Giant lipomas of the hand

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ABSTRACT

Objective: Lipomas are the most common type of soft-tissue tumor found in the body. Very few of the benign tumors of the hand are classified as lipomas. Also, giant lipomas of the hand are extremely rare. The goal of this study was to present the cases of patients suffering from giant lipomas of the hand.

Methods: 5 patients (3 females and 2 males) with giant lipomas of the hand were treated in our clinic between January 2012 and April 2014. Patients with lipomatous tumors of the hand having diameters equal or greater than 5 centimeters were included in our study. Both preoperatively and postoperatively, physical examination and magnetic resonance imaging (MRI) were used for diagnosis and determination of any residual mass. In the first month, the patients' satisfaction rates were evaluated.

Results: All 5 patients were operated upon. The mean age was 60.6 years. Postoperatively (1st month), no residual masses were found. The satisfaction rates of all patients in the 1st month were 100%.

Conclusion: Giant lipomas of the hand are very rare and may cause compressions and other complications. Thus, they require a careful preoperative evaluation in order to make a proper differential diagnosis.

Key words: Giant lipoma, hand, upper extremity

Introduction

Lipomas are the most common type of soft-tissue tumor found in the body and very few of the benign tumors of the hand are lipomas [1]. A lipoma is called a “giant lipoma” when the resected material is 5 cm (or greater) in diameter [2]. Although giant lipomas of the hand are very rare, they may cause nerve compressions, pain, discomfort, and limited finger mobility [1, 3].

In this study, we present 5 cases of giant lipomas of the hand, emphasizing the symptoms, diagnoses, and treatments.

Patients and Methods

Five patients (3 females and 2 males) with giant lipomas of the hand were treated in our clinic between January 2012 and April 2014. Patients with lipomatous tumors of the hand having diameters equal to or greater than 5 centimeters were included in our study. The age of the patients ranged between 49 and 74 years, with a mean of 60.6 years. All tumors were found in the right hand, which was the dominant hand of all patients. Two patients suffered from pain, 1 patient suffered from both pain and numbness, and 2 patients suffered...
from discomfort because of the mass (Figure 1). All patients were followed up for an average of 5.4 months (Table 1).

Preoperatively, physical examinations and magnetic resonance imaging (MRI) were used for diagnosis. Patients were operated upon under a pneumatic tourniquet with axillary blockage. Lipomas were removed surgically via a skin incision along the palm (Figures 2, 3 and 4). All abnormal tissue was marginally excised, being careful not to leave behind any tumorous tissue. Penrose drains were used. The specimens were examined by the pathology unit of our hospital. Postoperatively, MRI was used in order to determine if any residual mass existed. During the 1st month, the patients’ satisfaction rates were evaluated using a brief questionnaire (Table 2).

Table 1. Summary of patient information and lipoma findings.

| Patient no. | Age | Sex | Lokalisation                | Symptoms               | Findings                           | Follow-up | Specimen         |
|-------------|-----|-----|-----------------------------|------------------------|------------------------------------|-----------|------------------|
| 1           | 74  | F   | Whole palm                 | Pain                   | Soft, nonfluctant swelling         | 12 mt     | 6x4x3 cm         |
| 2           | 70  | F   | Hypothenar                 | Discomfort             | Mobile subcutaneous mass           | 6 mt      | 6,5x3,5x2 cm     |
| 3           | 49  | F   | Thenar                      | Numbness, pain         | Hypoesthesia in the radial section of the thumb. | 1 mt      | 5x3x2 cm         |
| 4           | 49  | M   | Palm                        | Pain                   | Soft, mobile swelling              | 5 mt      | 5x5x2,5 cm       |
| 5           | 61  | M   | Thenar and hypothenar       | Discomfort             | Nontenderness mass                 | 3 mt      | 8x7,5x3 cm       |

Figure 1. A lipoma in the palm region of the hand.

Figure 2. An intraoperative view of a giant lipoma.

Figure 3. An intraoperative view of a giant lipoma of the hand.

