

## Case Report

# Giant cell tumor of right thumb: a rare case report

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### ABSTRACT

Giant cell tumour of soft tissue (GCT-ST) resembling osseous giant cell tumour is a distinct and uncommon entity. Here we present a 58 year old woman with a 1 year history of swelling located on the base of right thumb diagnosed on histology as giant cell tumour of soft tissue. The surgeon should keep a differential diagnosis as GCT-ST for any swelling of the finger.

**Keywords:** Soft tissue, Giant cells tumor, Benign tumor, Tumor of finger

### INTRODUCTION

There are various soft tissue tumors such as giant cell tumour, dermatofibroma, atypical fibroxanthomas, fibrohistiocytic tumour and giant cell malignant fibrous histiocytoma that are found in literature. The giant cell tumour of soft tissue (GCT-ST) are a rarely seen and confirmed on histopathology and has a semblance of osteoclast like multinucleated giant cells seen in the osseous counterpart.<sup>1,2</sup> Salm and Sisson first coined the term primary GCT-ST in 1972.<sup>3</sup> This tumour is painless, firm in consistency, mobile, well-delineated mass not attached to muscle, tendon, or bone.<sup>4</sup> Most of these lesions are seen in the lower limb, the most common site being the thigh, along with trunk and upper limb.<sup>5</sup> Surgical treatment by excision of tumour with tumour free margin, it is expected to have a benign clinical course.<sup>1</sup> It is a benign lesion, but it may recur after excision and has the potential of turning into a malignant lesion, but it rarely metastasize.<sup>6</sup> Here we present a case of GCT-ST of the base of right thumb in a 58 year old female.

### CASE REPORT

A 58 year old female came to surgical outpatient department (OPD) with a 1 year history of a swelling on the base of right thumb. The swelling was initially pea

size and gradually over a period of 1 year increased in size, becoming multilobulated (3 lobed). There was mild pain and limitation of movement of the affected right thumb. There was no associated history of trauma or arthritis and no similar swellings in other parts of the body. Examination revealed a middle-aged female in relative good health, afebrile, not pale. On the right hand, there was an irregular nodular mass on the palmar surface of the base of right thumb measuring 3x2 cm, tender, firm, not freely mobile and not attached to the skin and underlying structures (Figure 1).

There was no regional lymphadenopathy. Plain X-ray of the right hand showed a well-defined noncalcified soft tissue mass around the distal interphalangeal joint of the thumb (Figure 2). FNAC was done showed giant cell tumour. Complete excision of tumour (Figure 3) was done and sent for histopathology. Histopathology report showed a benign tumour composed of small mononuclear cells which are round and spindle shape with pale cytoplasm and round nuclei along with osteoclast-like giant cells. Also seen are foamy macrophages, siderophages and few cholesterol clefts. Stroma showed hyalinization. No malignancy was seen. A diagnosis of giant cell tumour of soft tissue (GCT-ST) of the right thumb was made. Follow-up in the OPD has been satisfactory and patient informed of the need for follow up.



