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CASE REPORT

LIPOMA OF THE HEEL: A COMMON BENIGN TUMOR OVER UNCOMMON SITE

Mirat Dholakia[1], Digvijay Jadhav[2], Gurjit Singh[3], Mackson Nongmaithem[4], Amit Chandan[5]

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ABSTRACT: Lipoma is a universal benign tumour which is uncommon in foot and especially in sole region. It should be considered in the differential diagnosis of foot lesions. A case of lipoma of heel of five years duration in a 48 years old housewife is described in which FNAC was inconclusive. However findings of imaging studies suggested diagnosis of lipoma which was confirmed on histopathological examination of the excised mass. Literature has been reviewed emphasising rarity of site lesion.

KEYWORDS: Ankle, Foot, Foot Diseases, Heel, Hematoma, Lipoma, Soft-tissue Neoplasm.

INTRODUCTION: Lipomas are ubiquitous benign, soft tissue neoplasms occurring in areas of abundant adipose tissue.[1] Although lipomas are the most common benign soft tissue neoplasm found in the body, they are rarely found in the sole. This report describes a case of lipoma arising over the heel of the foot.

CASE REPORT: A 48 years old housewife presented with a five-year history of gradually enlarging swelling over the right heel which was painful on weight bearing.

Local examination revealed a single lobulated well-defined non tender soft mass of size 8x5 cm. which was present over the medial aspect of right heel (Fig. 1).

Ultrasonography revealed a well-defined hyperechoic lesion with no evidence of vascularity and calcification considered to be a chronic hematoma or neoplastic lesion. Fine needle aspiration cytology was inconclusive. MRI examination showed a well-defined multi-lobulated fat intensity lesion in the subcutaneous plane of heel pad extending on medial aspect of calcaneum suggestive of lipoma.

Intra-operatively, a yellowish, lobulated soft tissue mass measuring 9X5 cm was dissected out (Fig. 2).

The tumor was completely resected and histopathology confirmed the diagnosis of lipoma of heel (Fig. 3).

DISCUSSION: The lipomas are the most common soft issue neoplasm, accounting for almost 50% of all soft-tissue tumors.[2] Soft tissue tumors of the foot and ankle are rare, accounting for only 4% of tumors.[3] This might be due to the relative paucity of soft tissues in this region.[4] They are benign, mesenchymal neoplasms occurring in areas of abundant adipose tissue. These lesions most frequently affect the upper back, neck, abdomen, chest and shoulder. In a study conducted by Kransdorf et al. amongst 1478 cases of benign mesenchymal lesions in the foot and

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ankle region, only 62 cases (4.2%) were lipoma.[5] Ozdemir et al. analyzed their own clinical series of 196 foot and ankle tumors and reported that the most common tumor was a ganglion followed by plantar fibromatosis, whereas they had only four cases (2%) of lipoma in this region.[3] Most commonly in the 4th to 7th decades of life.[2] In addition, lipomas occur more frequently in obese patients.[6]

Etiology of lipoma remains unclear. Variety of factors have been linked to the creation of lipomas, which includes trauma, obesity, hypercholesterolemia, genetic aberrations.[7,8] Posttraumatic lipoma may develop due to a prolapse of adipose tissue following blunt soft tissue trauma. This has also been called pseudo lipoma, because this is not a real neoplastic nature of the adipose tissue.[6]

Inflammatory cytokines and mediators released by damaged and necrotic cells after trauma can induce the differentiation of preadipocytes to mature adipocytes leading to formation of lipoma. Aust et al. distinguished these real lipomas from pseudolipomas by the presence of fibrous capsule.[6] Signorini et al. also suggested the ongoing growth of the lesion was unlikely due to fat herniation.[9]

Kirby et al. described five zones in foot and ankle numbering from 1 to 5 respectively as ankle, heel, dorsum of the foot, plantar surface of the foot, and toes for classifying location of tumors.[10] According to one study only 7% lesions were present on heel whereas 60% were found on toes. Similar study also described rheumatoid nodule as a most common lesion over heel followed by another lesions such as schwannoma, viral wart, cavernous haemangioma, calcific tendonitis, angioleomyoma with equal number of distribution of each. They observed ankle as the most common location for the lipoma.[11]

Benign lipomatous lesion involving soft tissue are classified into nine distinct diagnosis: Lipomatosis, lipomatosis of nerve, lipoblastoma or lipoblastomatosis, angiolipoma, myolipoma of soft tissue, chondroid lipoma, spindle cell lipoma and pleomorphic lipoma, and hibernoma.[12]

CT and MRI images reveal septa <2mm which is the pathognomic feature for the diagnosis of lipoma.[13]

Lipoma of the foot should be differentiated from other lipomatous lesions such as fat herniation. A piezogenic pedal papule is a dermatocele induced by pressure. It appears when weight is placed on the heel and disappears as the pressure is relieved. Histological findings of piezogenic papules are fragmentation of the dermal elastic tissue and herniation of subcutaneous fat into the dermis through a connective tissue defect.[14]

The tumor in the present case was able to be identified as a real lipoma because it was surrounded by a thin fibrous capsule and showed a gradual enlargement in size. Although rare, it should be considered in differential diagnosis of swelling in heel region.

