

## Giant Cell Tumor of the Tendon Sheaths in the Foot: A Case Report

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### Abstract

### Case Report

Tendon sheath giant cell tumor (TCGGT) is a benign soft tissue tumor that usually affects the tendons of the hand, but rarely affects the foot. It mainly affects young adults, but can occur between the ages of 10 and 60. It is a predominantly female tumor. Anatomopathological examination remains the key to diagnosis and prognosis. Treatment is based on surgery with complete removal of the tumour. We report a case of a giant cell tumor of the flexor sheaths localized in the sole of the foot.

**Keywords:** Giant cells - tendon sheath – foot.

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## INTRODUCTION

Giant cell tumors of the tendons are locally aggressive benign tumors that develop in the tenosynovial sheath. The most common site is the hand. The sole of the foot is an exceptional location.

## CLINICAL OBSERVATION

A 31-year-old patient with no previous pathological history presents with a plantar swelling that has been present for 4 years, progressively increasing in size and recently becoming painful. Clinical examination revealed an oval mass opposite the 2nd and 3rd rays, firm and adherent or deep planes, painful to palpation, with no inflammatory signs opposite.

Standard radiography was without abnormalities. Ultrasound of the soft tissue revealed a poly-lobed mass opposite the heads of the 2nd and 3rd metatarsals, coming into contact with the synovial sheath of their flexor. Additional MRI of the foot confirmed the presence of this well-limited subcutaneous mass, measuring 38 20 13 mm.



Figure 1: Plantar swelling next to the 2nd ray of the right foot



Figure 2: Standard x-ray of the right foot without abnormalities



**Figure 3: Imaging cut by axial and sagittal magnetic resonance FATSAT sequence after cancellation of the fat signal**

The patient benefited from removal of the mass, which was in contact with the synovial sheath. The tendon was intact. The anatomopathological study was in favour of a giant cell tumour of the flexor sheath.



**Figure 4: Peroperative aspect of Tenosynovial TCG**



**Figure 5: Inoperative appearance of the flexor tendon of the 2nd toe after tumor removal**



**Figure 6: Tumor resection piece**

## DISCUSSION

TCG is the 2nd most common tumour in the hand, accounting for 65% to 90% of tumour sites, after synovial cysts, and is predominantly found in women between 10 and 60 years. It is exceptionally described in the foot.

Giant cell tumours are a benign proliferative disorder of the synovium, the mechanism of which is poorly understood. They may involve the synovial joints, bursae and tendon sheaths.

This is the focal form of villonodular synovitis, which develops in the synovial sheath of tendons and progresses slowly, softly and painlessly.

Imaging is not specific in terms of MRI, but the diagnosis can be made when there are haemosiderin pigments in T2 signal in the soft tissue mass.

Several aetiological hypotheses have been put forward for this tumour:

- Metabolic: due to the presence of significant numbers of xanthomatous cells.
- Degenerative joint disease: especially in relation to the IPD.
- Genetic predisposition: confirmed by the study of Fletcher *et al*, by the presence of structural aberrations affecting the 1p11 to 1p13 region.

Treatment is surgical, with the difficulty arising from the need for complete excision as the only guarantee against recurrence.

The diagnosis of certainty is histological. The tumour consists of a variable mixture of collagenous stroma, haemosiderin pigment, multinucleated giant cells, xanthomatous cells and histiocytic proliferation.

The differential diagnosis is with synovial cyst, lipoma, fibroma, synovial chondromatosis, rheumatoid synovitis and synovial sarcoma.

## CONCLUSION

Tendon sheath TCG is a benign condition with no potential for malignancy, often of late diagnosis in relation to its slow and painless course. It is treated surgically, with careful excision to avoid recurrence.

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