Angiolipoma of index finger: A case report

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ABSTRACT

Angiolipomas are usually found in the upper extremities, shoulder and back. They are seldom found in the hands, face and lower extremities. They usually occur as painful soft tissue masses or they may compress the neighboring structures (e.g. nerves) depending on the size and location. In this report we present an angiolipoma case located in the finger and discuss related recent cases described in the literature.

Key words: Angiolipoma, finger, tumor, soft tissue

Introduction

Lipomas can be defined as the most common soft tissue mesenchymal neoplasms in adults [1]. They can be superficial or lie deep within soft tissues. They generally occur as painless soft tissue masses or may compress neighboring structures (e.g.: nerves), depending on the size and location. They are usually seen in the upper back, neck, shoulder, and are not frequently seen in the face, hands or feet [2-4]. When lipomas occur in the hand, they are frequently seen in the thenar or hypothenar regions rather than the fingers. Therefore, despite being a common type of benign soft tissue tumor, lipomas are not considered as a possible diagnosis of finger swellings [5], since the most common causes involve the mucous cyst, inclusion cyst and synovial giant cell tumor in digits.

In this report we present the clinical signs of an- giolipoma located in second digits and discuss the relevant literature.

Case Presentation

A fifty-five-year-old woman was admitted to our department with a complaint of swelling located in her right index finger (Figure 1). She stated that the swelling enlarged progressively in the previous several months. The patient denied any trauma of the hand, and she complained about pain and difficulty in grasping objects. In addition, the patient stated that she recently experienced numbness in her finger. The physical examination revealed that the skin was normal. The passively movement of the finger was painful, as was palpation along the length of flexor sheath. The radiographic examination was made and no bone lesion was encountered. The ultrasonographic (US) assessment and magnetic resonance imaging (MRI) findings indi-
Angiolipoma of index finger

The patient was taken to the operating room. The surgery was performed under local anesthesia supported with sedation. A Bruner zig-zag incision was made over the proximal phalanx and extended distally and proximally; elevation of the skin flaps revealed a large multilobular lipomatous mass, involving the ulnar neurovascular bundle and flexor tendon sheath (Figure 2). The masses encircled the neurovascular bundle, extended to the distal palmar and dorsal radial side regions. Care was taken to preserve digital neurovascular bundle and the A2 pulley during the resection of the tumor (Figure 3). The patient recovered uneventfully with complete resolution of pain and preservation of digital nerve function after surgery.

Histopathological examination was performed. The surgical specimen was 4x3x1 cm in dimension, well-circumscribed and encapsulated with partially irregular margins. Cut sections showed a yellow, soft and solid mass. Histopathological examination revealed that the lesion was entirely composed of adipocytes with a discontinuous thin capsule and multiple small-sized vessels that were more prominent at the peripheral localization (Figure 4). In addition, fibrin thrombi were noted in some vessels. Based on the morphological findings, the tumor was diagnosed to be an angiolipoma. No recurrences were encountered in the following 18 months.
Discussion

Lipoma is a slow growing common solid tumor and can be frequently seen in the fifth and sixth decade of life. These slightly encapsulated tumors are made of mature fatty tissue [6]. They result from mesenchymal primordial fatty tissue cells. These tumors may be superficial, arising from the subcutaneous tissues and/or less commonly they may be subfascial, located deep in the palm within the Guyon canal, the carpal tunnel or the deep palmar space, cases in which they are usually of bigger in size [6,7].

According to the 2002 World Health Organization’s Committee for the Classification of Soft Tissue Tumors [8], they are grouped into 9 categories, including lipoma, lipomatosis, lipomatosis of nerve, lipoblastoma, angiolipoma, myolipoma of soft tissue, chondroid lipoma, spindle cell/pleomorphic lipoma and hibernoma. Benign lipomatous lesions may also affect the joints and tendon sheaths, either focally or diffusely, the latter being more common.

Angiolipomas are usually seen in the upper extremities, shoulder and back. They rarely occur in the hands, face and lower extremities [9,10]. Howard et al. reported a large series of lipoma tumors in 1960, and first described this entity. Since then, a few cases were reported in relation to the hand [11].

Angiolipomas are subcutaneous masses composed of mature adipocytes that are separated by the vascular septa and the capsulated soft tissue. The diagnostic findings obtained under microscopic examinations are the presence of blood vessels within the septa that contain hyalin fibrin thrombi, as our case report suggests [12,13].

Differential diagnosis of angiolipoma involves conventional and intramuscular lipomas. The conventional lipomas are usually painless lesions caused by lack of prominent vessels and fibrin thrombi in their histological sections. The intramuscular lipomas are seen within the muscle fibers in deep location [12,13].

Angiolipoma typically occur in the third decade of life and rarely in children and the elderly. This tumor is different from the classical lipoma in terms of its composition, which includes increased vascular and neural elements, and in terms of its tendency to be painful, especially during the phase of their growth, and they are possibly secondary to minor trauma [12-14].

In conclusion, angiolipoma of digits is not very common. Care must be taken during the surgery to preserve the digital nerve function. Furthermore, the patient must be aware of the recurrence of the masses due to a limitation in the removal of the tumors caused by the dissection.

Conflict of interest statement

The authors have no conflicts of interest to declare.

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