**Figure 1: Giant cell tumour of finger.**



**Figure 2: X-ray of hand.**



**Figure 3: Excised tumour mass.**

## DISCUSSION

Giant cell tumour of the soft tissue is a primary soft tissue neoplasm, it closely resembles GCT of bone cytomorphologically as the giant cells resemble osteoclast, and however both are distinct entities,<sup>5,7</sup> as depicted by our patient. This rare entity first described by Salm and Sissons in 1972,<sup>3</sup> was also described by Guccion and Enzinger later in the same year.<sup>6</sup> The histogenesis of this tumour is not certain, but it is postulated that osteoclast-like cells are the result of fusion of circulating monocytes recruited into the lesion.<sup>2,8</sup> Giant cell tumour of soft tissue though predominantly a benign condition, demonstrates unpredictable capacity to occasionally recur or evolve into a malignant lesion.<sup>2</sup> Reported recurrence rate is 6.2%, though infrequent, metastasis to the lungs and parotid glands have been described.<sup>4,5</sup> This underscores the need to ensure a tumour free margin post excision and follow up of patients, as the tumour biology of this lesion is not completely known. It affects mainly adults of both sexes,<sup>2</sup> in keeping with our female patient aged 58 years. Oliveria et al. reported an age range of 5-80 years (median 43 years),<sup>5</sup> while Tagera-Vaquerizo et al. reported an age range of 5-84 years,<sup>8</sup> both with no predilection for sex. This lesion, predominantly found in the lower limb with the trunk and upper limb ranking second and third respectively.<sup>5,8</sup> Kumar and Carter reported that the hand is rarely involved.<sup>1</sup> However, Chand et al. reported that the commonest site was the upper limb, finger being the most common location.<sup>2</sup> Our patient's lesion was located on the base of right thumb. In keeping with reported finger lesions, Tejera-Vaquerizo reported a distal phalanx lesion of the right ring finger with a cystic component.<sup>8</sup> Mardi and Sharma reported a case on the dorsum of the right hand over the index finger.<sup>9</sup> Breast is exceedingly rare site affected by GCT-ST; first case reported was fatal.<sup>10</sup> Chand et al. reported that none of the cases they reported was clinically suspected as GCT-ST in keeping with our experience. They present frequently as skin tumour and may be superficial as the case presented, or may be in deep body tissue.<sup>2</sup> Painless, firm, mobile, well-demarcated mass, not attached to muscle, tendon, or bone is the common mode of presentation.<sup>4</sup> There are no reported gross features that distinguish between benign and malignant variants. Diagnosis is histologic with appearance of osteoclast-like giant cells and mononuclear cells. Giant cell tumour of soft tissue is required to be distinguished from giant cell rich tumours of the bone, and GCT of tendon sheath. Plain radiograph is sensitive in the diagnosis of a bone lesion or its exclusion as shown in the case presented with a normal phalanx. The use of cross sectional imaging, magnetic resonance imaging (MRI), is capable of distinguishing GCT of the tendon from GCT-ST. However, the location of the lesion mainly on the base of right thumb part of the anatomical position of the finger, suggested that the diagnosis of GCT of the tendon sheath is unlikely, and this confirmed at surgery.<sup>11</sup> The treatment of GCT-ST is surgical resection with tumour free margin.

Follow up of these patients is necessary because of possibility of recurrence and malignant transformation of this tumour.<sup>2,8</sup> The prognosis of GCT-ST varies and the biological aggressive course for its local recurrence cannot be predicted in view of the wide clinicopathological spectrum exhibited by this tumor.<sup>2</sup>

## CONCLUSION

The surgeon should keep a differential diagnosis of lumps of the finger as GCT-ST. GCT-ST usually has benign course but constant monitoring of patient is needed as it has a great tendency to turn into a malignant lesion with drastic consequences.

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## REFERENCES

1. Kumar S, Carter LF. Giant cell tumour of soft tissue of hand: simple but rare diagnosis, which is often missed. Clinics and Practice. 2011;1:e54.
2. Chand K, Bhardwaj RK, Rappai TJ. Study of 7 cases of giant cell tumour of soft tissue. MJAFI. 2006;62:138-40.
3. Salm R, Sissons HA. Giant cell tumors of soft tissue. J Pathol. 1972;107:29-39.
4. Nguyen V, Garcia C, Haskell H. Giant cell tumour of soft tissue on the thigh of a 40-year-old woman. Dermatol Online J. 2010;16:2.
5. Oliveira AM, Dei Tos AP, Fletcher CD, Nascimento AG. Primary giant cell tumour of soft tissues: a study of 22 cases. Am J Surg Pathol. 2000;24:248-56.
6. Guccion JG, Enzinger FM. malignant giant cell tumour of soft parts. An analysis of 32 cases. Cancer. 1972;29:1518-29.
7. O'Connell JX, Wehrli BM, Nielson GP, Rosenberg AE. Giant cell tumors of soft tissue: a clinicopathological study of 18 benign and malignant tumors. Am J Surg Pathol. 2000;24:386-95.
8. Tejera-Vaquerizo A, Ruiz-Molina I, Gonzalez-Serrano T, Solis-Garcia E. Primary giant cell tumour of soft tissue in the finger. Dermatol Online J. 2008;14:7.
9. Mardi K, Sharma J. Primary giant cell tumour of soft parts- Report of a case with fine needle aspiration cytology and histology findings. J Cytol 2007;24:58-9.
10. May SA, Deavers MT, Resetskova E, Johnson D, Albarracin CT. Giant cell tumour of soft tissue arising in breast. Ann Diagn Pathol. 2007;11:345-9.
11. Asuquo ME, Nwagbara VI, Agbor C, Akpan S, Ebughe G, et al. Giant Cell Tumour of Soft Tissue of the Finger: A Case Report. J Clin Exp Oncol. 2013;2:3.

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