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Case Report

Giant Cell Tumor of the Extensor Tendon Sheath in Proximal Phalanx- A Case Report

Akshay Bhardwaj[1], Ashok Patil[2], Vaijnath Rahate[2], Gaurav Sharma[3]

[1]Senior Resident, Dept of Orthopedics, DDU Hospital, New Delhi
[2]Professor, Dept of Orthopaedics, Islampur-Sangli Road, Tal-Walwa, Sangli, UrunIslampur, Maharashtra-415409.
[3]Assistant Professor, Dept of Orthopaedics, Islampur-Sangli Road, Tal-Walwa, Sangli, UrunIslampur, Maharashtra - 415409.

Corresponding Author: Gaurav Sharma

ABSTRACT

Multilobulated giant cell tumors affecting the extensor tendon sheaths in hand are uncommon lesions. The treatment of these lesions includes a wide marginal excision. We report a case of giant cell tumor involving the extensor sheath of proximal phalanx which was treated with wide local excision. The patient showed no signs of recurrence at one year follow-up.

Keywords- Tendon sheath, Giant cell tumor, proximal phalanx.

INTRODUCTION

Giant cell tumors are slow growing benign soft tissue tumors which can arise from the synovium, tendon sheath or even bursae. [1,2] They are the second most common tumor of the hand after synovial cysts with a female preponderance affecting the age group between 30 and 50 years of age. [1,3,4] Albeit it has a propensity towards palmar aspect of hand, it can also affect knee, foot, ankle, elbow or even hip. [5] The treatment usually involves local excision; however, recurrence rates as high as 44% have been reported. [5,6] We report a case of bilobular giant cell tumor affecting the extensor tendon sheath of proximal phalanx treated by wide local excision.

CASE REPORT

A 50 year old right hand dominant female presented to us with complaints of painless progressively increasing swelling over proximal phalanx of left middle finger since past 6 months.

On examination, there was a firm in consistency, non-tender swelling measuring 2 x 2 cms in size extending to the dorso-medial aspect of proximal phalanx of middle finger. The swelling was adherent to the skin with no restriction at proximal inter-phalangeal joint. There were no signs of infection or neoplasm. Orthogonal radiographs of left hand showed a soft tissue shadow around the medial and dorsal aspect of proximal phalanx with no joint involvement (Fig.1 and Fig.2). Ultrasonography was further done to determine the pathology which showed two homogenous hypoechoic swellings with solid consistency just beside the extensor tendon and not involving it. A suspicion of a benign tumor was made and thus a decision to excise the swelling was made. The patient

was explained about the procedure in detail and she consented for the same.

The surgery was performed under general anaesthesia combined with interscalene block. A midline dorsal approach was used and the central extensor sheath was exposed. The tendon was mobilized to expose the tumor (Fig.3). The swelling was bi-lobular and was not extending to the tendon. Wide local excision of the tumor was done. Mobilization was started from the second post-operative day. Histopathological examination showed mononuclear cells admixed with oval to spindle shaped multinucleated giant cells with hemosiderin deposits. At 1 year follow-up, patient showed no signs of recurrence.

Fig.1: Pre-operative AP radiograph
Fig.2: Pre-oparative Lateral radiograph

Fig. 3: Intra-operative Tumor

DISCUSSION

Chassaignac in 1852 described these tumors to be malignant in origin. Ever since then, various theories like infection, inflammatory, toxic, neoplastic, allergic, metabolic and genetic have been proposed. [3,6-8] However, idiopathic has been the most common cause. It was Targett who labelled it as giant cell tumor of the tendon sheath.

The two most common types described are the localized and the diffuse form. The Localized form also known as nodular tenosynovitis occurs as a mass which usually affects the digits while the diffuse form is proliferative type with an extra-articular involvement. [3] These tumors are most commonly found in the distal and proximal interphalangeal joint and can be associated with osteoarthritis or rheumatoid arthritis. [5,8-10]

The diagnosis involves strong clinical suspicion, with proper imaging studies to differentiate it from other pathologies. Although there is no classical radiographic appearance for diagnosing giant cell tumors of the tendon sheaths, they should be the first investigation of choice. There was a soft tissue mass around the proximal phalanx in the present case which ruled out the bony pathology. Ultrasonography further defines the soft tissue extent of the lesion. A solid homogenous hypoechoic mass is usually seen on ultrasonography. Magnetic resonance imaging studies can further define the extent of lesion and have also been proved to be effective in diagnosing satellite lesions.

Pre-operative FNAC helps in a proper planning and can help in prevention of the local recurrence. There has been a discrepancy in terms of the modality that should be combined along with the local surgical excision with few studies recommending the use of adjutants such as phenol or radiotherapy, [5,10] but the presence of pseudocapsule makes it easy to remove the tumor enbloc. A thorough examination should be done at the time of excision to include the satellite lesions

without affecting the integrity of tendons, arteries and nerves.

In the present case, wide local excision of the bi-lobular swelling was performed and there was no involvement of the surrounding tissues. Post-operatively the patient was mobilized immediately and the follow-up after 1 year showed no signs of recurrence.

We believe that the treatment of Giant cell tumor of the tendon sheath should be a multimodal combined approach involving a proper clinical diagnosis and wide local excision.

Conflicts of interest- Nil

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