CASE REPORT

FIBROMA OF THE TENDON SHEATH-A RARE HAND TUMOR FOLLOWING REPETITIVE TRAUMA TO THE PALM

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Fibroma of the tendon sheath (FTS) is a rare, benign, soft tissue lesion. Clinically, FTS presents similarly to the more common giant cell tumour of the tendon sheath. It can be distinguished histologically by the lack of giant cells, foamy histiocytes and synovial cells. The author presents a case of FTS involving the flexor tendon to the fourth metacarpal following repetitive trauma. A 42 year old man presented with a three year history of painless mass in the right palm that had increased in size and became painful recently. Examination demonstrated 6×4 cm firm, nodular, superficial mass that was adherent to the underlying structures. Radiographs revealed soft tissue mass. Ultrasound showed a solid heterogeneous mass and the MRI demonstrated that the mass cantered predominantly at the mid and distal portion of fourth metacarpal. Fine Needle Aspiration Cytology was inconclusive. The patient underwent excisional biopsy of the lesion showing lobulated lesion closely resembling hyalinized collagen. Neither vascular proliferations, necrosis, nor mitoses were observed. A diagnosis of FTS was made. The case report provided an additional rare case to literature of a FTS and highlights the need to consider this entity in the differential diagnosis of any soft tissue lesion in the hand after repetitive trauma. Two months later the patient demonstrated full range of movements in the hand.

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INTRODUCTION

Fibroma of the tendon sheath (FTS) is a rare benign fibrous nodule associated with tendon or tendon sheath. Mostly fibroma of the tendon sheath is found in the upper extremity in males and its peak incidence is from 2nd to 5th decades.[1] The commonest site of origin is volar aspect of thumb, index and middle finger[2] but can involve ring finger. It is synonymous with tenosynovial fibroma[3]. The report presents a case of fibroma of the tendon sheath surrounding the flexor tendon around the fourth metacarpal in the palm which is due to a repetitive trauma in a workshop worker.

CASE REPORT

A 42 year old male, married, workshop worker, smoker for the last 12 years, smoked 1 pack per day with no other co-morbid, resident of Lahore presented to our OPD with a three years history of swelling in the right palm which is increasing in size for the last one year (Figure-1).This swelling started after repetitive trauma to his right hand while doing work at workshop. Initially it was a small lesion at the base of ring finger and then it extended to mid-palm region and also involved the dorsum of the ring finger. It became painful for the last two months and he felt discomfort on the volar and ulnar aspect of the left hand. The pain was localized to the right palm, no radiation and increased on palpation and doing work with the right hand and decreased with giving rest to the hand and by taking analgesics. He denied any history of fever or weight loss with the swelling. Clinical examination revealed a 6×4cm firm swelling on the right distal palm at the base of the ring finger, nodular in shape, diffused margins, with deep fixation and intact distal neurovascular status, tender by deep palpation but no skin involvement or associated lymphadenopathy.

His laboratory investigations were in normal limits. A plain radiograph of the hand showed soft tissue swelling without any calcification or ossification and normal appearance of the underlying bones (Figure-2). Ultrasound demonstrated a solid, heterogeneous and hypoechoic mass. Magnetic resonance imaging (MRI) of hand revealed a lobulated swelling at the level of distal palmar crease measuring 5.6×3.5×2.3 cm, cantered predominantly at the mid and distal portion of fourth metacarpal. (Figure-3). Fine needle aspiration cytology (FNAC) of the swelling was performed using all aseptic precautions and repeated aspirations were attempted but still the report was inconclusive. The decision for excision was taken and the lesion was excised along with its capsule (marginal excision) preserving other anatomical structures. Submitted histologic sections revealed a lobulated lesion closely resembling hyalinized collagen. Neither vascular proliferations, necrosis, nor mitoses were observed (Figure-4 & 5). Similarly, multinucleated giant cells, pigment-laden macrophages, and inflammatory cells were also not identified. The diagnosis of fibroma of tendon sheath was rendered based on its characteristic histo-pathological appearance. The patient is on regular follow up with full range of motion in the hand and without any complication till date.

