

AN UNUSUAL CAUSE OF CUBITUS VARUS- NON UNION OF LATERAL CONDYLE OF HUMERUS

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ABSTRACT

A 12 year old girl presented in our clinic with a varus deformity of the left elbow. There was history of injury around the left elbow at 9 years of age which was treated conservatively elsewhere. The girl reportedly had an uneventful recovery and there was rapid return of activity and function. However the girls parents started to notice a gradual onset of varus deformity over a period of 2 years. There were no symptoms according to the girl. We examined her and ordered routine X-rays which confirmed the reversal of the carrying angle and surprisingly, evidence of non- union of the lateral condyle. Cubitus varus is a malalignment of the distal humerus that results in a change of carrying angle from the physiologic valgus alignment of 5-15 degrees of the arm and forearm. Typically it is a complication of supracondylar fracture of the humerus with a freq impairment. The present case had an uncommon etiology and was treated surgically.

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INTRODUCTION

A 12 year old girl presented to our hospital with a varus deformity of the left elbow. There was history of some injury to the left elbow 3 years back which was treated elsewhere with immobilization. There was uneventful recovery and the girl rapidly regained function of the arm. However there started a gradually increasing varus deformity which necessitated the visit to the hospital.

After examination a preliminary diagnosis of malunited supracondylar fracture with cubitus varus deformity left humerus was made. Routine X-rays were ordered which confirmed the cubitus varus but revealed a non union of the lateral condyle. A surgical intervention was planned for the correction of the deformity as well as ensure the union of the lateral condyle. With the patient under general anaesthesia and under tourniquet control, the distal humerus was approached posterolaterally. A lateral closing wedge osteotomy was performed in the metaphyseal region. The site of non union was identified and the cortical aspect was freshened. Multiple fine drill holes were made across the non union site and the fragment itself was only minimally disturbed. The non union site and the osteotomy were secured with a 4.0mm cannulated screw and 2 K- wires.

The bone graft obtained from the wedge osteotomy was placed about the non union site on the cortical aspect. Post operative period was uneventful.

Range of motion exercises were instituted at 3 weeks time. Subsequent examination and X-Rays showed correction of the deformity and union of the lateral condyle.



Fig 1 Preoperative



Fig 2 Preoperative

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Fig 3 Post Operative



Fig 4 Healing



Fig 5 Healed osteotomy and nonunion

DISCUSSION

Cubitus varus is one of the most common complication of supracondylar fracture of humerus in children treated with non operative management without reduction and fixation, incidence of which varies from 4% to 58%. Most surgeons consider the deformity to result from inadequate reduction that leaves a residual rotator deformity that can collapse into medial tilt and result in a varus deformity.

There is evidence in literature of increased propensity of lateral condylar fractures of humerus in pre existing cubitus varus(1) and clear evidence of valgus deformity at elbow after lateral condyle fractures(2). The challenge of attaining union at the non union site has been cited several times in literature and much emphasis has been placed on obtaining a rather stable fixation across the site using preferably using screws(3,4,5).

The various methods of correcting the varus deformity and securing the fixation of the osteotomy are as follows, the list not being complete whatsoever: medial opening wedge, lateral closing wedge, step-cut, dome and oblique with derotation(6,7,8,9,10). The presented case was a case of cubitus varus with an unusual etiology of non union of lateral condyle.

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