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Case Report

Lipoma, the universal tumor: in a rare location

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ABSTRACT

Lipoma is universal and abundantly located benign soft tissue tumor, which is composed of fat cells. These tumors often develop where adipose tissue is predominant. Lipomas are soft to firm/cystic, usually movable, and painless. They grow very slowly, and have rarely found to be cancerous. However, these are rarely localized in the plantar aspect of the foot. Here we find out a large benign tumor located in the planter surface of foot, finally diagnosed by histopathological examination.

Keywords: Benign tumor, Foot swelling, Lipoma, Plantar foot tumor, Soft tissue tumor, Universal tumor

INTRODUCTION

Lipomas are the most common soft-tissue tumors, composed of well-differentiated adipocyte cells. These are nonmalignant, slow-growing, circumscribed, lobulated masses enclosed by a thin, fibrous capsule. The tumor can grow at any site of the body having fatty tissue. They are usually asymptomatic, but may cause discomfort or pain with direct pressure. Removal is typically done for symptomatic or cosmetic reasons. Lipomas can be distributed in any organ throughout the body, but most are subcutaneous in location and commonest on the neck and trunk. lipoma in the foot are reported, but the planter aspect large lipomas are rare.[1-6]

CASE REPORT

A 4-year-old female, child attended surgery OPD with swelling of right foot that made difficulty in walking and shoes wearing. The swelling had been present for two years and was gradually increasing in size. There was no history of trauma or infection. The child had no systemic disease and had achieved normal milestones up to date.

On physical examination (Figure 1) mass had involved the plantar surface of right foot extending anteriorly up to head of the first metatarsal to posteriorly reaching up to calcaneum border causing the loss of both medial and lateral longitudinal arch of foot and bulge in the mid of plantar aspect of right foot.

Figure 1: Another view of planter lipoma.

The mass was soft, nontendor, mobile on palpation with no evidence of inflammation. The skin overlying the

swelling was normal. There was no neurosensory deficit present over the foot. On investigations: plane X-ray showed a soft tissue shadow with no bony involvement or pathology. Fine Needle Aspiration Cytology of lesion showed lipomatous lesion.

Figure 2: Vertical incision with lipoma under view.

Figure 3: Cavity with thinned out plantar muscle.

Magnetic resonance imaging scan suggested a 7 × 8.6 × 4.3 cm well circumscribed heterogenous T1 hyperintense lesion in the deep fascial plane at plantar aspect extending from proximal calcaneal to mid tarsal level with exaggerated medial longitudinal arch. The tendons were splayed around it with obvious skin surface bulge, closely abutting calcaneum and other metatarsal bones without any altered bone marrow signal. The lesion showed T1/T2 hypointense margin with heterogenous loss of signal intensity in fat suppressed image and marked internal heterogeneity. The interface with the adjacent muscles and tendons were lost more marked. Normal overlying skin surface and with effaced subcutaneous plane as the possibility of lipoma with internal hemorrhage/ atypical degenerative changes.

Owing to the child complaints surgical treatment was advised. Under general anesthesia tumor was excised out using a vertical incision over the lesion (Figure 2, 3 and 4).

Figure 4: Immediate post-operative view.

On gross examination, it was 9 × 8 × 6 cm irregular, lobulated, encapsulated, soft tissue, yellow mass. It resembled normal adipose tissue (Figure 5).

