

Gradual Ulnar Lengthening by Ilizarov Ring Fixator For Correction Of Masada IIb Forearm Deformity Without Tumor Excision In Multiple Hereditary Exostosis, Preliminary Results".

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INTRODUCTION:

Bony exostoses are benign osteocartilaginous growths that start close to growth plates. Thirty to 60% of patients have forearm deformities. The Commonly seen forearm deformities in these patients are: bowing of the radius, with or without ulnar drift of the carpus, radial head dislocation, shortening of the ulna and radial head dislocation.

The current study reported on the results of management of radial head dislocation for type IIb Masada and Oho classification of forearm deformities by Ilizarov ulnar lengthening and without tumor excision.

METHODS:

A series of twelve patients with Masada type IIb deformity were treated by Ilizarov lengthening at AlHadra University Hospital, Alexandria, Egypt during the period of January 2008 to June 2014. There were 8 males and 4 females; right forearm was affected in 7 patients. The mean age of the patients was 8.7 years (range from 7.5 to 10 years). All cases showed ulnar shortening with distal ulnar exostosis and radial head dislocation (Masada type IIb). All patients were operated under general anesthesia, with application of Ilizarov frame to the forearm. The frame used was assembled of 2 complete rings, the proximal one was fixed to the proximal ulna and the distal ring was fixed to both radius and ulna. Ulnar osteotomy was performed between the two rings, followed by ulnar lengthening 10 days postoperatively to lengthen the ulna and pull down the radius.

RESULTS:

At a period of follow up of 33.2 months (24- 48 months) all patients showed spontaneous reduction of the radial head and correction of the forearm deformity. The range of motion improved: flexion increased from 117.5° (110-130°) to 145° (130-160°), extension reached to 4.6° (0-10°) while it was 13.8° (10-20°) preoperatively and the supination increased from 46.3° (40-50°) preoperatively to 73.6° (65- 80°) postoperatively, pronation improved from a preoperative average of 37.9 ° (30-40°) to 70.8 ° (60-80°) at the end of follow up. The average amount of ulnar length (AUL) was 27.9 mm (25- 35) and the duration of external fixation was 103.3 days in average with a range of (90- 130). Thus, the average external fixation index 3.7 day/mm (range 3.6- 4.0).

DISCUSSION AND CONCLUSION:

Gradual lengthening of the ulna and pulling down the radius with an Ilizarov frame is an excellent method for correction of forearm deformity in patients with multiple hereditary exostosis (Masada IIb). Early intervention is the key stone in achieving spontaneous reduction of the radial head in all patients without the need of corrective osteotomy or tumor excision.