CONSENT: Written and informed consent was obtained from the patient for publication of this case report and any accompany images. Copy of the written consent is available for review by the Editor-in-Chief of this journal.

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Fig. 1: Pre-operative size and incision marking

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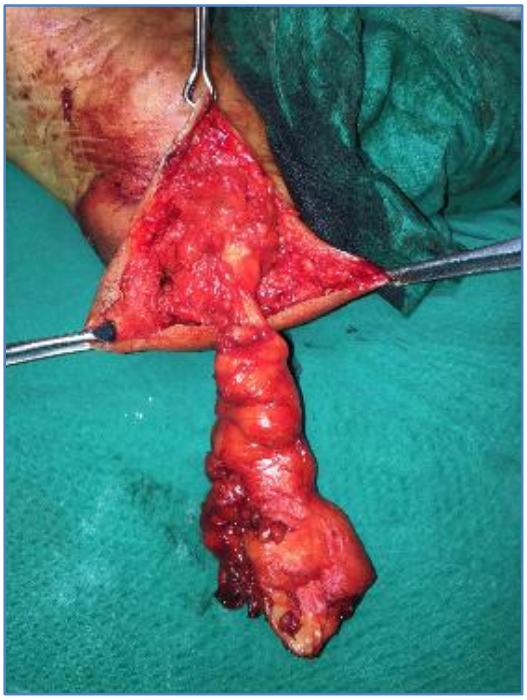

Fig. 2: Intra operative pedunculated mass

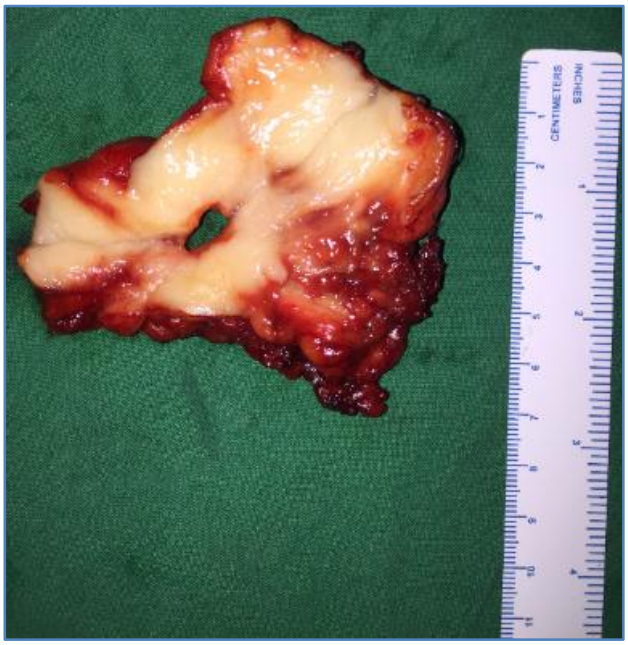

Fig. 3: Cut section shows smooth, whitish, fleshy surface

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AUTHORS:

1. Mirat Dholakia
2. Digvijay Jadhav
3. Gurjit Singh
4. Mackson Nongmaithem
5. Amit Chandan

PARTICULARS OF CONTRIBUTORS:

1. Surgery Resident, Department of General Surgery, Dr. D. Y. Patil Hospital & Research Centre, Pimpri, Pune, Maharashtra.
2. Lecturer, Department of General Surgery, Dr. D. Y. Patil Hospital & Research Centre, Pimpri, Pune, Maharashtra.
3. Professor, Department of General Surgery, Dr. D. Y. Patil Hospital & Research Centre, Pimpri, Pune, Maharashtra.
4. Surgery Resident, Department of General Surgery, Dr. D. Y. Patil Hospital & Research Centre, Pimpri, Pune, Maharashtra.
5. Surgery Resident, Department of General Surgery, Dr. D. Y. Patil Hospital & Research Centre, Pimpri, Pune, Maharashtra.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Mirat Dholakia,
#7, Orient Colony,
Bhuj-Kutch-370001,
Gujarat.
E-mail: miratdholakia@yahoo.co.in

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