

## Case Report

# Giant Lipoma of the Hand: An Exceedingly Rare Condition!

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**Abstract:** Lipomas are the most common benign form of soft tissue tumor in the body. Although they are commonly found on the upper extremity, their occurrence in the hand is rare. Giant lipomas of the hand, defined as >5cm in diameter, are extremely rare. This manuscript reports a very rare case of giant lipoma on the palmar side of the hand in order to study the diagnostic, therapeutic and prognostic aspects. A 61 year-old female had a large asymptomatic thenar swelling since 10 years. The clinical examination showed a subcutaneous tumor spreading the 1st commissure and making opposition of the thumb very limited. There were no inflammatory signs and no pain. The patient didn't report any sensory deficit and the neurological examination was normal. The standard X-ray showed a tissue image without bone lesions. MRI demonstrated a large, well-limited T1, T2 hypersignal tissue formation, which developed in the subcutaneous fat of the first commissure, insinuated itself in front of the last three metacarpals, and included the deep and superficial flexor tendons. The patient was operated on under local anesthesia and pneumatic tourniquet at the root of the limb. The approach allowed a satisfactory exposure of the entire palm of the hand and revealed a lipomatous mass, encapsulated, pushing back the vascular and neural pedicles of the long fingers without invading them and remaining in front of the flexor tendons. The tumor was carefully dissected, which allowed it to be removed totally. Histology confirmed the diagnosis of benign lipoma. Complete recovery was achieved without any sign of recurrence during a follow up period of 5 years. Lipomas of the hand represent a rare benign tumor pathology; giant lipomas represent an exceedingly rare condition. The proximity of the relationships with the vascular and neural structures must lead to the greatest caution during surgical dissection. Only anatomopathological examinations confirm the histological nature of the lesion.

**Keywords:** Case report \_ giant lipoma \_ rare diagnosis \_ benign tumor.

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## INTRODUCTION

Lipomas are the most common benign form of soft tissue tumor in the body. Although they are commonly found on the upper extremity, their occurrence in the hand is rare. Giant lipomas of the hand, defined as >5cm in diameter, are extremely rare.

We report a case of giant lipoma on the palmar side of the hand in the department of plastic, reconstructive and hand surgery in Kassab Institute of Orthopedics. We studied the diagnostic, therapeutic, and prognostic aspects.

## CASE REPORT

A 61 year-old female, a cooker, had a large asymptomatic thenar swelling since 10 years. The clinical examination showed a subcutaneous tumor measuring 7 \* 8 cm (Fig 1), spreading the 1st commissure and making opposition of the thumb very limited (Fig 2). There were no inflammatory signs and no pain. The patient didn't report any sensory deficit and the neurological examination was normal. The standard X-ray showed a tissue image (Fig 3) without bone lesions. MRI demonstrated a large, well-limited T1, T2 hypersignal tissue formation, which developed in the subcutaneous fat of the first commissure, insinuated itself in front of the last three metacarpals, and included the deep and superficial flexor tendons

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(Fig 4). The patient was operated on under loco\_regional anesthesia and pneumatic tourniquet at the root of the limb. The approach allowed a satisfactory exposure of the entire palm of the hand and revealed a lipomatous mass, encapsulated, pushing back the vascular and neural pedicles of the long fingers without invading them and remaining in front of the flexor tendons.



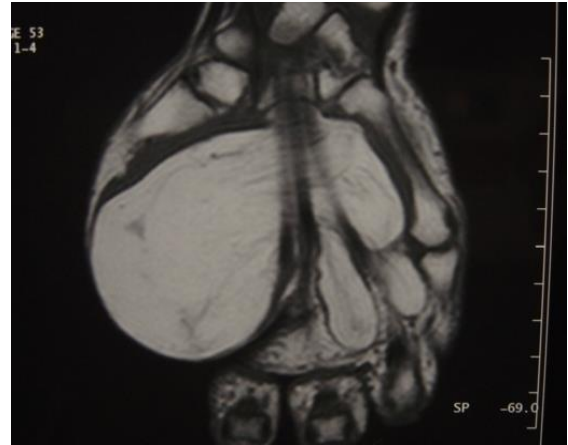
**Figure 1: Swelling of the thenar Lodge**



**Figure 2: Swelling in the 1st commisure region**

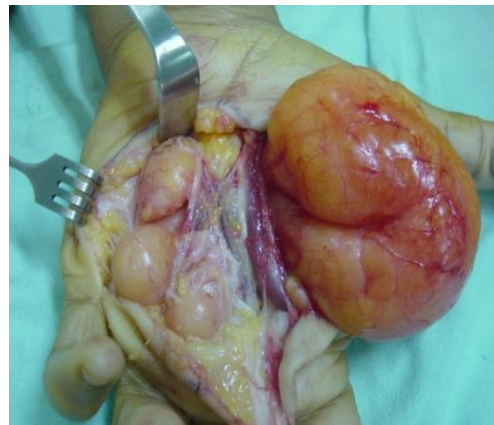


**Figure 3: A frontal X-ray of the hand showing hypertrophy of the soft tissues of the 1st commisure without bone lesion**



**Figure 4: MRI: typical aspect of a lipoma extended to the whole palm of the hand**

The tumor was carefully dissected (Fig 5a), which allowed it to be removed totally. Histology confirmed the diagnosis of benign lipoma. post-operative results are marked by a good esthetic (Fig 6a) and functional result with self-rehabilitation, Possible thumb opposition (Fig 6c), good clamping strength (Fig 6b) and she had return to work after 30 days. Complete recovery was achieved without any sign of recurrence during a follow up period of 5 years.



