

Lipoma of the Index Finger in a 64-year-old Man: A Case Report

Norfleet B. Thompson, MD*; Moheb S. Moneim, MD*

*UNM Department of Orthopaedics & Rehabilitation

Abstract

Lipomas are benign tumors composed of adipose tissue and typically encountered in middle-aged patients. Although the etiology remains unknown, this lesion can occur throughout the body. However, it is rarely seen in the finger. Typical treatment has often involved observation, but excision techniques have also reported successful outcomes. We describe a 64-year-old male patient who reported to our clinic with a painless soft-tissue mass in the index finger of his left hand, and we performed operative excision for treatment. The findings of physical examinations, radiographs, and magnetic resonance imaging tests had indicated the presence of lipoma, and results of pathological tests confirmed this diagnosis. Surgeons should carefully evaluate benign soft-tissue masses of the finger, with careful consideration given to the rare yet possible presence of lipoma.

Introduction

Lipomas are benign tumors composed of fat (adipose) cells. The lesion is normally encountered in middle-aged patients who describe the presence of a painless, mobile, soft, and subcutaneous mass.¹ Although the precise etiology is still unknown, lipomas usually form when mesenchymal cells differentiate into fatty tissue. A signet-ring cell, marked by a peripherally located nucleus and central lipid droplet, is a typical characteristic.¹ Additionally, the tumor can be found throughout the body, and about 15% to 20% localize in regions of the head and neck.² They have been categorized as superficial or deep seated, with the rarer deep forms occurring most often in both the anterior mediastinum and retroperitoneum.²

However, lipomas are seldom seen in the finger.³ Available reports are subsequently limited, with a total of about 15 cases (including the first mention in 1959) describing the condition in the finger.⁴ These lesions have been treated with observation, but simple excision can be useful when the size of the mass interferes with surrounding tissue or becomes

cosmetically undesirable for patients.⁴⁻⁶ We present one case in which we performed operative excision using a mid-lateral approach to treat lipoma of the index finger.

Case Report

A 64-year-old, right-handed male maintenance supervisor presented to our clinic with a soft-tissue mass in the index finger of his left hand. The patient was dissatisfied with the cosmetic appearance and concerned about continued growth of the mass. It had been present for 6 months, enlarging slowly. The mass was located between both the radial aspect of the middle phalanx and proximal interphalangeal joint. No previous trauma, associated pain, and numbness or loss of motion was reported.

On physical examination, the mass was firm, lobulated, and measured about 1 cm and 1.5 cm in length and width, respectively, on the radial side of the middle phalanx. The finger was well-perfused, and the mass was not tender to palpation. Additionally, no overlying redness or fluctuance was observed. The resulting distance of a static two-point discrimination test was 6 mm on the finger, during which time no motor deficits or loss of motion was noted. Three radiographs of the left hand revealed soft-tissue swelling overlying the middle phalanx of the index finger but no bony abnormalities. Magnetic resonance imaging (MRI) T1- and T2-weighted images of the left hand showed a lobulated mass (isointense to fat) in the same location. After discussing treatment options, the patient decided to undergo operative excision.

The mass was treated surgically with a simple excision while the patient was under regional anesthesia. A mid-lateral incision approach was used, and the radial neurovascular bundle was visualized and protected in the volar flap. The soft-tissue mass was well circumscribed and removed without great difficulty (Figure 1). In gross appearance, the pale-yellow excised mass was 2.3 cm, 2 cm, and 1.4 cm in length, width, and height, respectively, with a general appearance similar to adipose tissue. The results of a pathological test were consistent with lipoma (Figure 2).



Figure 1. Intraoperative exposure of the soft-tissue mass, which shows a general appearance similar to adipose tissue.

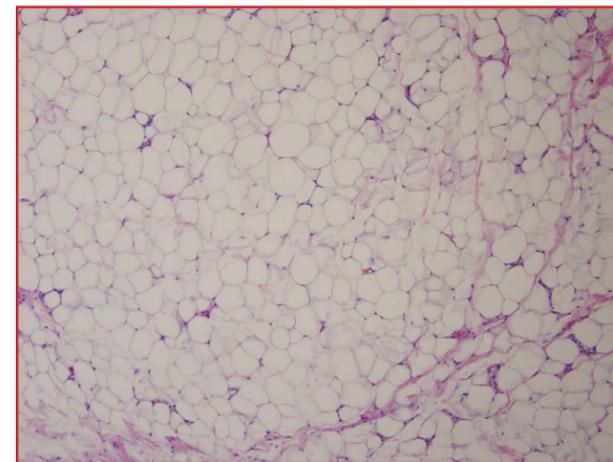


Figure 2. Histological features of the dissected soft-tissue mass show mature fat cells typical of lipoma.

Discussion

Lipomas have infrequently been reported deep in the palm within the Guyon canal and the carpal tunnel.⁵ These lesions are usually asymptomatic, but one case⁷ noted paralysis in the extensor muscles of the thumb and finger. The findings

of our case were consistent with several reports that did not describe a history of trauma associated with lipoma of the finger.⁴⁻⁶ Additionally, no studies have reported recurrence of the lesion. Although the report on two cases of finger lipoma by Gupta et al⁶ described ultrasonography techniques for initial diagnosis, we felt that the findings of our radiographic and MRI evaluation of the soft-tissue mass (enlargement but no calcification or bony abnormalities and isointense to fat, respectively) provided sufficient indication of lipoma.

Lipomas are seldom found on the finger, yet many authors have emphasized the importance of differential diagnosis for successful treatment.^{1,4-7} Subsequently, attention should be given to infections or lesions with characteristics similar to lipoma. In the differential diagnosis of a soft-tissue mass in the finger, physicians should be aware of possible epidermal inclusion, ganglion, and mucoid cysts; giant cell tumors of the tendon sheath; glomus tumors (especially beneath fingernails); and melanomas. However, the rarer possibility of lipoma of the finger should still be considered during evaluation of benign soft-tissue lesions.

References

1. Calandruccio JH, Jobe MT. Tumors and tumorous conditions of the hand. In: Canale ST, Beaty JH, eds. *Campbell's Operative Orthopaedics*. Vol 4. 12th ed. Philadelphia, PA: Mosby; 2013:3662-7.
2. Enzinger FM, Weiss SW. Benign lipomatous tumors. In: Enzinger FM, Weiss SW, eds. *Soft Tissue Tumors*. 3rd ed. St Louis, MO: Mosby; 1995:381-430. Cited by: Ersozlu S, Ozgur A, Tondogan R. Lipoma of the index finger. *Dermatol Surg* 2007;33:382-384.
3. Copcu E, Sivrioglu NS. Posttraumatic lipoma: analysis of 10 cases and explanation of possible mechanisms. *Dermatol Surg* 2003;29(3):215-20.
4. Ersozlu S, Ozgur A, Tondogan R. Lipoma of the index finger. *Dermatol Surg* 2007;33:382-384.
5. Chronopoulos E, Ptohis N, Karanikas C. Patient presenting with lipoma of the index finger: a case report. *Cases J* 2010;3:20.
6. Gupta A, Singal R, Mittal A, Goyal M. Report of two cases of subcutaneous lipoma over the finger and review of literature: case series: benign tumour. *Musculoskelet Surg* 2011;95(3):247-9.
7. Richmond DA. Lipoma causing a posterior interosseous nerve lesion. *J Bone Joint Surg Br* 1953;35-B(1):83.