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Case Report

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GIANT CELL TUMOUR OF TENDON SHEATH - A CASE REPORT

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ABSTRACT

A giant cell tumour of tendon sheath is a rare, benign,[1] second most common soft tissue tumour of hand next to ganglion cysts.[2] It can develop anywhere in the body where there is a tendon sheath, but is most common in hand and wrist. They tend to be slow growing, and usually appear as a painless mass. It can occur at any age, but is more common in adults and more common in women. These lesions are generally found along the volar surface of fingers.[3] Palmar giant cell tumour is less common. Microscopically, they consist of a mixture of abundant histiocyte-like, foamy, and multinucleated giant cells of the osteoclast type.

KEYWORDS: Giant cell tumour of tendon sheath, rare, benign, painless mass, multinucleated giant cells of the osteoclast type.

INTRODUCTION

Giant cell tumour of tendon sheath is a rare (1 in 50,000 individuals) and benign lesion that occurs more frequently in women than men, usually appearing in young and middle-aged persons. Giant cell tumors of the tendon sheath are firm, lobulated, nontender, slow-growing masses that are firmly fixed to the underlying structures.[4] Usually, the overlying skin is freely mobile over proximal masses in the fingers. The lesion is not transilluminating. Most cases are distributed between the wrist and fingertips and between the ankle and toe tips. It is more often proximal than distal on both the hands and feet and occurs most frequently on their flexor surfaces.

CASE REPORT

A 55 yrs old male came to the OPD with a history of swelling over the Right Index finger since 6 months with a positive history of penetration injury which was painless and insidious in onset and gradually progressing. The swelling was 3 x 3 cm, lobulated in the flexor aspect of right index finger which was fluctuant and irregular.

Pathology

Gross description

Received single lobular, well circumscribed, grey-white soft tissue mass measuring 2.5x1.5x1cm. Firm in consistency. Cut section of the tumour was yell**owish white in colour.**

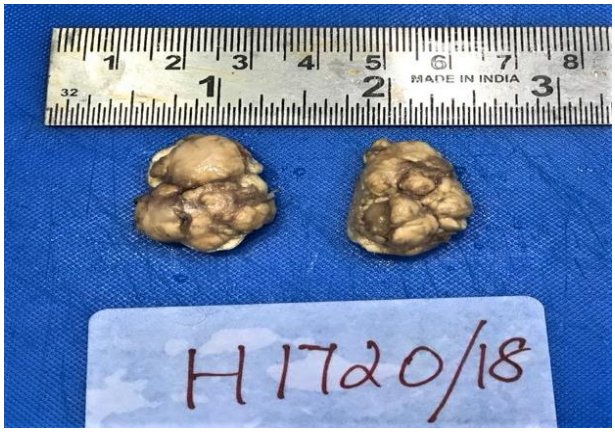

Figure 1: Gross picture showing well circumscribed multilobulated mass.

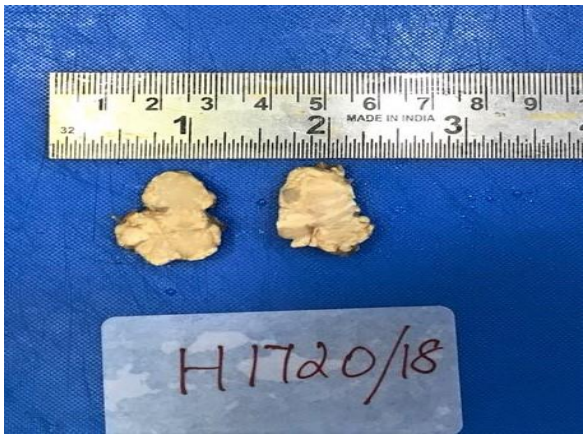

Figure 2: Cut sections is yellowish white in colour.

Microscopic Features

Section showed cellular lesion composed of oval to polygonal cells with dark staining nuclei, osteoclast like multi-nucleated giant cells and foamy macrophages in a fibro-collagenous background.

