

Case Report

Giant cell tumour of tendon sheath: a case report

Shaiqa Mufti, Lamees Mahmood Malik, Khadija Rafique Sheikh, Ijaz Hussain

Department of Dermatology, Postgraduate Medical Institute/Lahore General Hospital, Lahore

Abstract A 47-year-old female presented with yellowish white painless nodule on right thumb of 2-year duration. On the basis of clinical and histopathological findings she was diagnosed as a case of giant cell tumour of the tendon sheath.

Key words

Giant cell tumour, tendon sheath

Introduction

Giant cell tumour was first described by Chassaignac back in 1852 as a benign soft tissue tumour.¹ It is the second most common tumour of the hand after simple ganglion. Mean age of presentation is 32 years with an age range of 6-65 years with a female to male ratio of 3:2.² It usually presents on hands and feet as a painless, slow growing, circumscribed tumour.³

Case report

A 47-year-old female presented to the outpatient department with a painless, slowly progressive nodule on the right thumb for the last 2 years. Although nontender, it interfered with the movement and workability of the hand. There was no history of preceding trauma or similar swellings anywhere else on the body. The systemic review was insignificant. Similarly, there was no history of weight loss or anorexia.

On examination, there was 1-cm, yellowish white nodule located on the dorsal aspect of right thumb (**Figure 1**). There was no regional adenitis. Rest of the cutaneous and systemic examination was unremarkable.

Routine investigations were unremarkable. Skin biopsy revealed lobules surrounded by dense collagen within lobules, there were epitheloid and spindle cells with scattered giant cells (**Figure 2**). On the basis of histopathological findings, the diagnosis of giant cell tumour of the tendon sheath was made and excision under local anesthesia was advised. No local recurrence was seen on a follow up after 6 months.

Discussion

Giant cell tumour of tendon sheath, also known as synovioma, is the second most common tumour of hand. Etiology is unknown. Many pathogenetic theories have been proposed which include trauma, disturbed lipid metabolism, osteoclastic proliferation, infection, vascular disturbances, immune mechanisms, inflammation, neoplasia and metabolic disturbances.⁴ The most widely accepted theory as proposed by Jaffe *et al.*⁵ in 1941, is that of

Address for correspondence

Dr. Shaiqa Mufti,
Department of Dermatology,
Postgraduate Medical Institute//
Lahore General Hospital, Lahore
E mail: alisdak@hotmail.com



Figure 1 A yellowish-white nodule on the dorsal aspect of right thumb.

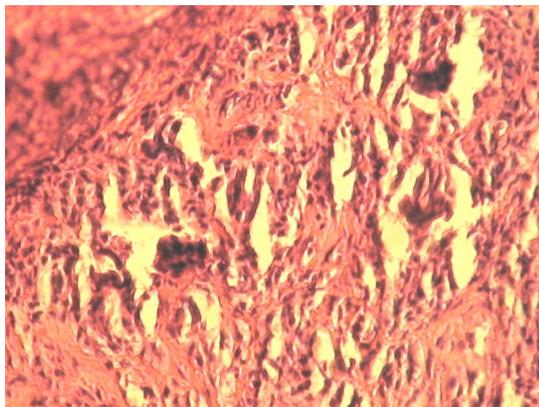


Figure 2 A collection of epithelioid and spindle cells with scattered giant cells (10x).

reactive or regenerative hyperplasia associated with an inflammatory process. Cytogenetic data indicate that 1p11-13 is the region most frequently involved in structural rearrangements.⁶

Giant cell tumours of the tendon sheath are classified into two types: the common localized type and the rare diffuse type. The rare diffuse type is considered to be the soft tissue counterpart of diffuse pigmented villonodular synovitis (PVNS) and typically affects the lower limbs.⁵

Giant cell tumour of the tendon sheath is usually a painless mass. The duration may range from a few weeks to as long as 30 years. Occasional symptoms can be distal numbness and mild disability that may result from the impaired

function of the digit secondary to the size of the lesion. Tumour is firm, lobulated, non tender, slow growing mass with overlying skin freely mobile. The lesion is not transilluminating.⁷

The clinical differential diagnosis includes ganglion cysts, foreign body granuloma, epidermoid cyst, lipoma, knuckle pad, necrobiotic granuloma, tendinous xanthoma, fibroma of the tendon sheath, infection, rheumatoid nodule, pseudogout and amyloidoma. Giant cell tumours of the tendon sheath are associated with degenerative joint disease, especially in distal interphalangeal joint.⁸

It is diagnosed on the basis of history clinical examination and histopathology of the lesion. On gross pathology these are well circumscribed, multilobular masses with shallow grooves along their deep surfaces created by the underlying tendons. Tumour size ranges from 0.5-5cm. On cut section they have mottled appearance with color ranging from grayish brown to yellow orange, depending upon the amount of haemosidrin, collagen and histiocytes in the sample.

On microscopy it is moderately cellular composed of sheaths of rounded and polygonal cells that blend with hypocellular collagenized zones, variable numbers of giant cells are seen. Xanthoma cells containing hemosidrin are common. In localized form a mature capsule surrounds the tumour, while in diffuse form the tumour is not surrounded by this capsule and instead grows in extensive sheaths.⁹

Marginal excision of the giant cell tumour is the treatment of choice, complete excision is difficult as the mass is associated with the tendon sheath or synovial joint. The incidence of local recurrence is high ranging from 9-44 %.¹⁰

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