

*Case Report*

## Giant Cell Tumour of Tendon Sheath of Hand

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*Received: 25/09/2016**Revised: 08/10/2016**Accepted: 18/10/2016*

### ABSTRACT

Giant cell tumour of tendon sheath is a rare soft tissue tumour with incidence of 1 in 50,000, it is a benign solitary firm soft tissue tumour which is extra articular with predilection to females 2:1. It presents in 3<sup>rd</sup>-5<sup>th</sup> decade with slow growing localized swelling with or without pain

**Case Report:** A 50 year old male came to the outpatient department with chief complaint of swelling in right index finger and inability to move pip joint since 2yrs and pain since 15 days. On Local examination revealed well defined tender mobile non fluctuant swelling. X-ray showed no bony erosion and Ultrasound showed solitary firm solid mass without intra articular extension

**Conclusion:** Giant cell tumor of tendon sheath is a rare benign soft tissue tumour which is usually painless and extra articular should be considered as a differential diagnosis in swelling of hand and fingers. Definitive diagnosis is by histopathological examination and treatment is complete excision with recurrence rate is 10-20 %.

**Keywords:** Giant cell tumour of tendon sheath, hand, extra articular.

### INTRODUCTION

Giant-cell tumour of the tendon sheath is a rare solitary benign soft-tissue tumour of the limbs. It was described first by Chassaignac in 1852 as fibrous xanthoma. [1] Incidence of Giant cell tumour of tendon sheath is 1 in 50,000 with female predilection (F:M 1.5-2:1). [2] It presents in the age group of 3<sup>rd</sup> to 5<sup>th</sup> as a localised slow-growing, painless, firm tumour, arising from the tendon sheath mostly of small joints of the hands and feet. [3] The tumor is composed of oval, plump histiocytes, hemosiderin laden macrophage, multinucleated giant cell and collagen strands, and synovial hyperplasia. [4] Histochemical evidence shows that the mononuclear cells and giant cells present in these lesions resemble osteoclast [5] as a recurrence rate of 10-20%

### CASE REPORT

A 50 year old male came to the outpatient department with chief complaint of swelling in right index finger and inability to move pip joint since 2yrs and pain since 15 days. On Local examination revealed well defined tender mobile non fluctuant swelling [Figure 1&2]. X-ray showed no bony erosion and Ultrasound showed solitary firm solid mass without intra articular extension

Patient was posted for surgery and complete excision of tumour was done. Macroscopically the tumor was brownish yellow, solid and multi-lobulated [Figure 3]. Microscopically, the tumor was composed of multinucleated giant cells, xanthoma cells, mononuclear cells and stromal cells. These findings were consistent with the diagnosis of extra articular diffuse type giant cell tumour of tendon sheath.



Fig: 1&Fig: 2 (swelling in right index Finger) Fig: 3(intra operative specimen)

## DISCUSSION

Giant cell tumour of tendon sheath is a rare soft tissue tumour with incidence of 1 in 50,000; it is a benign solitary firm soft tissue tumour which is extra articular with predilection to females 2:1. It presents in 3<sup>rd</sup>-5<sup>th</sup> decade with slow growing localized swelling with or without pain. It is the second most common tumour of hand next to ganglion.

The etiology of giant cell tumors of the tendon sheath is unknown. Some of the attributed theories include trauma, disturbed lipid metabolism, osteoclastic proliferation, infection, vascular disturbances, immune mechanisms, inflammation, neoplasia, and metabolic disturbances. [6]

Typically, these masses occur along the volar aspect of the hand and fingers. [7]

Giant cell tumors of the tendon sheath are firm, lobulated, non tender, slow-growing masses that are firmly fixed to the underlying structures.

Macroscopically the lesions are well-circumscribed, capsulated, lobulated or multinodular mass, soft to firm in consistency and multicolored appearance with alternation of white, yellowish and brownish areas depending on the hemosiderin content is common. [8] Microscopically, tissue is composed by proliferative synovial-like mononuclear cells, compacted fibrous stromal cells, foam and haemosiderin-laden cells, mixed round cell infiltration, mononuclear polyhedral

cells of fibrohistiocytic origin, and multinucleated giant cells. [9]

Current treatment of choice for extra-articular diffuse type Giant cell tumour of tendon sheath is surgical excision. [10] Because tumour is locally aggressive and due to significant rate of recurrence complete excision is necessary. Radiation therapy has been reported as primary treatment for unresectable disease or as local adjuvant treatment after incomplete excision or locally recurrent tumors. [10]

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How to cite this article: Vijay Chandar RV, Kumar RC, Vilas BN. Giant cell tumour of tendon sheath of hand. *Int J Health Sci Res.* 2016; 6(11):343-345.

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