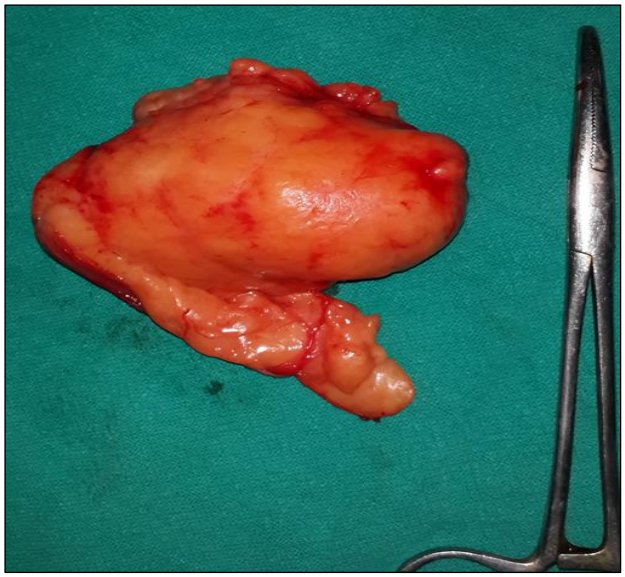

Figure 5: Excised tumor.

Histologic examination revealed a lipoma characterized by mature adipocyte clusters separated by well-vascularized collagen bundles showing myxoid degeneration (Figure 6), the postoperative healing was uneventful.

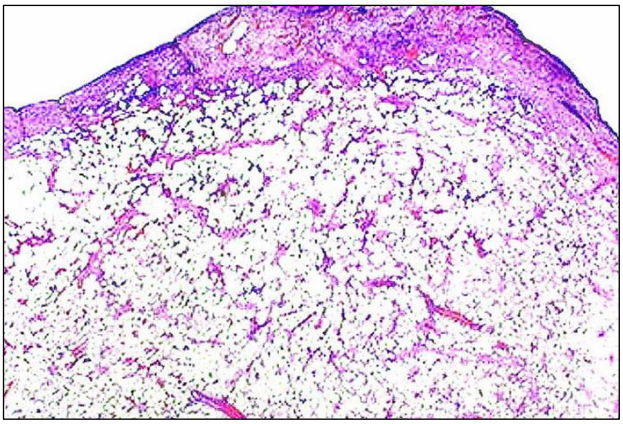

Figure 6: Histopathological image.

DISCUSSION

Soft-tissue tumors of the foot are usually less common tumor.[7,8] Among those, foot lipomas are very rare. The occurrence of a large lipoma of the plantar aspect of foot is extremely rare. Very few cases of lipomas are reported in various aspects of foot previously.[1,2,4-6] Here are some studies which have reported lipomas in the foot like Milgram et al, reported a massive fibrolipoma of a toe, managed by excision.[9] Similarly Pirela-Cruz et al, reported a lipoblastoma that contained immature fat cells involving the second toe.[10]

Another study by Lisch et al and Vandeweyer et al, reported a lipoma located the digits of the foot.[10,11] Similarly Abenavoli reported a lipoma in the dorsum of the foot that implicated a second toe.[13] We find a single study by Kerman and Foster described a lipoma in the plantar aspect of the left heel the lateral which was very small.[14]

To our knowledge, this is the first case we reported of apex 9 cm huge lipoma in a 4-year-old child involving the whole of the plantar aspect of right foot. The mass started as a slow growing swelling over two years and involve whole of plantar aspect of right foot. Excised successfully under anesthesia. All lipomas do not need surgical excision and they are noncancerous. They need to be removed in case of pain, discomfort or causing any type of disfigurement any stage of life. Lipomas may recur, although after local excision, the recurrence rate less than 5%.[15]

Malignant changes have been reported in the literature in only a fewcases.[16] Several histologic subtypes of lipomas like fibro-lipoma, spindle cell lipoma, infiltrating lipoma, angiolipoma, myxoid lipoma, atypical lipoma, and pleomorphic lipoma etc. are also reported regularily.[17] The lesions like ganglion, or epidermal inclusion cysts and infections are easily differentiated from lipomas clinically.[18] In our patient, final diagnosis was confirmed by the results of histologic evaluation.

CONCLUSION

Although lipomas of the foot are rare, but lipomas in the planter aspect of foot are extremely rare. All type of lipomas can be managed by simple excision with rare complications. But usually they are asymptomatic and no need to be removed. However, if the mass causes neurovascular compromise, mechanical discomfort or interferes with wearing shoes and/or with walking, it should be excised.

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