CASE REPORT OF A PATHOLOGICAL FRACTURE OF DISTAL FEMUR THROUGH SIMPLE BONE CYST

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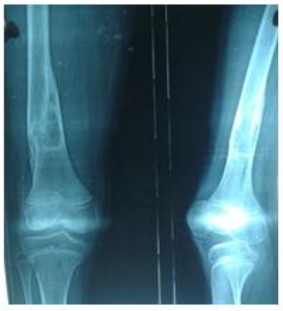
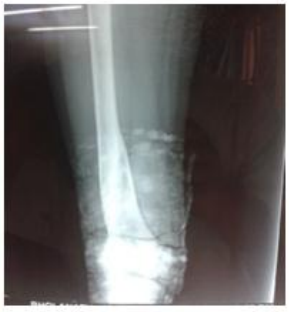
ABSTRACT: Simple bone cyst is a benign cystic lesion which occurs in metaphyseal region of long bones. Cyst if left untreated may resolve spontaneously. If pathological fracture occurs through the may heal with complete regression of the cyst. In this article we present one such case which has regressed on its own following a pathological fracture.
KEYWORDS: Simple Bone Cyst, Pathological fracture.

INTRODUCTION: Simple bone cyst also called as unicameral bone cystic condition which occurs from the metaphyseal region of long bones. It may be asymptomatic or may present with pain and pathological fracture. Cyst may resolve spontaneously or may require operative management. If pathological fracture occurs cyst may heal spontaneously and may even lead to regression of cyst.

CASE REPORT: 10 years old boy from Nanded Maharashtra had a fall and sustained injury to right lower thigh. Patient presented with pain and inability to move right leg. X done showed a pathological fracture through cyst. Cyst was well defined and not loculated. There was no invasion into cortex or joint line. Biopsy was taken and sample as sent for histopathological examination. Until then patient was managed with skin traction and analgesics. Histopathological examination revealed that it was a non-malignant condition. Patient was discharged on skin traction. Considering the age of the child and non-malignant nature of lesion it was planned to conserve the lesion. Patient was followed up every month and for every visit an X-ray was taken and union was assessed. Patient was advised non-weight bearing. Satisfactory healing was seen. Patient was able to weight and walk without any difficulty at 6 months of follow up. X-ray showed good union with callous around fracture site. There was also spontaneous regression of cyst.

Follow up X rays showing healing of fracture and Cyst regression

DISCUSSION: Simple bone cyst also known as unicameral bone cyst or solitary bone cyst is a benign cyst that occurs in metaphyseal region. Most common bones affected are proximal femur, proximal humerus and calcaneum. Occurs in 2nd decade of life. Male to female ratio is 2.5:1.[1,2,3,4,5]

Various mechanisms have been proposed in aetiology of simple bone cyst. It may be a synovial retention cyst or it may occur due to dysplasia following trauma or may occur due to occlusion of venous outflow. Occlusion of venous is the most commonly accepted theory now. Pressure inside cyst is found to be higher than the pressure inside venous system. When a dye is injected into the cyst it enters into the venous system.[1,4,5]

Cyst is not a true cyst as it is not lined by epithelium. It is lined by fibrous tissue. There may be some giant cells in the fibrous layer. Fluid inside is straw yellow coloured and contains high amount of free radical scavengers, prostaglandins and interleukins etc. Cyst may be active or latent. Cyst that are closer to physis are active cyst while those that are away from physis are latent cyst.[4,5]

Cysts are usually asymptomatic and discovered incidentally. Cyst may produce minor symptoms like pain, feeling of warmth etc. Cyst may be discovered due to a pathological fracture that occurs through a cyst. Fracture occurring through a cyst is usually linear and minimally displaced. Cyst may heal spontaneously along with fracture. Cyst may also regress spontaneously after closure of physis. Cyst usually managed conservatively and observed every 3 to 6 months to detect any increase in size. If the size is increasing then an intervention may be required. Sometimes biopsy of the cyst wall taken for diagnostic purpose may also stimulate the regression of cyst which occurred in our case. [1, 5, 6]

In our case patient had a fracture of distal femur through cyst. Biopsy of cyst wall was taken for diagnostic purpose which served as stimulus for regression of cyst. This resulted in spontaneous regression of cyst along with healing fracture.

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