University Journal of Surgery and Surgical Specialities

ISSN 2455-2860 2018, Vol. 4(1)

Long term follow up of recurrent monostotic fibrous dysplasia of humerus treated with non vascularised allogenous fibula graft

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Abstract : Fifteen year old student who had monostotic fibrous dysplasia at the age of 6 years treated with cancellous bone graft ends up with recurrence. Which was treated with allogenous fibula strut graft from his mother and followed up for 8 years with excellent functional outcome with radiological incorporation of graft with host bone with no evidence of recurrence.

Keyword : Monoostotic fibrous dysplasia, Allogenous fibula graft. Bone tumour

Introduction :

Fibrous dysplasia is a benign skeletal disorder of adolescents and young adults in which the medullary canal is replaced and weakened by fibrous tissue[4]. It may affects single bone or multiple bones. Management is mainly to prevent pain ,limit deformity and treat pathological fractures. Curettage and cancellous bone grafting have been used to replace the dysplastic fibrooseous tissue with normal bone, but this is associated with high rate of recurrence[11] which can be prevented by use of cortical autograft or allograft. The purpose of the study is to review the long term follow up of clinical , functional, and radiographic results of using intramedullary allogenous strut graft for large humeral defects created after excision of fibrous dysplasia.

Materials and methods :

15 year old male student with monostotic fibrous dysplasia of left humerus(figure 1 a) at the age of six years presented to our hospital for which through deltopectoral approach curettage and allogenous cancellous graft taken from his mother's iliac crest used for grafting(figure 1 b) . Histopathological examination showed evidence of fibrous dysplasia. The lesion recurred in one year(figure 2 a).

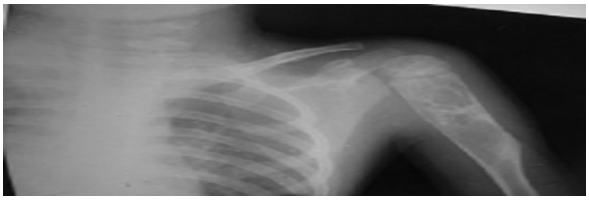


fig 1 a- Lytic lesions initial radiograph showing fibrous dysplasia

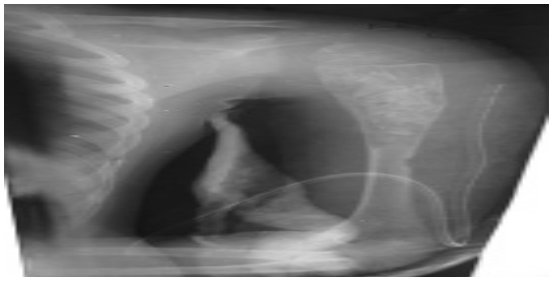
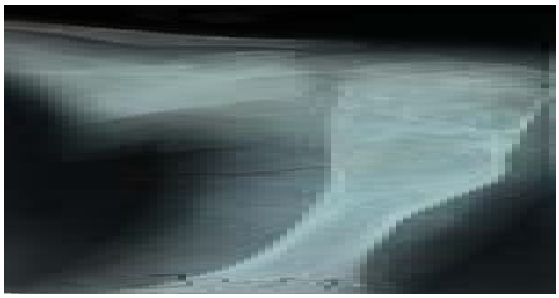
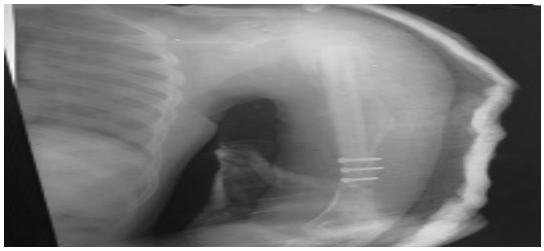


fig 1 b- Immediate post op after curettage and cancellous bone graft fig 2 a- Lytic lesion in proximal humerus



Routine investigations normal. X –ray left arm show lytic lesion in medulla representing recurrence of fibrous dysplasia(figure 2 a).

