Case Report

Lipoblastoma in an 11 –month–old infant

Yesar Z. El-Dhuwaib, *MBChB,* ***Asal Y. Izzidien,*** *FRCSEd, FACS (Paed).*

ABSTRACT

Lipoblastoma and lipoblastomatosis are rare benign mesenchymal tumors of embryonal white fat, which normally affect children under 3 years. We report an 11-month-old boy who was presented with a painless lump in the suprapubic region, which was diagnosed on ultrasound as herniated omental fat or lipoma.

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Tumors of adipose tissue in children comprise approximately 6% of all soft tissue neoplasms of which lipoblastoma and lipoblastomatosis represent 5-30% of them.[1] The majority of the cases reported are under 3 years,[2] however, it does occur in adults (Sciot et al[3] reported an intramuscular lipoblastoma of the thigh in a 23-year-old male).

These tumors arise from embryonic white fatty tissue and they are normally benign as they lack the ability to metastasize. They can be found through out the body, more common in the extremities and have also been reported in the retroperitoneum, intestine, mesentery lung parotid mediastinum, pleura and spinal canal. Males are more likely to be affected than females with a ratio of 3:1.[4] They are normally painless swellings that are non tender, nevertheless, it has been reported that they may produce symptoms by creating pressure on the adjacent structures. For instance, it may cause hemiparesis due to pressure on the spinal cord[5] or it may produce airway obstruction in the case of cervical lipoblastoma, which is a rapidly growing tumor.[6] We report an 11-month-old infant with lipoblastomatosis, who presented with a painless lump in his lower abdomen, which was excised successfully with no recurrence after a 5 year follow up.

The objective of this paper is to remind the reader of this unusual benign tumor which presents in infancy and childhood.

Case Report. An 11-month-old boy presented with a painless lump in the suprapubic region of one months duration, which was noticed by his mother. The lump was a 4 x 5 cm lobulated mass in the midline suprapubic region. (**Figure 1**)

An ultrasound showed a mass of high echogenicity composed of fat, outside the abdominal wall, with a differential diagnosis of omental herniation or lipoma. At operation the mass was dissected out from the subcutaneous tissue and the surrounding fascia, having no attachment to the anterior abdominal wall.

The histology was reported as showing a lobulated and focally infiltrative growth pattern. The immature fat cells as well as scattered lipoblasts in richly vascular, focally myxoid matrix were typical for this tumor type (**Figure 2**).

Discussion. Lipoblastoma and lipoblastomatosis are rare mesenchymal benign tumors of embryonal white fat. The first description of lipoblastoma in

From the Department of Surgery, Prince Charles Hospital, Merthyr Tydfil, *United Kingdom.*

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Address correspondence and reprint request to: Dr. Asal Y. Izzidien, Consultant Surgeon, Prince Charles Hospital, Merthyr Tydfil, CF47 9DT, *United Kingdom*. Tel. +44 (168) 5728433. Fax. +44 (168) 5728225. E-mail: ayizzidien@rcsed.ac.uk

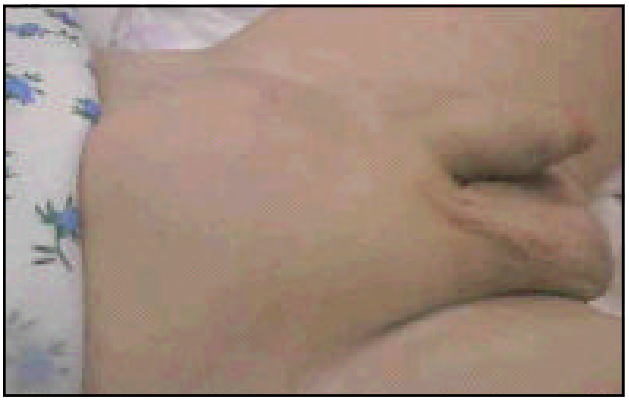

Figure 1 - Mass seen at the suprapubic region.

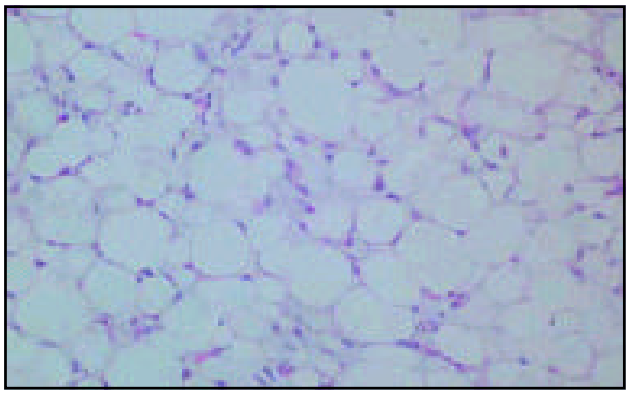

Figure 2 - Histology showing lipoblastoma.

1926 was of a tumor of immature fat cell while Vellios et al[7] used the term lipoblastomatosis in 1958. Lipoblastoma represents a localized well circumscribed encapsulated tumor that is located superficially, whereas lipoblastomatosis is a non capsulated tumor that is usually found deeper in the tissues and has a tendency to invade the adjacent tissues.[2,8]

In the year 2000, O'Donnell et al[9] suggested that the term infantile lipoma better reflects many of the tumor's characteristics such as its early occurrence, its ability to mature into a simple lipoma, its cellular composition of mainly mature adipocytes and its benign course, as the word blastoma is associated more with a malignant tumor rather than benign.

Lipoblastoma and lipoblastomatosis can be diagnosed normally by pathological examination after performing total excisional biopsy. However, there have been many attempts made to give a pre operative diagnosis, specially if it is situated in a difficult and deep position. Many authors have illustrated the use of fine needle aspiration (FNA) to diagnose lipoblastoma. For example, Leon et al[10] used FNA to diagnose lipoblastoma of the parotid region occurring in a 6-year-old boy. Ultrasound and computed tomography scan can provide a good idea of the nature and caliber of the tumor, images showing a predominantly fatty but unhomogeneous soft tissue mass on magnetic resonance image scan in children under 3 months of age are suggestive of lipoblastoma.[11]

The majority of lipoblastoma and lipoblastomatosis can be cured surgically (by performing excisional biopsy), however, there is a 14-25% chance of recurrence,[12,13] and when it does recur it may resemble myxoid liposarcoma, which typically presents in adulthood, though it may occur in childhood or adolescence.[1]

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