Case Report

Fibrous dysplasia of neck of femur – an interesting case

Manu Prakash H.S.[1], Rangnath N.[2]

[1,2]Assistant Professor, Department of Orthopaedics, K. V. G. Medical College, Sullia, Karnataka, INDIA.

Email: drhsmanu@gmail.com

Abstract

Fibrous dysplasia is a developmental disorder of remodelling in the primitive bone resulting in replacement of osteoid by fibrous tissue. It is more commonly seen in long bones. Pathological fracture and deformities are common in proximal femur and tibia. Treatment includes curettage and cortical bone grafting with or without internal fixation. In the present case, thorough curettage and cortical bone grafting with minimal internal fixation was done with good results.

Keywords: Fibrous dysplasia, curettage, bone grating, internal fixation.

[*]**Address for Correspondence**

Dr Manu Prakash H.S., Assistant Professor, Department of Orthopaedics, K. V. G. Medical College, Sullia, Karnataka, INDIA.

Email: drhsmanu@gmail.com

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INTRODUCTION

Fibrous dysplasia is a common benign skeletal lesion that may involve one or multiple bones which occurs throughout the skeleton with a predilection for long bones, ribs and cranio facial bones. Incidence is around 5-7% of benign bone tumors[1,3,4,7]. It has no gender predilection. It is usually asymptomatic unless a fracture occurs. Treatment includes curettage and cortical bone grafting as cancellous bone grafting is associated with high recurrence. Additional procedures include osteotomy, plating, nailing to correct the deformity.

CASE REPORT

A boy aged 10 years presented with pain ans limp in right hip since one month. No history of injury or constituitional symptomps present. On examination, tenderness present over anterior hip joint line and terminal range of internal rotation was painful. No deformities or limb length discrepancy present. Radiological findings showed lytic lesion over infero medial aspect of neck of femur with pathological fracture. CT scan sections confirmed the above findings. Based on the clinical and radiological findings provisional diagnosis of fibrous dysplasia was made and curettage and cortical bone grafting procedure was planned.

PROCEDURE

Under spinal anesthesia, standard lateral approach made and the lesion exposed and confirmed under image intensifier. Cortical window was made and the lesion was thoroughly curetted out under direct vision until the wall bleeding was visualised. Cortical graft harvested from iliac crest was packed into the lesion and a cancellous screw fixed for the pathological fracture stabilisation as the fracture was unicortical. Patient was mobilised with non weight bearing for 6 weeks and full weight bearing after 4 months. Tissue was sent for biopsy. Histo-pathological report was osteofibrous dysplasia.

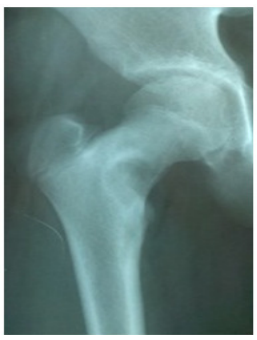

Image 1: pre op X ray

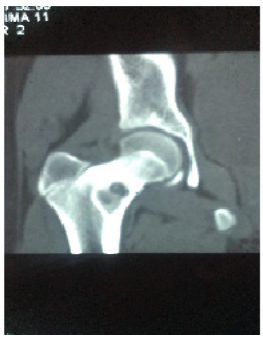

Image 2: CT section shows lytic lesion with pathologic fracture

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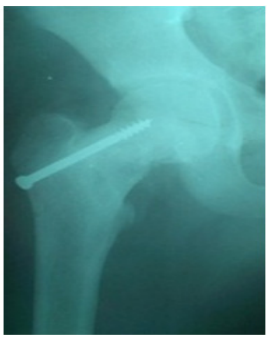
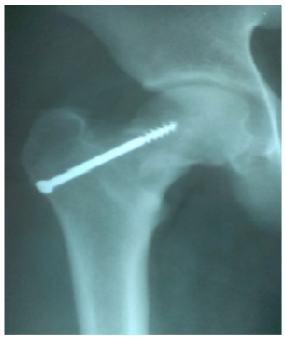

Image 3: one year post op X ray **Image 4:** immediate post op X ray

DISCUSSION

The term fibrous dysplasia was originally proposed by Lichtenstein in 1938[12]. It can be classified into 3 categories. Monostotic fibrous dysplasia involves one bone and many of these patients remain asymptomatic unless fracture or swelling occurs. The polyostotic form is more severe involving multiple bones after one side of the body is severely affected resulting in deformity and limb length discrepancy. The third category polyostotic form with endocrine abnormalities is the least common. Fibrous dysplasia results from failure of maturation form to lamellar bone leading to weakened bone and pathological fracture. Healing after pathological is comparable with that of normal bone[4,5,7]. The radiological appearance in characteristic with the lucent area having a ground glass appearance[4]. Operative intervention is needed when there is pathologic fracture, deformity or when the pain becomes persistent. The accepted principle in the treatment of the lesion that are painful or at risk of fracture, even if asymptomatic is curettage and bone grafting. Other surgical treatment alternatives include valgus osteotomy, plating, IM nailing and oblique wedge osteotomy[6,7,9]. In 1986, Enneking and green reported unsatisfactory results in most patients with cancellous bone grafting and satisfactory results using cortical bone grafting for fibrous dysplasia of proximal femur[8]. Nakashima *et al* reported satisfactory results after curettage and bone grafting for monostotic disease of the femoral neck. They did not report the size of the lesion or the type of graft[10]. It is generally accepted that monostotic lesions are easier to treat, are associated with better out comes, necessitate fewer operations and result in fewer fractures. A cortical bone is less likely to be resorbed than cancellous bone and is more likely to provide permanent support. Cortical grafts are considered superior as they provide structural support[8]. Harris *Et al* in 1962 reported four good and five poor results after curettage and cancellous bone grafting[4]. Stewart *Et al* reviewed the Campbell Clinic experience with curettage and cancellous bone grafting and found thirteen unsatisfactory and twelve satisfactory results in 25 patients[15]. Stephenson *Et al* reported satisfactory results following fixation with compression plates, sliding hip screws and IM rods. Risk of refracture was high after implant removal[11]. Depalma and Dodd concluded that medial displacement osteotomy is the best procedure for polyostotic fibrous dysplasia with deformity[14]. For a simple lesion without deformity internal fixation with standard devices cause more morbidity, delayed recovery and high risk of fracture after implant removal. In the present case simple procedure with curettge and cortical bone grafting with minimal internal fixation such as screw fixation leads to less morbidity, early recovery with reasonably good structural support.

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