

## A rare case of lipoma in the big toe: a case report

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### ABSTRACT

Lipomas are the most common benign mesenchymal tumors; however, they are rarely encountered in the foot, particularly in the toes. This case report presents a lipoma located at the base of the right great toe, which progressively enlarged and caused difficulty in wearing shoes. A 57-year-old female patient presented with a painful subcutaneous mass that had been present for 16 months and had shown rapid growth during the last 3 months. Clinical examination and magnetic resonance imaging findings were consistent with a lipoma. Marginal surgical excision was performed, and histopathological evaluation confirmed the diagnosis of a benign lipoma. The postoperative course was uneventful, and no recurrence was observed during the 6-month follow-up period. Although rare, lipomas should be considered in the differential diagnosis of subcutaneous masses of the foot, and surgical excision with histopathological examination is essential for definitive diagnosis and treatment.

**Keywords:** Toe lipoma, foot lipoma, benign tumor

### INTRODUCTION

Lipomas are benign tumors composed of mature fat cells.<sup>1</sup> These tumors represent by a far the most common mesenchymal neoplasm. They account for approximately 50% of all soft tissue masses and approximately 4% of all benign tumors.<sup>1</sup> The subcutaneous form of lipomas alone accounts for one-quarter to one-half of all soft tissue tumors.<sup>2</sup>

Lipomas are commonly found in areas with abundant fatty tissue, such as the body, chest, upper extremities and shoulders.<sup>3</sup> However, the feet, lower extremities and especially the toes are uncommon sites for lipomas.<sup>3</sup> Digital (finger) lipoma cases are quite rare in the literature and therefore attract attention.<sup>4</sup> Lipomas typically become apparent between the fourth and seventh decades of life (ages 40-70).<sup>5</sup>

Although the etiology of lipomas remains unclear, they can rarely undergo malignant transformation into liposarcoma.<sup>6</sup> A post-traumatic lipoma may be a pseudolipoma resulting from herniation of adipose tissue.

### CASE REPORT

A 57-year-old female patient presented to our clinic with a mass on her right big toe that she had noticed approximately 16 months ago but which had progressively grown over the last 3 months, accompanied by increasing pain. The pain was characterized by increasing intensity, especially when standing and wearing shoes. The patient stated that she couldn't wear shoes anymore because the mass had grown.

Physical examination revealed a mass measuring approximately 4 cm x 4 cm extending from the base of the right

big toe to the first interdigital space (**Figure 1**). On palpation, the mass was painless, spherical, and soft in consistency. During the examination, clinical findings characteristic of subcutaneous lipomas were present, such as slipping sign and positive transillumination when pressure was applied to the edge of the mass. The patient's neurovascular examination was normal, and no enlargement of the inguinal lymph nodes was detected.



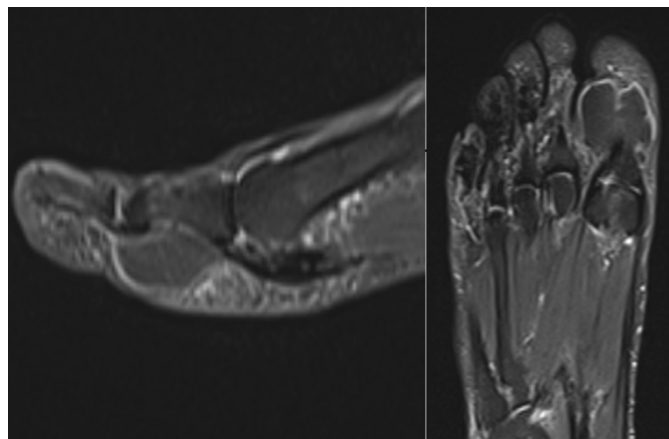
**Figure 1.** Appearance of the mass on the patient's right foot, first toe, from the dorsal and plantar angles

Magnetic Resonance Imaging (MRI) was requested to determine the relationship between the mass and the metatarsophalangeal joint. MRI reported a mass measuring approximately 36x12 mm at its widest point on the dorsal

