

## “Universal Tumor” for a Reason, Uncommon Lipoma over Thumb

### Nedensiz “Evrensel Tümör”, Başparmak Üzerinde Nadir Lipom

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#### ABSTRACT

Lipomas are benign, mesenchymal neoplasms generally present in areas of abundant adipose tissue and account for approximately 16% of soft-tissue mesenchymal tumors. They can be found anywhere in the body as it is known as a universal tumor with a majority of 15-20% located in the head and neck region and shoulder and back. Lipomas are uncommon in the hand, and which involve the fingers are very rare accounting for only 1%. The first patient reported with a lipoma of the finger was by Stein in 1959. The clinical presentation can vary depending on its location, presenting as a painless slowly growing mass, that affects the mobility of the finger due to its size, it may also cause neurologic changes in the peripheral nerves of the hand due to compression and leading to disfigurement. We present a case of a 41-year-old male present with a lipoma over the proximal phalanx of the left thumb leading to a diagnostic dilemma as it is a rare presentation.

**Keywords:**Lipoma,Universal tumor,swelling

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#### ÖZET

Lipomlar iyi huyludur, mezenkimal neoplazmalar genellikle bol miktarda adipoz doku bulunan bölgelerde bulunur ve yumuşak doku mezenkimal tümörlerinin yaklaşık %16'sını oluşturur. Ünliversal bir tümör olarak bilindiğinden vücudun herhangi bir yerinde bulunabilirler ve %15-20 oranında baş boyun bölgesi ile omuz ve sırtta yerleşirler. Lipomlar elde nadirdir ve parmakları tutanlar çok nadirdir ve sadece %1'dir. Parmağın lipomu ile ilgili ilk hasta 1959'da Stein tarafından bildirilmiştir. Klinik prezentasyon, konumuna bağlı olarak değişebilir, ağrısız, yavaş büyüyen, boyutundan dolayı parmağın hareketliliğini etkileyen bir kitle olarak ortaya çıkabilir, aynı zamanda elin periferik sinirlerinde basıya bağlı olarak şekil bozukluğuna yol açan nörolojik değişikliklere de neden olabilir. Bu yazıda, sol başparmağın proksimal falanksında lipom ile başvuran 41 yaşında bir erkek hastayı nadir bir başvuru olması nedeniyle tanısız ikilemlere yol açan bir olguyu sunuyoruz.

**Anahtar Sözcükler:** Lipom, Ünliversal tümör, şişlik

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**INTRODUCTION**

Lipomas are composed of adipose tissues and are considered the most common soft tissue tumor accounting for 16% of soft tissue mesenchymal tumors(1). According to 2002 World Health Organization's committee for the Classification of Soft Tissue Tumors, they are categorized into 9 entities, including lipoma, lipomatosis, lipomatosis of nerve, lipoblastoma, angioliipoma, myelolipoma of soft tissue, chondroid lipoma, spindle cell/pleomorphic lipoma and hibernoma(2).

On the hand, these tumors are usually asymptomatic, slow growing, soft fluctuant, lobulated, and mobile mass, arising from the superficial subcutaneous tissues or Tendon sheath and as they attain larger size can be associated with nerve compression causing pain and distal sensory changes and motor weakness(3,4,5). In a few cases, they may arise from juxta-articular regions or adjacent to the periosteum (parosteal lipoma), may erode into the bone, and cause focal cortical hyperostosis, osseous projection, subperiosteal new bone formation, and bowing of the bone(6,7, 8).

**CASE REPORT**

A 41-year-old male presented in our institution with swelling over the left thumb for the last three years(Fig.1). Initially it was very small in size, then the swelling increased progressively to its present size. There was no history of trauma. On examination, the swelling of size (5cmx4cmx4cm), was present on the dorsal & volar aspects of the left thumb over the proximal phalanx (Fig.2), non-tender, soft, and mobile in all directions (Fig.3). The skin overlying the swelling was normal. Flexion at the proximal interphalangeal joint (PIP) was restricted. There was no neurovascular deficit, palpable pulse, fluctuation, thrill, or bruit in the left thumb. Magnetic resonance imaging (MRI) (Fig.4) showed a well-defined hyperintense subcutaneous mass with hypointense septations, enveloping the left flexor pollicis longus tendon with bony cortex intact MRI shows the exact position and morphology of the lesion, with the invasion of a neurovascular bundle suggesting a working diagnosis of lipoma. To confirm the imaging findings, Fine needle aspiration cytology (FNAC) was done on the swelling which was suggestive of lipoma. The patient was planned for surgical excision.