Figure-1: Hand of the patient

Figure-2: X-ray of the patient's hand

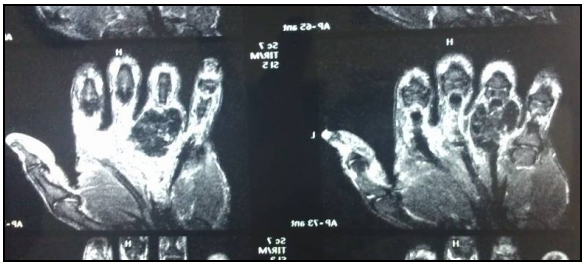

Figure-3:MRI of the patient's hand

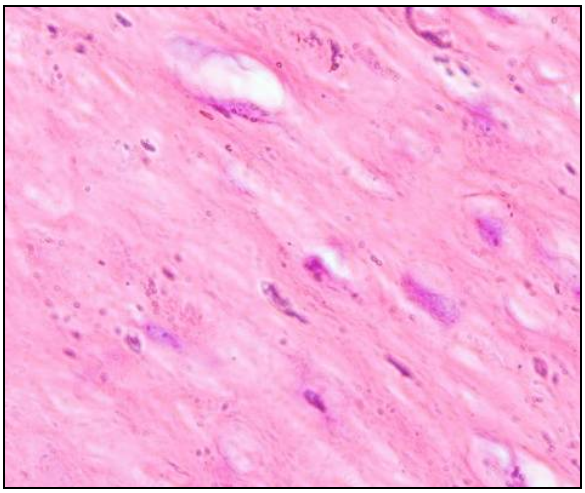

Figure-4: Histopathological view of the lesion

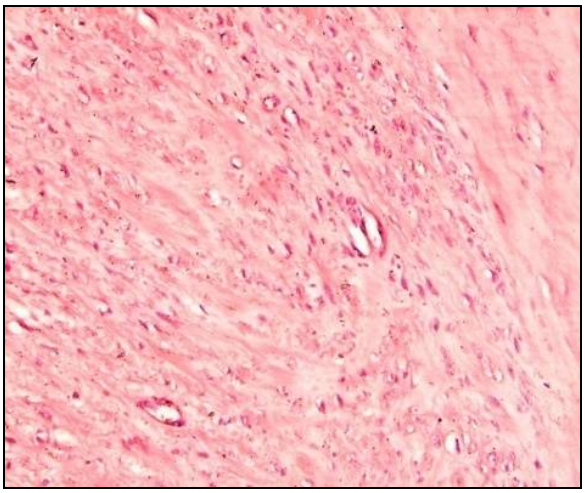

Figure-5: Histopathological view of the lesion

DISCUSSION

The history of fibroma of tendon sheath goes back to 1949, when it was first described by Copeland and Geschickter.[4] The lesion is often a small, slow growing, firm and painless mass that is thought to be a benign neoplasm.

It is often preceded by a history of trauma. It has been reported in about 9% of the cases. Sometimes it may also arise secondary to hyalinization of benign mesenchymal tumours.[2,3,7] Genetically, a clonal chromosomal abnormality t (2;11) (q31-32; q12) has been described in one case. This tumour may cause local effects in its location like carpal tunnel syndrome, trigger finger, and ulceration when it is present in the hand [4] or it may cause painful range of motion when it is present in the joints like knee or hip.[5,8]

Macroscopically, fibroma of the tendon sheath is well encapsulated, firm and multi-nodular with a fleshy grey white in appearance on cut surface. Microscopically it is a multi-lobulated structure

Characterized by spindle shaped fibroblast without cytological atypia or mitotic activity. Other features are dense esinophilic hyalinized collagenous stroma and numerous cleft like vascular

Spaces. It should be differentiated from tenosynovial giant cell tumour, nodular fasciitis, fibromatosis, pigmented villonodular synovitis and fibrous histocytoma by histo-pathological appearance.

The non-invasive modalities of investigations like MRI are a useful radio-imaging technique prior to surgery. It can show you the extent of the tumour and the soft tissue involvement but a definitive diagnosis cannot be made on the basis of MRI because the features are non-specific on MRI.[6] Therefore a FNAC or a tissue biopsy is necessary for a correct diagnosis.[7] Treatment is local excision with preservation of important structures. Sometimes it is difficult to excise the tumour because it is adherent to the tendinous structures. In such cases the aim is to relieve the symptoms.

About 25% of the lesions recur in months to years. The higher rate of recurrence is related to incomplete excision but there is no evidence of malignant transformation or mitosis inside lesion. A correct diagnosis can be made in such tumours on the basis of clinical history; physical findings, radio imaging and it should always be confirmed on histo-pathogy.

The case being reported remind us that fibroma of the tendon sheath is an uncommon tumour in the palmar region in contrast to fingers and in a very small proportion it is related to repetitive trauma as in this case. The case report provided an additional rare case to literature of a FTS and highlights the need to consider this entity in the differential diagnosis of any soft tissue lesion in the hand after repetitive trauma so one should be aware of the fact that repetitive trauma to the palmar region can cause fibroma of the tendon sheath.

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