CASE REPORT

BENIGN GIANT CELL TUMOR OF TENDON SHEATH: BENIGN SYNOVIOMA - A RARE CYTOMORPHOLOGY IN PRACTICE
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HOW TO CITE THIS ARTICLE:

ABSTRACT: Giant Cell Tumor of Tendon Sheath is a benign soft tissue tumor, common on the flexor surface of the hand, where tenosynovial tissue predominate. It slowly enlarges, has the potential to envelop tendons, invade bones and joints and to surround neurovascular structures. We present a case of 47 year female patient with a single swelling over the course of tendon of the Right Index Finger-Distal Phalanx. Radiograph revealed an eccentric, well defined, soft tissue radio-opacity noted at the lateral aspect of the Distal Interphalangeal Joint of the Index Finger. Fine Needle Aspiration Cytology (FNAC) of the swelling on the Right Index Finger- Distal Phalanx showed plenty of multinucleated giant cells and exclusion of the other Giant cell containing lesions confirmed the Cytodiagnosis of Benign Giant Cell Tumor of Tendon Sheath: Benign Synovioma. Subsequent Histopathological evaluation supported the cytodiagnosis. Rarity of these lesions to be diagnosed at FNAC, makes it a case of presentation, as its preoperative Cytodiagnosis by FNAC is rarely reported in the literature.

KEYWORDS: Giant Cell Tumor of Tendon Sheath, Fine Needle Aspiration Cytology, Multinucleated Giant cells.

INTRODUCTION: A giant cell tumor of tendon sheath is a soft tissue tumor consisting principally of a proliferation of synovial cells arising from a tendon sheath. Only 2% of all giant cell tumors occur in the hand. Only 1% to 2% may be synchronously or metachronously multicentric. Giant cell tumour of the tendon sheath, fibrous histocytoma of synovium, pigmented nodular synovitis, tenosynovial giant cell tumour, localised nodular tenosynovitis, benign synovioma, and fibrous xanthoma of the synovium are all names for the same disease(1, 2, 3, 4)

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Clinical Presentation- A 47 year old female presented with Swelling over the course of tendon of the Right Index Finger Distal Phalanx since two years, increased from 0.5cm to present size of 1.5 cm. Previously took medical advice for the lesion, which were inconclusive in nature. Hematological evaluation was normal. On physical examination, the swelling was firm, nodular, non tender, circumscribed, with smooth lobulated contours, overlying skin was normal in appearance. Clinical Diagnosis- Foreign body granuloma/ Necrobiotic granuloma/ Tendinous xanthoma.
Radiological findings: There was evidence of reduced joint space with eccentric soft tissue swelling and also eccentric growth of distal carpel bone along the lateral surface of index finger with increased sclerosis along the articular surface.

Fine Needle Aspiration Cytology (FNAC): Smear showed multinucleated giant cells in plenty along with polygonal cells appearing like synoviocytes. Few spindle nuclear cells also seen with sparse lymphocytes. Present cytomorphology was suggestive of BENIGN GIANT CELL TUMOR OF TENDON SHEATH- BENIGN SYNOVIOMA. No Malignant cells seen.
Histopathology: On Gross examination, tissue showed papillary villous projections and nodular structures. Cut surface showed variable coloring, including yellow and red areas, depending on lipid and hemosiderin content. Microscopic examination revealed cellular infiltrates of mononuclear cells. These cells showed oval nuclei with vesicular or clumped chromatin and prominent cytoplasm. Hemosiderin-laden mononuclear cells, multinucleated giant cells and foam cells were present. The histopathological features were consistent with cytological diagnosis.

DISCUSSION: Giant cell tumour of the tendon sheath or pigmented nodular synovitis, is a benign neoplasm that develops in the synovium of joints, tendon sheaths, and bursae. This tumor has a chromosomal translocation, t(1;2)(p13;q37), which results in overexpression of CSF1, a chemoattractant for macrophages. Benign Synovioma are rare and pose problem in diagnosis. Multiplicity adds on to confusion in its diagnosis.

The present case is rare in diagnostic cytopathology. Pathologist continue to look at it from different angles in an attempt to answer questions such as whether its neoplastic or non neoplastic, its morphological and ultrastructural features have to be studied carefully.

Monaghan et al reported Giant cell tumour of tendon sheath (GCTTS) and studied clinicopathological features of 71 cases. Clinical data, obtained from pathology request forms and in
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patient notes, along with the gross and microscopic appearances of 71 cases of GCTTS were evaluated. The hands were involved in 66 of 71 patients, the feet in three patients, and tissues around the knee in two patients. The most common sites in the hands were the fingers. The index, middle finger and the thumb were more commonly involved than the ring and the little finger. The lesion occurred more commonly on the fingers of the right hand (37 patients) than those on the left hand (23 patients). Our study reported a 45 year old woman with a swelling over the course of tendon of the Right Index Finger-Distal Phalanx, which was diagnosed as giant cell tumor of tendon sheath. The location of the tumor was found to be same in both the studies.

Ueno et al reported a child with giant cell tumor of tendon sheath with a painless nodule on right index finger(6) Llauger et al reported a 60 year old woman with localized giant cell tumor of tendon sheath who presented with slowly enlarging mass on the thumb(7)

Agarwal et al reported cytomorphology of giant cell tumor of tendon sheath in 2 cases. He reported these swellings on the toe. Preoperative diagnosis by FNAC is accurate and is important for two reasons. First, an accurate preoperative diagnosis can minimize the high recurrence rates which range between 10-20%. Second a more extensive surgical procedure can be prevented.(8)

CONCLUSION: In conclusion, Giant cell tumor of tendon sheath is a relatively rare soft tissue tumour of uncertain histiogenesis. Complete local excision is the treatment of choice When both clinical and cytologic features of the case are taken into account, the diagnosis can be usually made with certainty.

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