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GAINT CELL TUMOR OF EXTENSOR TENDON SHEATH: A RARE CASE

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ABSTRACT **Introduction:** Giant cell tumor of tendon sheath is a benign, soft-tissue tumour arising from synovial cells of tendon sheaths. It is one of the most common soft-tissue tumours in the hand. It is a slow growing tumour. Surgical intervention is a dilemma due to its high recurrence rate. The risk factors for recurrence included presence of adjacent degenerative joint disease, and radiographic presence of an osseous pressure erosion. **CASE REPORT:** A 20 year old male daily wage worker presented with complaints of a painless swelling over the middle third of left index finger, progressively increasing in size since last eleven months with no features suggestive of any infective pathology or malignancy. Clinically it was a non-tender, firm to hard in progression, solitary swelling over the dorso-medial aspect of left index finger measuring 2 × 1 cm in size with restricted mobility in all directions, with no effect on joint mobility or distal neurovascular effect. Plain X-ray of hand revealed no bony abnormality but only a soft tissue shadow. FNAC from the swelling showed round to oval cells with foci of osteoclastic giant cells with regular nuclei suggestive of a Giant cell tumour of tendon sheath. Intra-operatively a glistening white ovoid mass with bony hard consistency and a smooth, regular surface was found arising from the tendon sheath of extensor tendon of the left middle finger. The mass was completely excised, without injury to the extensor tendon and sent for Histopathological examination which revealed a well delineated mass comprising of oval to spindle cells admixed with osteoclast type of giant cells Hand was mobilized from 2nd postoperative day and the patient is on regular follow up with no functional debility. The patient is on follow up for last six months with no evidence of recurrence. **Conclusion:** Giant cell tumor of tendon even though considered benign, they are known for their notorious nature of recurrence. The recurrence can be prevented by early and accurate diagnosis, excision and adjuvant radiotherapy in case of mitosis or incomplete excision.

KEYWORDS : GCT, Extensor tendon sheath,

INTRODUCTION:

Giant cell tumour of tendon sheath is a benign, soft-tissue tumour arising from synovial cells of tendon sheaths1. Giant cell tumor of the tendon sheath is one of the most common soft-tissue tumors in the hand2. It develops over a period of months to years3. Giant cell tumours of tendon sheath of hand present a surgical dilemma due to their high incidence of local recurrence 4.The risk factors for recurrence included presence of adjacent degenerative joint disease, location at the distal interphalangeal joint of the finger or interphalangeal joint of the thumb, and radiographic presence of an osseous pressure erosion5.

CASE REPORT:

A 20 year old male daily wage worker presented with complaints of a painless swelling over the middle third of left index finger, progressively increasing in size since last eleven months with no features suggestive of any infective pathology or malignancy. Clinically there was a non-tender, firm to hard in progression, solitary swelling over the dorso-medial aspect of left index finger measuring 2 × 1 cms in size with restricted mobility in all directions, with no effect on joint mobility or distal neurovascular effect [Figure 1]. Plain X-ray of hand revealed no bony abnormality but only a un-mineralized soft tissue shadow [Figure 2]. FNAC from the swelling showed round to oval cells with foci of osteoclastic giant cells with regular nuclei suggestive of a Giant cell tumour of tendon sheath. Intra-operatively a glistening white ovoid mass with bony hard consistency and a smooth, regular surface was found arising from the tendon sheath of extensor tendon of the left middle finger [Figure 4]. The mass was completely excised, without injury to the extensor tendon and sent for Histopathological examination which revealed a well delineated mass comprising of oval to spindle cells admixed with osteoclastic types of giant cells [Figure 5]. Hand was mobilised from 2nd postoperative day and the patient is on regular follow up with no functional debility. The patient is on follow up for last six months with no evidence of recurrence.

FIG 1: Clinical photo and Pre-operative X-ray showing soft tissue shadow

FIG 2: Pre- operative FNAC showing osteoclastic gaint cells

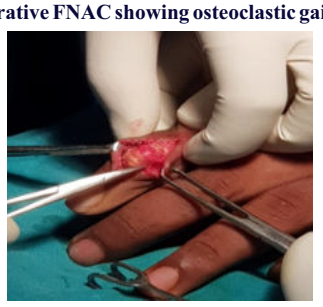

FIG 3: Intra-operative picture showing excision of mass from the extensor tendon sheath

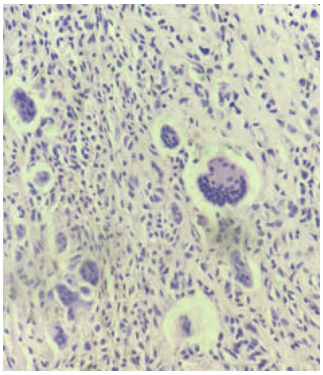

FIG 4: Post-operative histopathological examination of the mass

DISCUSSION

Giant cell tumours of tendon sheaths (GCTTS) they are 2nd common benign tumours of hand following ganglion cyst . They are first described by chassaignae in 1852 as fibrous xanthoma. Since then they were given names such as nodular tenosynovitis, localized pigmented villonodular synovitis, fibrous xanthoma, fibrous histiocytoma of the synovium, tenosynovial giant cell tumour, benign synovioma, and sclerosing hemangioma[6].

Etiology of the disease, indeed, is unknown so the tumour is generally considered idiopathic. There are some risk factors that are mentioned in the literature such as infection (the tumour is considered as an inflammatory process arising as a consequence of chronic antigenic stimulation), disorder in the immune system, osteoclastic proliferation, vascular abnormality, localized lipid metabolism disorder.[7]

GCTTS is characterized by proliferation of synovial-like cells accompanied by giant cells, inflammatory cells, siderophages, and xanthoma cells with polyhedral, fibrotic material and hemosiderin deposits. It is grey to yellow – orange in colour with brownish areas, depending on the amount of hemosiderin, collagen and present hystiocytes.[7]

It can be divided into localized nodular type (common in hand) and diffuse type (common in joints). Diffuse form is hyper cellular with several giant cells, while localized form is relatively hypo cellular with numerous giant cells. Another classification proposed by Al-Qattan classified GCTTS into Type I (single tumour, round and multi-lobulated) and Type II (two or more distinct tumour's, not joined together). Type II is more often related with recurrence as satellite lesions when microscopic excision is not done. The tumour can be partially or completely encapsulated and may have extensions and/or satellite lesions[7].

They generally present as slow growing, painless, firm swelling arising from synovial lining of mostly small joints. Interosseous involvement is seen cases of large joints and are rarely reported. Radiographs are of little value for diagnosis they only show cortical compression or interosseous involvement. Ultrasonography shows the lesions as homogenous and hypo echoic and it also shows the gap between tendon and neurovascular bundle. MRI will show the lesion as hypointense lesion and also shows the exact size and extension preoperatively. FNAC would give an exact tissue diagnosis preoperatively[6].

Treatment for this would be complete surgical excision of the tumour. Incision should be planned as to have a maximum reach to all the borders the tumour. 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.

CONCLUSION

Giant cell tumour of tendon even though considered benign, they are known for their notorious nature of recurrence. The recurrence can be prevented by early and accurate diagnosis with the help of x-ray films, FNAC and use of magnification allowing for complete excision of the lesion. Post op adjuvant radiotherapy should be used in cases showing mitosis or less than complete excision of the lesion. In the above reported case meticulous measures were taken in diagnosing, treating and following the patient up to six months to assess the recurrence.

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