The patient was positioned supine and was given regional anesthesia of axillary nerve block. A transverse incision was given over the swelling on the volar aspect of the finger. (Fig.5) The fatty, lobulated mass was found to be localized in the subcutaneous tissue (Fig.6) and was attached close to the proximal and middle phalanx of the digit without interfering with the fascicles of the tendon. Zealous and careful dissection, with clear identification and preservation of the neurovascular structures and tendons, was done. The Tumor was nourished by two pedicles that emerged from the digital bundle branch of the radial artery (Fig.7). Complete excision of the lipoma was done measuring 5.4cm x 4.4cm x 3.3 cm and sent for histopathological evaluation (Fig.8). Mini romovac drain was placed in view of large dead space (Fig.9). The pathological diagnosis was a lipoma with mature adipocytes traversed by fibrous tissue without neural component or malignant transformation (Fig.10). Postoperative period was uneventful with drain removed on postoperative day 2 (Fig.11) and the patient regained full range of motion by postoperative day 4. Physiotherapy and finger exercises were continued on discharge and there are no signs of recurrence after a follow-up for 6 months. (Fig.12)



**Figure 1:** Lipoma on left thumb volar aspect



**Figure 2:** Lipoma over left thumb dorsal aspect



Figure 3: Lipoma clinical characteristics



Figure 4: MRI imaging anteroposterior and sagittal view



Figure 5: Intraoperative picture (incision marked )



Figure 6: Superficial lipoma





Figure 7: Lipoma with two nourishing feeders



Figure 8: Lipoma specimen in toto



Figure 9: Closure is done with a mini romovac drain

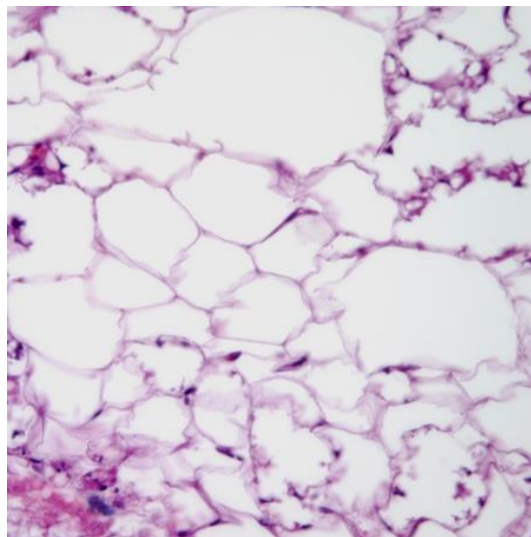


Figure 10: Histopathology suggestive of lipoma



Figure 11: Post-op day 2



**Figure 12:** Post-op day 14 with a full range of thumb movement

## DISCUSSION

Clinical evaluation in superficial lipomas is accurate for diagnosis in up to 85% of cases, contrary to deep lipomas for which radiological imaging is required. Radiological evaluation is diagnostic in up to 71% of cases(9). Ultrasound is used to characterize the swelling but the superior gold standard investigation of choice if feasible is Magnetic resonance imaging (MRI). MR images reveal intrinsic thin septa (<2 mm), a sign that is considered almost pathognomonic for the diagnosis of lipoma(10).

In our case, the lipoma occurred in the fourth decade as opposed to the fifth and sixth decades when it commonly occurs. Diagnosis in the hand and digits can be difficult, because of their rarity and deeper location. The differential diagnosis includes other soft tissue tumors such as ganglion cysts, giant cell tumors, myxomas, Xanthomas, angioliomas, and intraneural lipofibromas(11). The diagnosis of lipoma was confirmed by the Radiological & FNAC report. Complete surgical excision is the treatment of choice. The lipoma in our case is a Giant Lipoma as the size is greater than 5 cm.

## CONCLUSION

Lipoma on fingers is a rare presentation. Swellings like Ganglion, Mucous cysts, Inclusion epidermoid cyst, Pyogenic granuloma, Synovial giant cell tumor of the joint or tendon sheath, Rheumatoid nodules, Gout, fibromas, and glomus tumor are common over fingers. Lipoma is not a common differential of hand swellings that are seen in other works of literature because it is uncommon and even rare in fingers. Lipoma should always be kept in mind as a differential diagnosis of swellings in the hand and fingers. For prompt diagnosis and management, radiological imaging like an MRI of the affected hand shall help to differentiate a lipoma from other swellings. However, in developing countries where MRI is not feasible initial imaging with ultrasound, X-rays, and FNAC is used to detect lipoma. Complete excision of lipoma should be done as they tend to recur in around 5% of cases.

## Conflict of interest

No conflict of interest was declared by the authors.

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