**Figure 5a: Peroperative aspect showing the voluminous fat mass and its extensions to the palm**



**Figure 5b: The tumour mass resected**



**Fig 6a: Good esthetic result**



**Fig 6b: Good clamping strength**



**Fig 6c: Good thumb opposition**

## DISCUSSION

A lipoma is a benign tumour made up of mature fat [1]. Lipoma is one of the most common benign tumours that rarely occur in the hand, accounting for approximately 1% to 3.8% of benign hand tumours [2]. It may be supra- or subaponeurotic, exceptionally intramuscular in the palm of the hand [3]. Lipomas are often painless and usually present as palpation of a soft, regular, mobile mass. The usual course is slow growth [1, 4].

Lipoma leads to carpal tunnel syndrome, ulnar nerve compression, digital nerve compression, and even a jerking finger depending on location [4, 5]; There are subfascial lipomas which compress the branches of the median and ulnar nerves. The vascular compression with distal ischemia has not been reported in the literature [1]. Signs of nerve compression are not correlated with tumour size; Nerve compression in small lipomas has been explained by the intraoperative discovery of a tumour adherent to the nerve or of a mass crossed by nerve branches [6].

MRI is the reference examination for soft tissue tumors; It provides information on the nature of the lesion, its local extension and its relationship with vascular-nerve.

The characteristic image of a lipoma is one of well-limited hypersignal image on T1 and T2 sequences, with a signal reduction on fat suppression sequences. In some cases, the image includes fibrous septa or calcifications. After injection of gadolinium, the fibrous septa is moderately enhanced, but the fat retains the same signal [7]; In a series of 134 MRI of tumors and pseudotumors of the wrist and hand, the preoperative of benign lipoma was confirmed by histology in 94% of cases for Capelastegui *et al.*,

The differential diagnoses to consider are fibrolipoma of the median nerve, synovial cystic dystrophy or a giant cell tumour [1, 4].

Liposarcoma is the tumor to suspect when it is larger than 5 cm [8], subaponeurotic, no limited and hypervascularized; It is the most common soft tissue sarcoma in adults, with a frequency varies from 1.1 to 2.5/1,000,000 with a peak between 50 and 70 years [1].

MRI, by analysing the fat content of the tissues, can help to differentiate between lipoma and liposarcoma; Lipoma always contains more than 75% pure fat, liposarcoma less, lipoma septa are thin and slightly enhanced by gadolinium, whereas liposarcoma septa are thickened and highly enhanced by gadolinium [1, 9, 10].

Marginal excision is the treatment of choice for benign lipomas of hands. Dissection and identification of vasculonervous elements must be carried out with care to avoid iatrogenic lesions [8, 11]; the nature of the tumour is confirmed histologically; The fine-needle cytopuncture enables the differential diagnosis between lipoma and liposarcoma in 95% of cases for Kooby *et al.*, advantageously replacing biopsy, which carries the risk of local tumor dissemination [1].

Functional and esthetic results are good in most cases reported in the literature; Recurrence is rare and in fact corresponds to incomplete initial excision [2, 8].

## CONCLUSION

Lipomas of the hand represent a rare benign tumor pathology; giant lipomas represent an exceedingly rare condition. The proximity of the relationships with the vascular and neural structures must lead to the greatest caution during surgical dissection. Only anatomopathological examinations confirm the histological nature of the lesion.

**Declaration of interests:** None

**Consent:** A written informed consent was obtained from the patient for publication of this case report and accompanying images.

## REFERENCES

1. Fnini, S., Hassoune, J., Garche, A., Rahmi, M., & Largab, A. (2010). Lipome géant de la main: présentation d'un cas clinique et revue de la littérature. *Chirurgie de la main*, 29(1), 44-47.
2. Yavari, M., Afshar, A., Shahraki, S. S., Tabrizi, A., & Doorandish, N. (2022). Management of Symptomatic Lipoma of the Hand: A Case Series and Review of Literature. *Archives of Bone and Joint Surgery*, 10(6), 530-535.
3. 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.
4. 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.
5. Chen, C. H., Wu, T., Sun, J. S., Lin, W. H., & Chen, C. Y. (2012). Unusual causes of carpal tunnel syndrome: space occupying lesions. *Journal of Hand Surgery (European Volume)*, 37(1), 14-19.
6. Cribb, G. L., Cool, W. P., Ford, D. J., & Mangham, D. C. (2005). Giant lipomatous tumours of the hand and forearm. *Journal of hand surgery*, 30(5), 509-512.
7. 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, 498-507.
8. Sbai, M. A., Benzarti, S., Msek, H., Boussen, M., & Khorbi, A. (2015). Carpal tunnel syndrome caused by lipoma: a case report. *Pan African Medical Journal*, 22(1).
9. Matsumoto, K., Hukuda, S., Ishizawa, M., Chano, T., & Okabe, H. (1999). MRI findings in intramuscular lipomas. *Skeletal radiology*, 28, 145-152.
10. Skorpil, M., Rydén, H., Berglund, J., Brynolfsson, P., Brosjö, O., & Tsagozis, P. (2019). Soft-tissue fat tumours: differentiating malignant from benign using proton density fat fraction quantification MRI. *Clinical radiology*, 74(7), 534-538.
11. Ilahiane, M., Jellali, A., Hassani, I., & Boutayeb, F. (2020). Lipoma, géant, main. *PAMJ Clin Med*, [Internet]. 2020 [cité 11 juin 2023];2. Disponible sur: <https://www.clinical-medicine.panafrican-med-journal.com/content/article/2/11/full/>

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