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## Giant cell tumor of extensor tendon sheath of ring finger, rare presentation: Case Report

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### Abstract

A 41 year male pain less swelling over the dorsum of hand since 4-years, excised 1yr back and recurred to present, Measuring 2.5 cms x3.5 cm. On the basis of clinical and histopathological finding he is diagnosed with Giant Cell Tumor of tendon sheath.

**Keywords:** Giant cell tumor, Tendon sheath.

### 1. Introduction

Giant cell tumor of extensor tendon sheath also known as ‘‘SYNOVIOMA ‘’, is considered benign tumor, but is well known for its high rate of recurrence. The rates of Giant cell tumor of extensor tendon sheath arising from extensor tendon sheath of middle phalanx is extremely rare and the overall bony involvement of Giant cell tumor of extensor tendon sheath is uncommon and closely related to local recurrence after surgery. Radiological bone involvement are pressure erosion, circumscribed cortical destruction and degenerative arthritis. The treatment involves complete resection of tumor from tendon sheath.

### Case report

A 41 year male pain less swelling over the dorsum of hand over ring finger since 4-years, excised 1yr back and recurred to present size. Swelling over dorsum ring finger of right hand which was size of 2.5x3.5 cm in diameter, initially and increasing gradually in size without any accompanying symptoms like pain. On examination, the swelling measured 2.5 cms x3.5 cm in diameter and was firm in consistency, non-tender and selectively mobile. There were no accompanying signs of infection or inflammation (Fig 3, 4).

Radiology of right hand was done and x ray was suggestive of soft tissue opacity over middle phalanx region (Fig 3, 4). MRI suggestive of an altered signal intensity lesion over the dorsal aspect of ring finger extending from proximal interphalangeal joint to distal interphalangeal joint which appeared hypointense on T2 weighted, image (Fig 5)

The clinical differential diagnosis includes foreign body granuloma, epidermoid cyst, giant cell tumor or osteochondroma, chondrosarcoma.



**Fig 1:** Dorsum hand



**Fig 2: on Ring Finger**



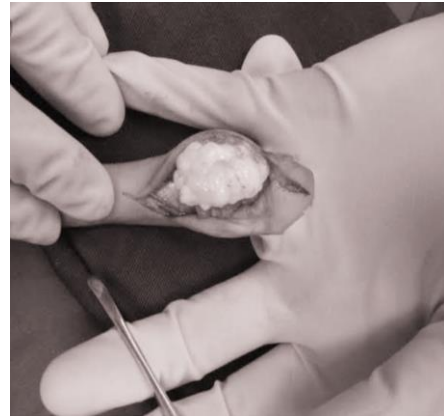
**Fig 3: Xray AP view**



**Fig 4: X ray Oblique View**



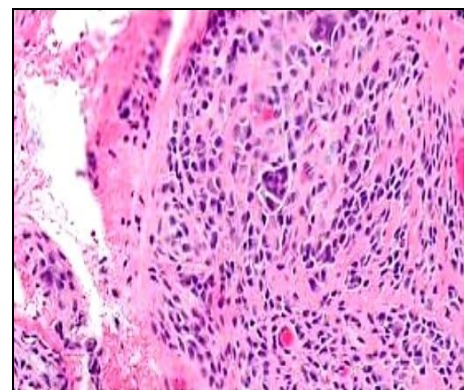
**Fig 5: MRI**



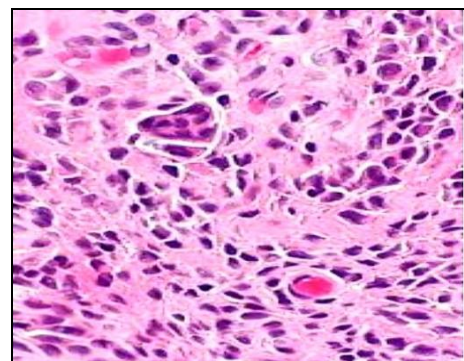
**Fig 6: Intra Operative**



**Fig 7: Tumor**



**Fig 8: Macroscopic Histo-pathology**



**Fig 9: Microscopic Histo-pathology**

### Discussion

Giant cell tumor of extensor tendon sheath is also known 'SYNOVIUM'. Giant cell tumor of extensor tendon sheath is second most common tumor of hand, but etiology is

unknown. Many theories for pathogenesis have been proposed but reactive or regenerative hyperplasia associated with an inflammatory process has been widely accepted.

