Angiofibrolipoma of the Tendon Sheath

N. Mariappan*, Ritu Singh and T. Gayathri

Vydehi Institute of Medical Sciences and Research Centre, Bengaluru, India

Abstract: Background: Lipoma is a benign tumor composed of mature white adipocytes and it is the most common soft tissue mesenchymal neoplasm. It is well separated from the surrounding tissues by a thin fibrous capsule. Lipomas occur in any part of the body that has fat tissues. 13% of such tumors are seen in the head and neck region.

Angiofibrolipoma is a variant of lipoma with a prominent vascular component: Angiofibrolipoma is a subtype of lipoma composed of fibrocytes, capillaries and mature adipocytes. These tumors occur in the forearm, followed by trunk and in the extremities of young individuals. Its occurrence is very rare in the head and neck region. They are benign tumors that cause symptoms depending on their size and location. It is important to bear in mind this clinical entity in the differential diagnosis of the swellings that arise in relation to the tendon sheath.

Patient and method: A patient with a recurrent swelling in the right wrist region was taken up for surgery with a clinical diagnosis of a fibrous tumor.

Result: Histopathological diagnosis revealed the tumor as a rare variant of lipoma.

Conclusion: This report highlights the fact that angiofibrolipoma should be considered in the differential diagnosis of swellings in different regions of the body.

Keywords: Angiofibrolipoma, Tendon sheath, Synovial membrane, Soft tissue tumors.

1. INTRODUCTION

Tumors of the tendon sheath are uncommon. A variety of benign tumors arise from the synovial membrane of the tendon sheath. They are commonly seen in the wrist and in the hand. Lipomas are common in other parts of the body but rarely occur in relation to tendon sheath in the hand and the wrist region. The swellings cause local nonspecific symptoms like trigger finger, carpal tunnel syndrome, and tendon rupture depending on their site of involvement [1]. They may also cause neurovascular compression symptoms [2]. This histopathological variant of lipoma consists of mature adipocytes, vascular tissue and collagenous connective tissue. These tumors are rare and occur in different parts of the body. A few case reports have been published in relation to the calf region [3], caecum [4], upper lip [5] and spermatic cord [6]. Very rarely the tumors have been reported to occur in ear canal [7], greater omentum [8], transverse colon [9], tonsil [10], the kidneys [11] and in the pericardium [12]. Angiofibrolipoma of the tendon sheath is rare and review of literature shows only a few reported cases till date.

2. CASE REPORT

A 35 years old female patient presented to our out-patient department with a recurrent mass on her right hand and extending proximally to the lower forearm.

There was a scar of previous surgery done 5 years back for a similar swelling. The clinical, surgical and histopathological details of previous surgery are not available with the patient.

Clinical examination showed a firm swelling measuring 6cm X 4cm arising from the EPL and APB tendons (Figure 1). An X-ray of right hand with the wrist was done to differentiate the lesion from bony and...
cartilaginous masses and an MRI scan revealed the dimensions and exact localization of the mass (Figure 2).

The patient was planned for surgical excision under general anesthesia and tourniquet control. A lazy ‘S’ shaped incision was made over the summit of the swelling. Skin flaps were raised on either side and the tumor was confirmed to be arising from the synovial sheaths of APB and EPL tendons (Figure 3).

The tumor was excised completely along with the involved tendon sheath (Figure 4). Hemostasis was achieved. The wound was closed in layers with a drain. The excised specimen was sent for histopathological examination. The post-operative period was uneventful.

The histopathology examination showed features suggestive of angiofibrolipoma. Toulidine blue stain was used to demonstrate the increased mast cell density around the blood vessels, speculating its role in vasculogenesis (Figure 5).

Figure 2: Plain X-Ray and MRI pictures showing the localization of the tumor.

Figure 3: Surgical procedure shows the tumor is in relation to the APB and EPL tendons.

Figure 4: The tumor was excised completely and the specimen is displayed.
3. DISCUSSION

The possibility of Angiofibrolipomas, a variant type of lipoma must be kept in mind as a differential diagnosis of swellings in relation to tendon sheath. Kucuker et al. reported a case report of angiofibrolipoma of the tendon sheath [13]. Trigger wrist and carpal tunnel syndrome as a consequence of intrasynovial angiofibrolipoma has been reported by Turun C Dulgeroglu et al. [14]. Radiological and histological examination is crucial for diagnosis of this entity. Preoperative differentiation of the mass should be done with an X-ray, ultrasonography, or an MRI scan. The treatment of all types of Lipomas is surgical excision. Etiology of angiofibrolipoma is not known. Obesity, radiation, familial and genetic abnormality of chromosome 12 and trauma have been implicated as causative factors. Oral angiofibrolipoma in relation to trauma following chronic irritation due to long-term prosthesis use has been reported. Angiofibrolipomas occur in late teens and early twenties with a male preponderance. An angiofibrolipoma is one of the rarest histopathological variants of a lipoma. Angiofibrolipomas are treated with surgery like Lipomas occurring in other parts of the body and recurrence rates are very low. However, infiltrating angiolipomas have a high recurrence rate of 35% to 50%. Meticulous dissection should be done to prevent bleeding and to avoid recurrence of the tumor.

4. CONCLUSION

The World Health Organization (2002) classification of tumors has been the most acceptable system of classifying soft tissue tumors (STT). The new WHO ‘blue book’ released in the February 2013 for soft tissue and bone tumors includes newer diagnostic entities like hemosiderotic, fibrolipomatous lesion/tumor, spindle cell/sclerosing rhabdomyosarcoma, phosphat-uric mesenchymal tumor; additional genetic information and newly identified tumor relationships between sclerosing epithelioid fibrosarcoma and low-grade fibromyxoid sarcoma.

During the past two decades there have been significant updates and advances in soft tissue tumor (STT). Time honored basis of histopathological approach was “pattern recognition” and “pattern analysis”. The advent of ‘brown revolution’ of immunohistochemistry (IHC), followed by the molecular and / or genetic revolution has refined STT classification system, finally leading to facilitate reproducible diagnosis and more sophisticated prognostication.

REFERENCES


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