayava. The explanation about beeja, the role of beeja in the formation of Garbha (foetus) and hereditary diseases are explained in samhitas. The concept of Beejabhaga and Beejabhagaavayava are explained in shareerasthana of charakasamhita.[4] Acharya charaka clearly mentions that the characteristics of parents will be transmitted to their offspring. This type of transmission of characters is known as anuvamshiki. The factors responsible for inheritance are Beeja, Beejabhaga and Beejabhagaavayava. Beeja means both the gametes. This beeja is the collection of functional units representing the structures and features of all parts and organs of an individual. This functional unit which is capable of formation of an offspring resembling the parent is called beejabhaga. Still minute fragments of beejabhaga are beejabhagaavayava.[14] In short beejabhagaavayava is the fundamental unit of inherence.

Lipoblastomas are always benign and it is important to differentiate these lesions from myxoid liposarcomas. Myxoid liposarcomas are exceedingly rare in children under the age of 10 years. Principal clues for the diagnosis of lipoblastoma are striking lobulation, maturation towards the centre of the lobules, and absence of nuclear atypia or atypical mitosis.[15]

The presence of brown cells with a central nucleus with a granular cytoplasm point rather a hibernoma. while the deep location of the tumour, the presence of areas of hypercellularity on histology. The absence of chromosomal rearrangement would be in Favor of a myxoid liposarcoma, or towards a well-differentiated liposarcoma when MDM2 and CDK4, the p16 are positive, unlike lipoblastoma.[16] Diagnostic confirmation is obtained through histology, which shows small lobules of immature and mature fat cells, separated by fibrous septa containing plexiform capillaries with or without myxoid stroma that can lead to confusion with myxoid liposarcoma.[17] The treatment of choice is surgery, which consists of complete resection of the tumour. Success depends on whether the resection is complete or not, with a recurrence rate of between 14 and 25%.[18] It should also be noted that no case of metastasis has been reported in the literature. In the absence of surgical management, the evolution is generally towards the maturation of the lipoblastoma into a lipoma.

CONCLUSION

Lipoblastoma is an exceptional tumour in adulthood. USG and histology are the key elements to eliminate differential diagnoses which have unfortunate prognoses. Complete resection achieves optimal results, but recurrence is possible and close follow-up is essential.

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