Cytogenetic data indicate that 1p11-13 is the region most frequently involved in structural rearrangement. Giant cell tumor of tendon sheath are associated with degenerative changes of bone especially in distal interphalangeal joint.

Giant cell tumor of the extensor tendon sheath is classified into two types: the common localised type and rare diffuse type. The rare diffuse type is considered to be the soft tissue counterpart of diffuse villonodular synovitis (PVNS) and typically affect lower limbs. PVNS is also differentiated from Giant cell tumor of extensor tendon sheath, which is located within tendon while previous one located intraarticular.

Giant cell tumor of extensor tendon sheath is usually painless mass. The duration may range from a few week to as long as thirty years. Occasional symptoms can be distal numbness and mild disability that may result from the impaired function of digit secondary to the size of the lesion. Tumor is firm, lobulated, non-tender, slow growing mass with overlying skin stretched and shiny. Lesion is trans illuminating (Fig 1, 2).

On gross pathology these are well circumscribed, multinodular masses shallow grooves along their deep surfaces created by the underlying tendon. Tumor size ranges from 2.5-35 cm. Colour varying from whitish to yellow orange depending of the amount of hemosiderin, collagen and histocytes in the sample (Fig 8, 9)

### Treatment

After brachial block regional anaesthesia, complete excision of tumor. Complete excision of the giant cell tumor is done, Complete excision is difficult as the mass is associated with tendon sheath or synovial joint. Patient is followed for 1 year every 3 month and there is no recurrence still date. all the function of hand present (Fig 6, 7)

### Conclusion

In conclusion after complete excision of tumor, there is no recurrence occur in our case. Hence surgery seem to main factor influencing factor for recurrence as many study suggest that after marginal excision of the Tumor there is recurrence found in most of cases.

### References

1. Vogrinic GS, O'Conelle JX, Gilks CB. Giant cell tumor of the tendon sheath is a polyclonal cellular proliferation. *Hum Pathol* 1997;28:815-9.
2. Rodrigues C, Dasai S, Chinoy R. Giant cell tumor of the tendon sheath: a retrospective study of 28 cases. *J Surg. Oncol* 1998;68:100-3.
3. Adams EL, Yoder EM, Kasdan ML. Giant cell tumor of the tendon sheath: experience with 65 cases. *Eplasty* 2012;12:e50. [PMC free article] [PubMed] [Google Scholar]
4. Garg B, Kotwal PP. Giant cell tumor of the tendon sheath of the hand. *J Orthop Surg (Honk Kong)* 2011;19(2):218-220. [PubMed] [Google Scholar]
5. Fotodias E, Papadopoulos A, Svarnas T *et al.* Giant cell tumor of tendon sheath of the digits. A systematic review. *Am Ass Hand Surg* 2011;6:244-249. [PMC free article] [PubMed] [Google Scholar]
6. Williams J, Hodari A, Janevski P, Siddiqui A. Recurrence of giant cell tumors in the hand: a prospective study. *J Hand Surg Am* 2010;35:451-456. [PubMed] [Google Scholar]
8. Kotwal PP, Gupta V, Malhotra R. Giant cell tumor of the tendon sheath- is radiotherapy indicated to prevent recurrence after surgery? *J Bone Joint Surg* 2000; 82B:571-573. [PubMed] [Google Scholar]
9. Darwish FM, Haddad WH. Giant cell tumor of tendon sheath: experience with 52 cases. *Singapore Med J.* 2008;49(11):879-882. [PubMed] [Google Scholar]
10. Lucas DR. Tenosynovial giant cell tumor: case report and review. *Arch Pathol Lab Med* 2012;136:901-6.
11. Grover R, Grobbelaar AO, Richman PI, Smith PJ. Measurement of invasive potential provides an accurate prognostic marker for giant cell tumor of tendon sheath. *J Hand Surg* 1998;23B:728-31.