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Plantar Lipoblastoma in a Child: Rare Localization of a Rare Neoplasm

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Abstract | **Case Report**

Lipoblastoma is a very rare soft-tissue tumor, with a benign nature, rare in feet. We report an exceptional case of a 5 years old girl with a plantar lipoma. The traitement was a complete surgical resection, restoring a normal and painless plantar support. The diagnosis was confirmed histoligically.

Keywords: Lipoblastoma; plantar; children; surgery.

INTRODUCTION

Lipoblastoma(LBL) is an uncommon begnin tumor of soft tissue [1] which accounts for less than 1% among all childhood neoplasms [2]. It occurs in children under the age of 3 years old. Trunk and extremities being the most common involvement site [1]. Due to scarcity of adipous tissue, planter aspect of foot represents a rare localization. LBL usually presents as rapidly growing well defined mass, with distinct imaging features highly suggestive of LBL. However, definite diagnosis relies on histology [3]. Complete surgical exicion is the treatement of choice to prevent recurrences which has been reported in up to 80% of incompletely resected tumors [1]. LBL might undergo maturation into lipoma, however no malignant transformation into sarcoma have been reported to date [1]. Herein we describe a case of plantar lipoblastoma in a 5 years old girl, with a brief review of the literature to report on this rare tumor and highlight its clinical management.

CASE REPORT

A 5 years-old girl with no significant personal or family history, with a lump in the plantar of the left foot. At physical examination, the mass was self-apparent, palpable, of significant size, superficial, circumscribed, of a soft consistency and asymptomatic (Figure 1).

The deformity was noticed one year ago and it progressively enlarged with the child's growth disturbing plantigrade support. AP Radiographs of the foot were normal.

The ultrasound showed a heterogeneous tissue formation, 4x2,5x2 cm, non-vascular in Doppler,well limited, not invading adjacent structures with no sign of malignity (Figure 2).

The patient underwent surgery with removal of a lobulated and encapsulated mass measuring 4x2,5x2 cm whose dissection was easy (Figure 3), then was sent for histological examination showing adipocytes in different stages of maturation, which are immersed in a myxoid stroma and separated by connective tissue septa of variable thickness

The postoperative course was simple without recurrence, nor pain at 1 year after removal.

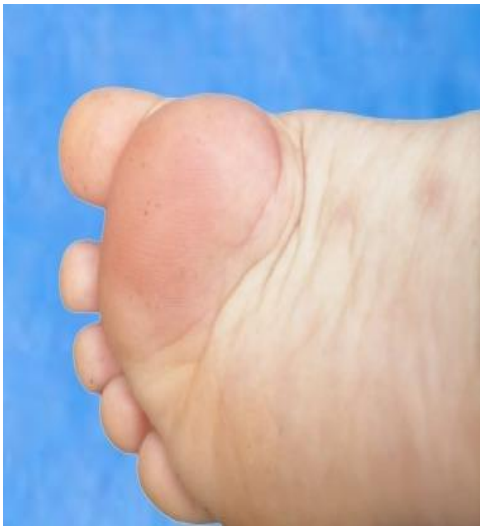

Figure 1: Planter superficial mass

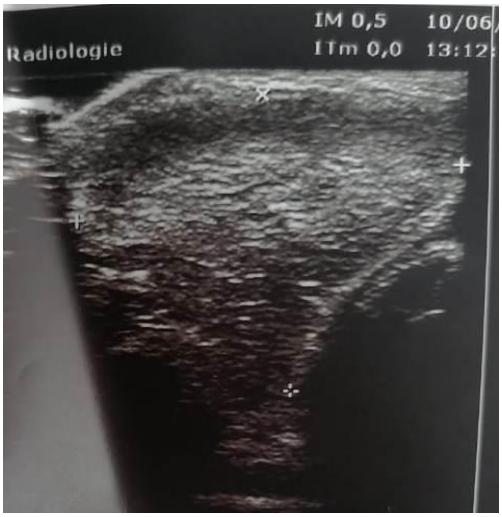

Figure 2: The ultrasound showing a heterogeneous tissue formation

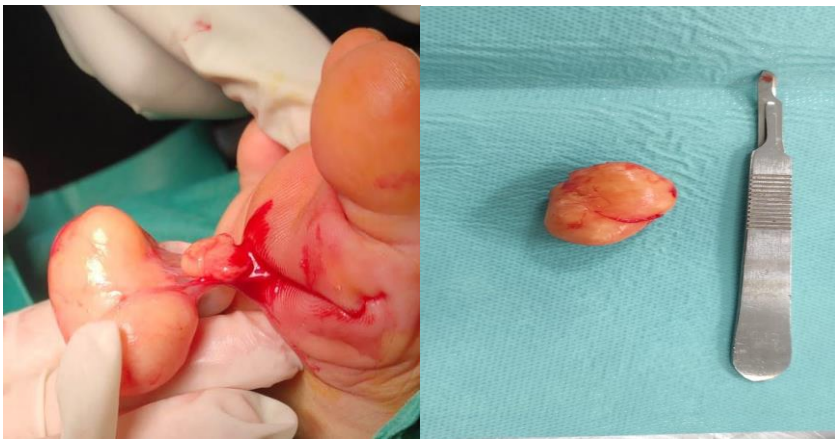

Figure 3: Lobulated and encapsulated mass after resection

DISCUSSION

Lipomas are among the most common tumors of the soft tissue, however plantar localization is very rare, exceptional in pediatric population.

This lesion corresponds to the immature form of the lipoma. The term lipoblastoma was introduced by Jaffe in 1926,Chung and Enzingar [4], they identified two forms in 1973: lipoblastoma: an encapsulated lobulated tumor corresponding to the circumscribed form of the tumor, and lipoblastomatosis, a deeper, non-encapsulated with infiltrating potentiel towards adjacent structures corresponding to the diffuse form which is less common than lipoblastoma. Its etiopathogenesis is not yet well established. It is probably an abnormal proliferation of fat cells and immature lobules. The majority of these tumors affect the subcutaneous tissues of the extremities and the trunk.

Clinically, the tumor presents as a usually asymptomatic mass, but it can become so by its size and location.

Physical examination is the key of the diagnosis associeted with ultrasound, used for small and superficial lesions showing a lobulated and mixed echogenicity mass. Magnetic resonance imaging is the modality of choice for evaluation of deep and larger size soft tissue tumors.

Only the anatomopathological examination allows a diagnostic confirmation. It reveals a tumor containing lobules of immature fatty tissue separated by septa of fibrous tissue containing plexiform capillaries. A myxoid stroma is most commonly associated which may lead to confusion with myxoid liposarcoma.

Lipoblastoma treatment is the surgical removal, this resection must be complete to avoid a possible local recurrence observed in 14 to 20% of cases [1, 2]. Spontaneous resolution has been reported in the literature [3], thus justifying a conservative attitude that is sometimes preferable to mutilating surgery. The prognosis is generally good, especially for lipoblastoma. Metastases are not described. However, recurrences are well known. The natural evolution of these tumors seems to be tumor maturation and the transformation of lipoblastoma into lipoma [4].

CONCLUSIONS

Lipoblastoma is a very rare soft-tissue tumor of mesenchymal origin and benign nature. Histopathology testing should be performed to rule out other pediatric lipomatous tumors, both benign and malignant. Lipoblastoma treatment is the complete surgical removal. As recurrence is possible, follow-up should be strict.

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