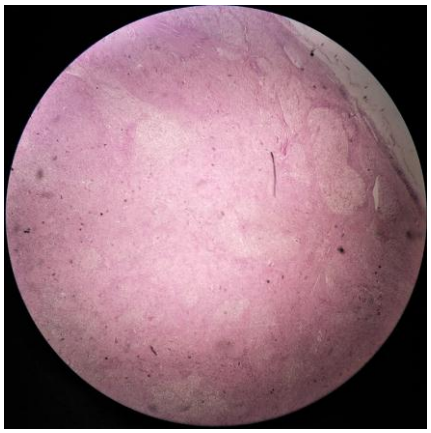

Figure 3: Scanner view(5x) showing cellularity.

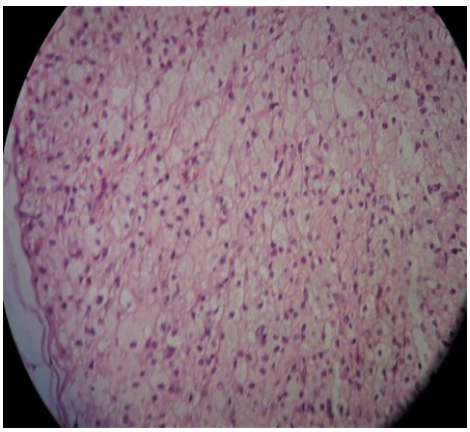

Figure 4: High power view(45x) showing foamy macrophages.

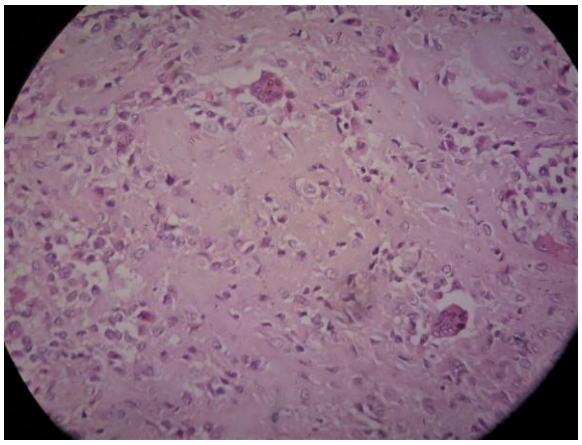

Figure 5: High power view(45x) showing multinucleated giant cells.

DISCUSSION

Giant cell tumors of the tendon sheath are the second most common tumors of the hand. Giant cell tumors of the soft tissue are classified as:

- Localized
- Diffuse

The etiology of giant cell tumors of the tendon sheath is unknown. But the pathogenetic theories have included trauma, disturbed lipid metabolism, osteoclastic proliferation, infection, vascular disturbances, immune mechanisms and inflammation.[5] They most commonly occur in patients aged 30-50 years, with a peak incidence in those aged 40-50 years. The female-to-male ratio is 3:2. Giant cell tumors of the tendon sheath are associated with degenerative joint disease, especially in the distal interphalangeal (DIP) joint.[6] They are usually painless masses that have been present for a long time.

Imaging Studies

Plain radiography

Plain radiographs demonstrate a benign-appearing circumscribed soft-tissue shadow in 50% of cases. These radiographs also show cortical erosion of the bone due to a pressure effect of the adjacent mass on the cortex in 10-20% of cases.[7,8]

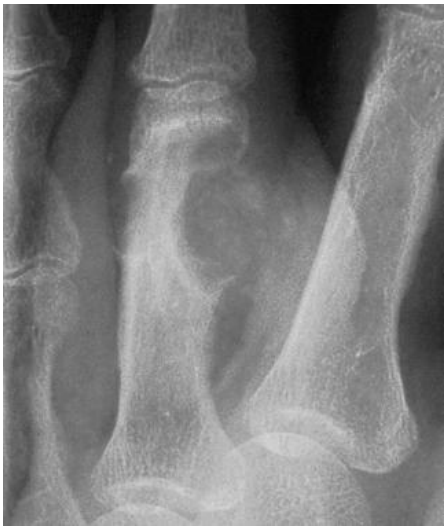

Figure 6: Circumscribed soft tissue shadow.