Operative technique :



Under general anaesthesia patient in supine position through anterolateral approach, pathological bone excised and defect found to be more . Fibula graft taken from his mother used as cortical strut with excess bone telescoped to normal medullary canal and fixed with three 3.5 cortical screws(figure 2 b).

figure 2 b- Immediate post op picture with allogenous fibula graft

Post operatively patient kept in splint. Suture removal done on 12th day. Passive motion started on 3 rd day. Active mobilisation started at 6 weeks. Follow up done with clinical and radiography showed excellent results with good range of movements in shoulder, elbow and hand.

Results :

Eight year follow up shows complete range of movements in shoulder elbow and hand comparable to his normal limb with no pain or deformity(figure 3 a & figure 3 b). Radiography shows incorporation of allogrft to host bone with consolidation(figure 2 c &figure 2 d).

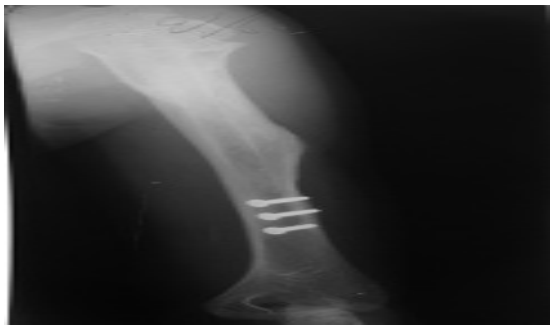


figure 2 c-Two years post op picture with incorporation of allogenous fibula graft with borders seen

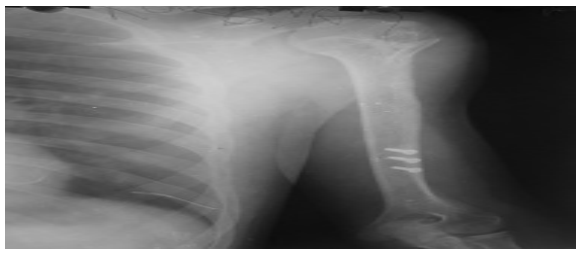


fig 2 d-8 year follow up with incorporation of graft with host bone fig 3 a- Clinical picture good range of movements fig 3 b- Clinical picture with good range of movement

Discussion :

Fibrous dysplasia is benign , pathological condition characterised histologically by poorly oriented osseous trabeculae weakened by replacement with fibrous tissue. Curettage and cancellous bone graft(normally takes place by creeping substitution) causes replacement of graft with poorly formed woven bone which can cause recurrence as in our case. Allogenous bone graft taken from his mother provide structural stability and also as a cortical graft for healing[1]. We conclude that fibrous dysplasia treated with allogenous non vascularised fibula graft from mother incorporate well in children provide both mechanical and graft benefits with no immunological reactions and no recurrence.

References

1. Hsin-nungshih et al. Allograft for humeral defects.chang gung med J vol 25.no.10.october 2002.

2. Shih et al. Allogenic cortical strut for benign lesions of humerus in adolescents. J ped orthop 1997 : 17:433-6

3. S.M. Kumta et al . vascularised bone grafting for fibrous dysplasia of the upper limb. JBJS 2000. 82-H:409-12

4. Lichensteinet al. fibrous dysplasia of bone . Arch pathol 1942:33:777-816

5. Grabs et al . Fibrous dysplasia. Orthop clin north aam 1977:8:771-83.

6. Enneking et al. clinical musculoskeletal pathology. 1990 -266-7

7. Henry et al. Monostotic fibrous dysplasia. JBJS 1969,51 -B:300-6

8. Welland et al . Bone grafts.Plastic reconstr surg 1984 :74:79.

9. Stephenson et al. Fibrous dysplasia :an analysis of options for treatment. JBJS 1987:69-A:400-(

10. Burchard et al. Transplantation of bone surg clin.north am 1978 :58:403-7

11. Kumar et al. Fibrous dysplasia of prox part of femur.JBJS 1998-80-A 648-58.