Figure 4. An intraoperative view of a giant lipoma (Patient 4).
Results

All patients suffered from swollen hands; 1 patient had hand pain, and 2 patients suffered from weakness and numbness in the hand. There were no signs of infection. All specimens were reported as being lipomas. Specimens were 5, 5, 6, 6.5 and 8 cm in diameter, indicating that all of tumors met the criteria for being classified as giant lipomas. All the lipomas were localized in the palms of the hands, with one of them being so large that it extended all the proximal portions of the patient’s fingers (Patient 1). MRI examinations postoperatively in the 1st month did not reveal the presence of any residual tumor mass (Figures 5 and 6). The satisfaction rate of all of the patients, which was evaluated in the 1st month, was 100%.

Discussion

Types of masses that can be found in the hand include malignant tumors, cysts, lipomas, fibromas, schwannomas, and neurofibromas [4]. The differential diagnoses of hand tumors are important in order to perform efficient and careful surgeries that preserve the neurovascular bundles and anatomical spaces of the hand. Tumors in the hand greater than 5 cm in size should be considered as malignant until proven otherwise [5]. To make a proper diagnosis, MRI scans should be used. Magnetic resonance imaging is the preferred method to identify the size, location and relationship with the neurovascular structures of the hand tumor [4]. In our study, we used MRIs to determine the precise localization and involvement of surrounding tissue. Also, according to the literature, MRIs, along with biopsies, are the best options for diagnosing these masses [6]. Using these methods, we ruled out a malignant diagnosis and diagnosed the masses as giant lipomas. We believe that a patient’s anamnesis, a physical examination and a proper MRI analysis are enough to make a specific diagnosis and to identify the proper operative technique to use.

Giant lipomas of the hand are rare [5, 7], with lipomas of the hand occurring with an incidence of 5% [8]. However, the incidence of lipomas based on gender was not found the literature, and our study included only a limited number of patients to evaluate such a ratio.
Lipomas are classified as “giant” when the resected material is 5 cm (or greater) in diameter [2, 5]. Although lipomas are often considered as simple masses, they can cause nerve compressions and pain or numbness in the hand due to their large size. In our study, none of the patients came to the clinic for aesthetic reasons, but rather they all suffered from discomfort, pain or numbness.

Before performing a resection, an MRI might be a suitable approach for examining deeper lipomas [4]. In our study, we evaluated 3 lipomas, which were located in the subfascial deep plane of the palm, using preoperative MRI scans (Patients 1, 3 and 4). If lipomas are located in the deep space of the palm, they may cause nerve compressions. In the literature, carpal-tunnel syndrome was attributed to the presence of a giant lipoma [2]. Similarly, one of our patients (Patient 3) had neuropathy symptoms due to a thenar lipoma. In the postoperative period, we found that the neuropathy symptoms resolved.

After excising a lipoma, the incidence of recurrence is rare [5]. We did not find the recurrence of lipomas in any of our patients during the follow-up period. However, we believe that if a residual mass is left behind, then recurrence will be expected.

In conclusion, giant lipomas of the hand are very rare and may cause compressions and other complications. Thus, they require a careful preoperative evaluation in order to make a proper differential diagnosis. When excising giant lipomas from the hand, it is crucial to operate efficiently and carefully in order to preserve the neurovascular bundles and the anatomical spaces of the hand.

References
1. Fnini S, Hassoune J, Garche A, Rahmi M, Largab A. Giant lipoma of the hand: case report and literature review. Chir Main 2010;29:44-7.
2. Pagonis T, Givissis P, Christodoulou A. Complications arising from a misdiagnosed giant lipoma of the hand and palm: a case report. J Med Case Rep 2011;5:552.
3. Rhee SH, Kim J, Jo CH. Median neuropathy caused by giant lipoma in the pronator quadratus: a case report. J Hand Surg Eur Vol 2011;36:703-4.
4. Henderson MM, Neumeister MW, Bueno RA Jr. Hand tumors: I. skin and soft-tissue tumors of the hand. Plast Reconstr Surg 2014;133:154e-64e.
5. Cribb GL, Cool WP, Ford DJ, Mangham DC. Giant lipomatous tumours of the hand and forearm. J Hand Surg Br 2005;30:509-12.
6. Durmus M, Dal AD, Yapici AK, Avsar S, Bayram Y. Giant intramuscular lipoma of arm: A case report and review of the literature. Hand Microsurg 2014;3:87-90.
7. Ramirez-Montaño L, Lopez RP, Ortiz NS. Giant lipoma of the third finger of the hand. Springerplus 2013;2:164.
8. Deshmukh N, Kelly CP. Giant Lipoma of The Hand. Hand Surg 1999;4:87-90.