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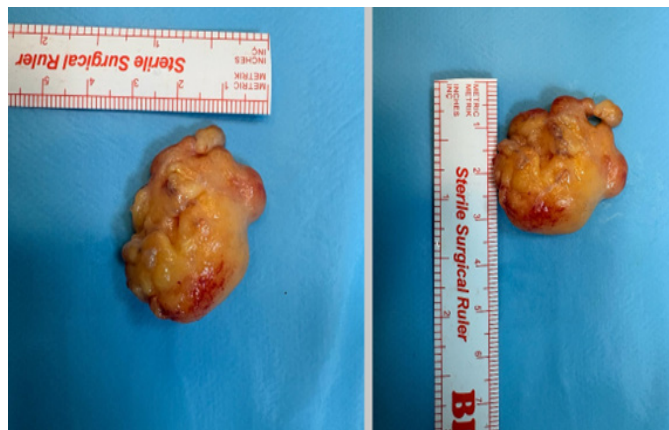


aspect of the first metatarsophalangeal joint, appearing T1 hyperintense and suppressed in fat-suppressed sequences, which could be a lipoma. The MR image of the mass, which was preliminarily diagnosed as a lipoma, is shown in **Figure 2**.



**Figure 2.** MR images of the mass located in the first toe of the right foot, T-2 sequence

As surgical treatment for the patient, marginal local excision was performed after spinal anesthesia and tourniquet application. The excised mass was approximately 3.5 x 3.5 cm in size (**Figure 3**). The mass was encapsulated and soft, with no invasion into surrounding tissues (skin, fascia, tendon sheath, and bone). The skin was sutured with 2/0 Prolene (**Figure 4**). Histopathological examination revealed mature fat cells, confirming the diagnosis of benign lipoma. The postoperative period was uneventful. The patient has been followed up for 6 months without recurrence.



**Figure 3.** Macroscopic view of the mass removed after excision

## DISCUSSION

The thumb is an area where subcutaneous tissue is more difficult to feel, both because of the less surrounding fatty tissue and because of the keratinized skin tissue. Although lipomas are common in the adult population, the big toe (first toe) is a very rare site.<sup>4</sup> The literature reports cases of lipomas in different areas of the foot, such as the plantar heel, dorsal foot, and second, fourth, and fifth metatarsal regions.<sup>4,7</sup>

There are reports of giant lipomas in the toes. For example, a rapidly expanding giant lipoma completely enveloping the third toe and the space between the third toes, reaching 10 cm in diameter, was reported in a 56-year-old man.<sup>3</sup> Additionally,



**Figure 4.** View of the first finger from the dorsal angle after removal of the mass

a mass reaching 13 cm in circumference on the right big toe and enlarging the toe approximately tenfold was reported in a 35-year-old woman.<sup>7</sup> These large masses can cause difficulties in walking and wearing shoes. Our case also highlights the importance of this rare location, as the mass was located at the base of the thumb, preventing the patient from wearing shoes.

## CONCLUSION

This case report presents a rare case of lipoma located on the base of the big toe, presenting with positive slippage sign and transillumination findings, making shoe wearing difficult, and showing no recurrence after successful surgical excision and 6-month follow-up. Lipomas, although rare, should always be considered in the differential diagnosis of subcutaneous masses in the foot. The importance of differentiation from other benign soft tissue masses lies in the fact that large and deeply located lipomas carry a high risk of malignant transformation. Furthermore, early diagnosis is crucial, as surgical excision and pathological examination are necessary for definitive diagnosis.

## ETHICAL DECLARATIONS

### Informed Consent

Written informed consent was obtained from the patient(s) included in this report. Signed consent forms are retained by the authors and are available upon request.

### Peer Review Process

This report underwent external peer review.

### Conflict of Interest

The authors declare no conflicts of interest.

### Financial Disclosure

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### Author Contributions

Author Contributions Concept: F.S., O.P., E.K.; Design: O.P., E.K.; Control: F.S.; Data collection and/or processing: O.P., E.K.; Analysis and/or interpretation: F.S., O.P.; Literature review: F.S., O.P., E.K.; Article writing: F.S., O.P., E.K.; Critical review: F.S., O.P., E.K.

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