

## Case Report

# Soft tissue giant cell tumour revisited - a case report

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**Abstract** Giant cell tumour of soft tissue (GCT-ST) is an uncommon entity which histopathologically resembles bony GCT. We report a case of giant cell tumour in a 45-year-old male patient who presented to the dermatology department with a gradually enlarging painless, smooth swelling over second toe of left foot. Histopathology revealed it to be giant cell tumour of soft tissue.

**Key words**

Soft tissue tumour, giant cell tumour, osteoclast.

### Introduction

Giant cell tumour of soft tissue (GCT-ST) clinically presents as painless, firm, well-defined mass without any fixity to underlying structure. The tumour is usually benign in nature. It can recur after surgical excision. Malignant transformation may occur rarely.

### Case Report

A 45-year-old male patient presented with gradually increasing swelling over left second toe with overlying normal skin for 2 years. It was not painful. No history of trauma or similar swelling in any other part of body was present. Clinical examination revealed a nontender, firm, nonpulsatile soft tissue swelling of about 3 to 4 cm diameter without fixity to underlying bone (**Figure 1**). Overlying skin was unremarkable. No limitation in movement of the affected toe was present. On auscultation no bruit was heard. Patient was otherwise normal.

Routine investigations were unremarkable.

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Digital X-ray of the affected foot showed homogeneous soft tissue opacity without any calcification or phlebolith. No expansile lytic lesion or cortical erosion was present (**Figure 2**). Histopathological examination revealed spindle-shaped cells arranged in interlacing fascicles. Multinucleated giant cells were present in a scattered manner, diffusely throughout the lesion. Focal area of hyalinization was seen. No significant nuclear pleomorphism or mitotic activity was appreciated. The epidermis showed hyperkeratosis, acanthosis and irregular downward elongation of rete ridges (**Figure 3, 4**).

### Discussion

GCT-ST is a rare primary neoplasm of soft tissue affecting the age group between 5-84 years with no sex predilection.<sup>1</sup> The tumour commonly involves extremities, trunk, abdomen and pelvis.<sup>2</sup> However, few reports suggested the commonest site to be an extremity and the finger was mentioned as the most common site.<sup>3</sup> Although a benign condition, uncommon malignant transformation has also been noted with rare metastasis to lung<sup>4</sup> and parotid glands.<sup>5</sup> Metastatic potential is mainly related



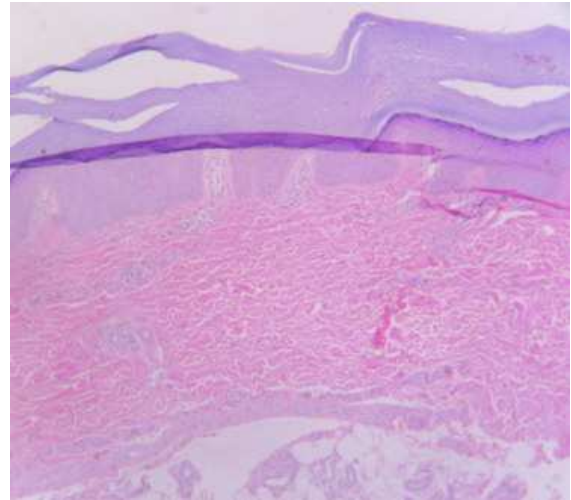
**Figure 1** A swelling over second toe of left foot. (Inset, view from plantar aspect).



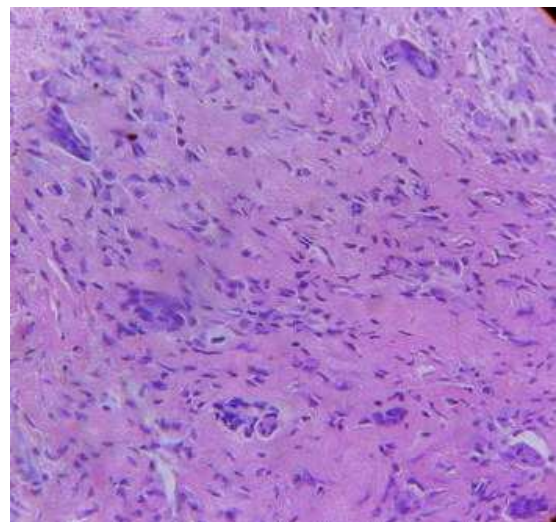
**Figure 2** X-ray of left foot showing soft tissue opacity of the second toe (AP and lateral view).

to depth of invasion.<sup>1</sup> Evolution of GCT-ST is not clear, it has been thought that giant cells which cytologically resemble osteoclasts are the result of fusion of circulating monocytes.<sup>3</sup> Histologically, GCT-ST shows well-circumscribed, nonencapsulated tumour of round to spindle-shaped cells admixed with osteoclast like multinucleated giant cells.<sup>5</sup>

Differential diagnosis of GCT-ST includes soft tissue mesenchymal tumour which are rich in giant cell, villonodular sinuovitis, cellular dermatofibroma, atypical fibroxanthoma, plexiform fibrohistiocytic tumour, malignant fibrous histiocytoma, leiomyosarcoma, extraskeletal osteosarcoma and epithelioid sarcoma.<sup>6</sup>



**Figure 3** Photomicrograph revealing epidermal hyperkeratosis, acanthosis, and irregular downward elongation of rete ridges (H and E X100).



**Figure 4** Photomicrograph showing multiple, diffusely scattered osteoclast like giant cells mixed with spindle cell stroma. (H and E X 400).

Immunohistochemistry can give added information regarding the tumour which shows positive stain for CD68, vimentin, tartrate-resistant acid phosphatase, cytokeratin, smooth muscle actin.<sup>6</sup> These investigations could not be performed in our case.

Optimal treatment of GCT-ST appears to be conservative surgical resection with tumour free margin which often provides a good prognosis. Recurrence rate after excision is very low.<sup>7,8</sup> It is

necessary to follow up these patients carefully because of the rare possibility of malignancy. A dermatologist must have a high index of suspicion and consider GCT-ST in the differential diagnosis of swelling of a toe.

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