

Iatrogenic Radius Physeal Separation During Intramedullary Wiring of Both Forearm Fracture

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INTRODUCTION:

Paediatric forearm fracture are the commonest injury encounter in orthopedic. Regarding, intramedullary nailing of paediatric and adolescent fractures, overall complication rates range from 6% to 43%. We report the occurrence of iatrogenic radius physeal separation during intramedullary wiring.

REPORT:

A 6 year old girl fell on outstretched left hand while playing. Post trauma sustain pain and deformity of left forearm. Her forearm appeared swollen and tender along the bony area without significant wound. However no neurovascular abnormality detected. Plain radiograph revealed transverse fracture of midshaft radius and ulna without intrarticular involvement.

She then underwent close reduction and intramedullary kirshner wire (k-wire) of left radius and ulna at 1 week of injury after failed non-operatively with cast. Pre-operatively, after initiation of anaesthesia and under sterile method, skin incision was made at entry point for wire insertion at dorsoradial aspect distal radius at a site 2cm proximal from radial physis. The subcutaneous, neurovascular and tendinous structure carefully separated. 2.7mm drill used to creat entry point unicortically. Then, 1.6mm (k-wire) bended at distal for better direction control and inserted using T handle via twisting and pushing pattern until resistance felt.

On fluoroscopic image noted wire to have fixation at isthmus and type 1 salter harris fracture of distal radius with large physeal separation. Thus, decided for open reduction via henry approach and intramedullary wire inserted through radial styloid, epiphyseal plate and original fracture. Subsequently, ulna fracture also

fixed with intramedullary wire. A cast applied at the end of procedure. During follow-up, both fracture healing uneventfully without any length discrepancy.

CONCLUSION:

Intramedullary wiring provide less significant risk to patient. However, the complication of physeal fracture during the procedure has rarely been described. Hence, we advised the proper intra-operative plan such as correct technique, wire size and approach should be highly considered to avoid this complication.

REFERENCES:

1. Cory A et al., Iatrogenic Distal Radial Fracture During Insertion of Intramedullary Fixation for Both Bone Forearm Fracture; Pg1-6.