Case Report: Recurrence of Chondromyxoid Fibroma of Great Toe.

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Abstract: Chondromyxoid fibroma (CMF) is a benign cartilaginous tumour which involves mainly the long bones and proximal tibia being common. CMF of foot and phalanx is very rare. Various treatment options are available for this tumour and recurrences have been reported following surgery. 24 year old male was treated with curettage and bone grafting for chondromyxoid fibroma of great toe 8 years back. 6 years later, he presented with local recurrence of tumour with extensive soft tissue involvement. He was treated with amputation of great toe. After two years follow up, patient was symptom free.

Key Words: Chondroid, Myxoid, Cartilaginous tumor, Curettage, Bone grafting, Amputation

Introduction: Chondromyxoid fibroma (CMF) is a rare benign cartilaginous tumour. CMF is accountable for less than 2% of benign tumour of bone and less than 0.5% of bone tumours. It is characterised by a composition of chondroid, myxoid and fibrous tissue. It involves metaphysis of long bones and proximal tibia is the most common location. Patients belong to age group of 10-30 years and more common in males than females [1].

CMF is diagnosed based on its histological appearance of lobulated pattern with stellate cells in chondroid or myxoid background. Small bones of feet are five times more involved than the small bones of hand [2]. Bones of lower extremities are more commonly involved and toes account for 5% cases [1,3].

Recurrences have been noted after surgery [2]. Large lesions may be aggressive locally and recurrence is seen mostly in young patients. This tumour has got malignant potential but there are no cases with malignant transformation reported [4]. Adequate treatment of the lesion can control the recurrence rate [5].

Recurrences are due to incomplete removal, cortical breach by locally aggressive lesion and high mitotic index [6]. CMF of foot and phalanx treated initially with only curettage, curettage and bone grafting should be closely followed up to look for recurrence.

Case Report A 24 year old male came with history of pain and swelling of left great toe 8 years back. He was diagnosed to have CMF after biopsy and was treated with curettage and fibular bone grafting. The surgery was done in other hospital and old X-rays were not retrievable. He presented again with pain and swelling in the same toe 6 years later. Swelling involved the entire great toe with irregular margins. Skin was brownish black with Scar of 5 cms over the antero-medial aspect of the great toe healed by primary intention. Swelling extended from midshaft of metatarsal to distal phalanx. It was tender to touch with irregular surface and edges indistinct. Range of motion was restricted in MTP and Interphalangeal joint of great toe with sensation being normal (Fig 1).

Patient was thoroughly investigated with X-ray and MRI. On X-ray, the lesion was expansile, lytic, radioluent and medullary. The cortex was thinned out with involvement of soft tissues (Fig 2).

MRI suggested of lobulated lesion in proximal phalanx with predominantly soft tissue component. Biopsy was done from the site of lesion and was confirmed to be Chondromyxoid fibroma (local recurrence). No mitotic figures were seen. Under spinal anesthesia, toe amputation was done. Margins were negative and at 2 years follow up, no local recurrence was seen and patient was free of symptoms (Fig 3).
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Figure 1: Clinical pictures of the tumour

Figure 2: X-ray showing the lesion

Figure 3: Photographs of Toe Amputation
Discussion
Medullary tumours of toe phalanges are rare and among benign tumours, enchondroma are most common. They are radiologically and clinically identical to CMF, hence diagnosis depends on histological appearance [7]. CMF is diagnosed on histopathology as it is composed of myxoid pattern and has osteoclastic giant cells whereas the enchondroma shows cartilaginous tumour with no giant cells [7].

Other benign lesions that involve toes are giant cell tumour and aneurysmal bone cyst which are distinguished histologically from CMF [7].

Malignant tumours like chondrosarcoma are indistinguishable from CMF histologically but aggressive behaviour of tumour is seen on X-ray unlike CMF. Toe is also uncommon area for chondrosarcoma [7].

Various methods of treating CMF are curettage only, curettage and bone grafting, en bloc excision or toe amputation. Curettage plus bone grafting or en bloc excision is suggested to decrease the recurrence [1,2].

A retrospective series of 278 patients showed 11% recurrence after surgery [2]. O’Connor et al. reported 75 % recurrence rate of CMF of forefoot, one of the patient had recurrence 19 years after surgery [9]. There is documentation of malignant potential in the literature [9,10]. Curettage alone [11,12] and curettage with bone grafting [12] showed high rate of local recurrence.

In this case, despite curettage & bone grafting for CMF of great toe, local recurrence was seen. Since there was excessive soft tissue involvement and the toe was not salvageable, amputation was considered.

References