Magnetic resonance imaging

On magnetic resonance imaging (MRI), giant cell tumors of the tendon sheath frequently have a unique appearance for an extra-articular soft-tissue mass. On both T1- and T2-weighted MRI, at least some portions of the tumour have decreased signal intensity.[9]

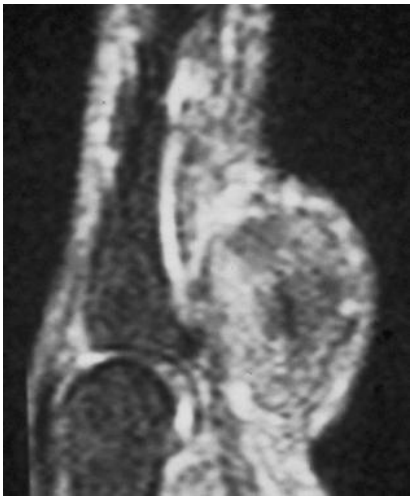

Figure 7: MRI showing decreased signal intensity.

HISTOLOGIC FINDINGS

Gross findings

Giant cell tumors of the tendon sheath have a well-circumscribed multilobular appearance and often possess shallow grooves along their deep surfaces created by the underlying tendons. These tumors are usually small, with a diameter of 0.5-5 cm. On cut sections, these tumors have a mottled appearance, varying in color from grayish-brown to yellow-orange.

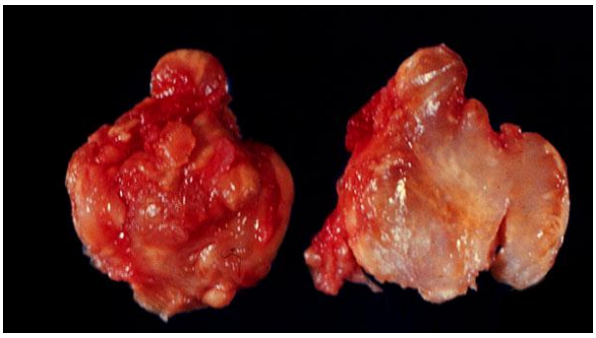

Figure 8: Gross picture showing well-circumscribed multilobulated mass.

Microscopic findings

Most giant cell tumors of the tendon sheath are moderately cellular and composed of sheets of rounded or polygonal cells that blend with hypocellular collagenized zones. Variable numbers of giant cells are present.

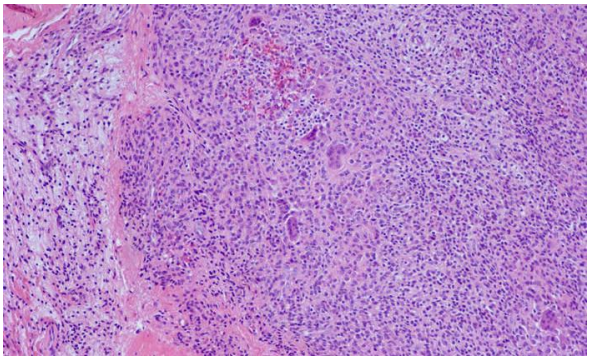

Figure 9: Scanner view showing high cellularity.

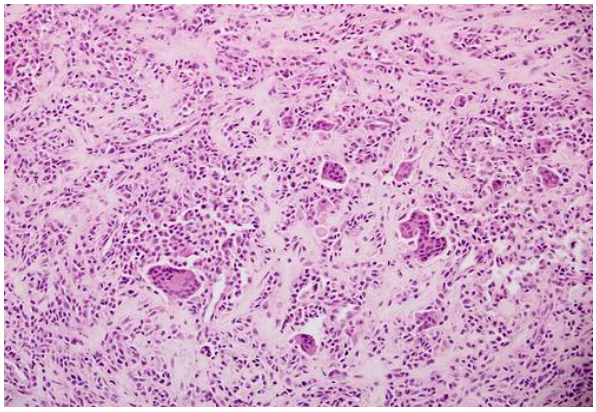

Figure 10: High power view showing multi-nucleated giant cells.

CONCLUSION

This case report is presented because of rarity in occurrence especially in males also marginal excision is the treatment of choice, but may be complicated when the tumour is attached to vital structures. Therefore, an appropriate balance between resection of tumour and maintenance of function must be achieved due to the possibility of recurrence.[10]

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