

An Unusual Location of a Lipoma in the Hand: A Case Report

I. Moutahir^{1*}, C. Hmidi¹, I. Moustakbal¹, A. Slaoui¹, J. Hafidi¹, N. Gharib¹, A. Abbassi¹, S. Elmazouz¹

¹Plastic and Reconstructive Surgery Department, CHU Ibn Sina, Rabat, Morocco

*Corresponding author: I. Moutahir

Plastic and Reconstructive Surgery Department, CHU Ibn Sina, Rabat, Morocco

Article History

Received: 12-06-2025

Accepted: 28-06-2025

Published: 05-07-2025



Abstract:

Lipomas are benign tumors rarely found in the hand. We report a case of a 45-year-old female patient, with no significant medical history, presenting for four years with a lipoma located on the dorsal aspect of the left hand over the third finger, extending towards the palm. Despite the size of the tumor, the patient reported no signs of nerve compression. The mass was removed en bloc without injury to neurovascular or tendon structures. Postoperative recovery was uneventful, and the patient regained good mobility of the hand and fingers.

Keywords: Lipoma, Hand tumor, Dorsal aspect, Surgical excision, Postoperative recovery.

Review Article

Copyright © 2025 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Lipomas are benign, slow-growing tumors composed of mature adipocytes. While they are among the most common soft tissue tumors, their presence in the hand is relatively rare, accounting for less than 5% of all lipomas. When they do occur in the hand, they are usually subcutaneous. Deep-seated or intramuscular lipomas, particularly those affecting functional spaces like the deep palmar space or carpal tunnel, are uncommon and may lead to diagnostic confusion with other soft tissue masses or compression syndromes.

Case Report

A 45-year-old housewife with no significant medical history presented with a mass on the dorsal aspect of the left hand over the third finger, extending to the palm and spreading across the base of the third, fourth, and fifth fingers. The mass had been present for four years and was asymptomatic until six

months prior, when she began experiencing paresthesia in the median nerve territory.

Clinical examination revealed a soft, subcutaneous mass with no inflammatory signs or pain, poorly defined, located on the dorsal side of the third finger and the palm in front of the last three fingers. No sensorimotor deficits were noted, and vascular examination of the fingers was normal.

Magnetic resonance imaging (MRI) revealed a poorly defined, non-encapsulated fatty tumor. The digital branches of the median nerve were not clearly visible on imaging.

A monobloc excision was planned and performed under axillary block anesthesia with a pneumatic tourniquet. The surgical approach allowed proper exposure and careful dissection of the mass, which was excised en bloc without damage to adjacent vital

structures. The excised specimen measured 6 × 3 cm.

Histology confirmed the diagnosis of a mature lipoma with no atypia or malignancy.



Figure 1: Intra-operative image



Figure 2: Excision Piece

The patient recovered uneventfully with no neurological deficits and full return of hand function within three weeks. There was no recurrence at 12 months follow-up.

DISCUSSION

Lipomas are benign tumors composed of mature fat tissue. Of extraneural origin, they account for 16% of mesenchymal tumors. They typically manifest as soft, well-demarcated, and mobile growths that enlarge slowly and may eventually cease progressing.

Hand lipomas are rare and termed “giant” when exceeding 5 cm. They may be superficial, arising from subcutaneous tissues, or, less frequently, subaponeurotic, originating

from deeper structures such as the Guyon’s canal, carpal tunnel, or deep palmar space.

Superficial lipomas are usually asymptomatic and slowly growing. The appearance of neurovascular compression signs is often what prompts medical consultation. Depending on their location, lipomas can cause carpal tunnel syndrome, ulnar nerve compression in Guyon’s canal, digital nerve compression, or even trigger finger. Subaponeurotic lipomas tend to compress the median and ulnar nerve branches and, due to their size, may limit hand motion and gripping ability.

Magnetic resonance imaging (MRI) remains the preferred imaging modality for evaluating these tumors. Typical findings include a well-defined mass with high signal intensity on T1 and T2 sequences, with signal reduction on fat-suppressed sequences. Some cases may show fibrous septa or calcifications. Gadolinium contrast enhances the fibrous septa, while the fat component remains unchanged.

Differential diagnoses include ganglion cysts, giant cell tumors, myxomas, angiolipomas, intraneural lipofibromas, and liposarcomas; the latter being the most concerning due to its malignant potential. Liposarcomas may develop from subcutaneous adipose tissue, interstitial spaces, or occasionally from pre-existing or relapsing lipomas.

Marginal excision is the treatment of choice for benign lipomas. Careful identification and dissection of neurovascular structures are essential to avoid iatrogenic injury. Complete removal is necessary to minimize recurrence, although such cases are rare.

CONCLUSION

Hand lipomas are rare benign tumors. Due to their proximity to neurovascular structures, surgical dissection must be performed with utmost care. MRI is the gold

standard for diagnosis and surgical planning. Histopathological examination is essential to confirm the diagnosis and rule out liposarcoma, the main differential diagnosis.

REFERENCES

- Higgs, P. E., Young, V. L., Schuster, R., & Weeks, P. M. (1993). Giant lipomas of the hand and forearm. *Southern medical journal*, 86(8), 887-890.
- Calandruccio, J. H., & Jobe, M. T. (1998). In: Canale, S. T., editor Campbell operative. Orthopaedics 9th edition, St Louis: Mosby-Year Book, Inc. 1998; 4:3704-3705.
- Ersozlu, S., Ozgur, A. F., & Tandogan, R. N. (2007). Lipoma of the index finger. *Dermatologic surgery*, 33(3), 382-384.
- Fnini, S., Hassoune, J., & Largab, A. (2010). Lipome géant de la main. *Rev Chir Main*, 29(1), 44-47.
- Cribb, G. L., Cool, W. P., Ford, D. J., & Mangham, D. C. (2005). Giant lipomateus of the hand and forearm. *Br J Hand Surg*, 30B(5), 509-512.
- Babins, D. M., & Lubahn, J. D. (1994). Palmar lipomas associated with compression of the median nerve. *JBJS*, 76(9), 1360-1362.
- Zahrawi, F. (1984). Acute compression ulnar neuropathy at Guyon's canal resulting from lipoma. *Journal of Hand Surgery*, 9(2), 238-240.
- Boussouga, M., Bousselmame, N., & Lazrak, K. H. (2006). Lipome compressif de la loge thénar. À propos d'une observation. *Chirurgie de la main*, 25(3-4), 156-158.
- Brand, M. G., & Gelberman, R. H. (1988). Lipoma of the flexor digitorum superficialis causing triggering at the carpal canal and median nerve compression. *Journal of Hand Surgery*, 13(3), 342-344.
- Capelastegui, A., Astigarraga, E., Fernandez-Canton, G., Saralegui, I., Larena, J. A., & Merino, A. (1999). Masses and pseudomasses of the hand and wrist: MR findings in 134 cases. *Skeletal radiology*, 28(9), 498-507.
- Drevelegas, A., Pilavaki, M., & Chourmouzi, D. (2004). Lipomatous tumors of soft tissue: MR appearance with histological correlation. *European journal of radiology*, 50(3), 257-267.
- Goodwin, R. W., O'Donnell, P., & Saifuddin, A. (2007). MRI appearances of common benign soft-tissue tumours. *Clinical radiology*, 62(9), 843-853.
- Chronopoulos, E., Ptohis, N., Karanikas, C., Kalliakmanis, A., Plessas, S., Neofytou, I., ... & Chalazonitis, A. (2010). Patient presenting with lipoma of the index finger: a case report. *Cases journal*, 3, 1-4.