

Effectiveness of Centromedullary Fixation by Metaizeau Technique in Challenging Pediatric Fractures

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Abstract : We report three cases of challenging fractures in children treated by intramedullary fixation using the Metaizeau method and achieved anatomical reduction with excellent clinical results. Jean-Paul Metaizeau described the centromedullary fixation for the radial neck in 1980 using K-wires. Radial neck fractures are uncommon in children. Treatment of severely displaced fractures is always challenging. Closed reduction techniques are more popular as compared to open reduction due to the low risk of complications. Metaizeau technique of closed reduction with centromedullary pinning is a commonly preferred method of treatment. We present two cases with a severely displaced radial neck fracture, treated by this method and achieved sound union; anatomical position of the radial head and full function were observed two months after surgery. Proximal humerus fractures are another uncommon injury in children accounting for less than 5% of all pediatric fractures. Most of these injuries occur through the growth plate because of its relative weakness. Salter-Harris type I is commonly seen in the younger age group, whereas type II & III occurs in older children and adolescents. In contrast to adults, traumatic glenohumeral dislocation is an infrequently observed condition among children. A combination of proximal humerus fracture and glenohumeral dislocation is extremely rare and occurs in less than 2% of the pediatric population. The management of this injury is always challenging. Treatment ranged from closed reduction with and without internal fixation and open reduction with internal fixation. The children who had closed reduction with centromedullary fixation by the Metaizeau method showed excellent results with the return of full movements at the shoulder in a short time without any complication. We present the case of a child with anterior dislocation of the shoulder associated with a complete displaced proximal humerus metaphyseal fracture. The fracture was managed by closed reduction and then fixation by two centromedullary K-wires using the Metaizeau method, achieving the anatomical reduction of the fracture and dislocation. This method of treatment enables us to achieve excellent radiological and clinical results in a short time.

Keywords : glenohumeral, Metaizeau method, pediatric fractures, radial neck

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