Case report

Giant cell tumor of the flexor tendon sheath of the hand

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Giant cell tumor of the tendon sheath (GCTTS) is a slowly progressing benign tumor arising from synovial cells of tendon sheaths. Chassaignac first described the soft tissue mass in 1852. Hand is more frequently involved than any other part of the body. In fact it is a rare primary tumor of hand but is second most common among the soft tissue tumors of the hand. They occur more commonly on the palmar side of the hand. The age distribution is 8 to 80 years but is more common between 30 to 50 years. Female:male ratio is 3:2. They are usually painless and non tender. Movements are usually not interfered and rarely erode the bone.

Case report

A female patient aged about 40 years, apparently normal 2 years back, came to the department of Orthopedics, Deccan College of Medical Sciences, Hyderabad, India with a history of painless nodular swelling on her right ring finger extending to the mid palm (Fig 1). Initially the swelling was in the proximal part of the right ring finger which gradually extended proximally and distally.

On examination multiple, firm, non-tender, nodular swellings were present on the right ring finger and palm. They were free from the skin but fixed to the flexor tendon sheath. Sensations and movements of the ring finger were normal. Swellings were not transilluminant.

Initially a provisional diagnosis of soft tissue tumor of the right ring finger with extrinsic compression of phalanges (proximal and middle) was made. X-ray of the hand showed multiple soft tissue shadows with bony scalloping of the middle phalanx of the ring finger and irregular cortical outline with extrinsic soft tissue impression of the proximal phalanx due to pressure effect by the tumor. No evidence of soft tissue calcification was seen. Fine needle aspiration cytology (FNAC) reported it as GCTTS.

Patient was operated under general anesthesia and the entire tumor was excised (Fig 2 and 3). Biopsy confirmed it as GCTTS. The gross appearance...
is a yellow or tan colored, lobulated mass arising from the tendon sheath (Fig 4). Histopathological section revealed spindle cells, fibrous tissue, cholesterol laden histiocytes, multinucleated giant cells (Fig 5 A and B) and hemosiderin.

Patient was followed up for six months during which movements were normal and no recurrence noticed.
Giant cell tumor of the tendon sheath

Discussion

Giant cell tumors of soft tissues are slow growing tumors and are of two types, diffuse type (rare) and localized type (common). The diffuse type is rare and usually affects the lower limbs especially around the knee, followed by ankle, foot and occasionally affects the hand. The diffuse form is often locally aggressive with recurrence after excision. This case report focuses on the common localized form of the giant cell tumor of the tendon sheath that is often found in hand and feet. These tumors winds around the flexor tendon, tendon sheaths, the digital nerves and the extensor tendons and may involve three fourths of the circumference of the involved digits. These growths are benign and usually present as multiple, firm, non tender swellings on the palmar side of the hand. The recurrence rate is about 27 percent but in our case recurrence was not noticed during six months follow up period. Movements are not affected and the skin is not involved.

The following differential diagnosis such as foreign body granuloma, fibroma of tendon sheath, infection, ganglion cyst, rheumatoid nodule was ruled out and confirmed the diagnosis of GCTTS.

Conclusion

Giant cell tumor of the tendon sheath is a rare, benign tumor of hand. Nevertheless, giant cell tumor of the tendon sheath should not be eliminated from the index of suspicion in nodular swellings of the hand. The basic aim of management should be early diagnosis with operative excision.

Acknowledgments: None

Conflict of interest: None

Reference