

Paediatric Radial Neck Fracture: A Rare O'Brien Class III Fracture

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INTRODUCTION:

Radial neck fracture is an uncommon type of fracture in the paediatric population. We present a rare case of O'Brien Class III radial neck fracture in a child treated with an open reduction and Kirschner wiring (K-wiring).

CASE REPORT:

Ms K, a 10-year-old girl with no underlying medical illness, sustained a closed left radial neck fracture O'Brien Class III with an angulation more than 60 degree after an alleged fall onto her outstretched left arm. Effort to reduce the fracture using a closed method with percutaneous K-wiring was futile due to severely displaced fracture. Hence, an open reduction and K-wiring were performed. The K-wire was removed on the 3rd week post-operatively and the patient recovered well with a fair outcome based on the Steinberg and Rodriguez-Merchan classification.



Figure A showed the initial plain radiograph of the left elbow and it was irreducible with percutaneous K-wiring.

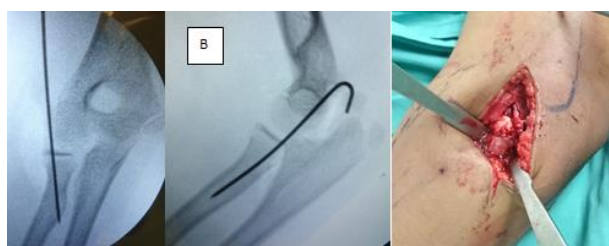


Figure B showed the reduction of the left radial neck fracture using an open technique with a K-wire inserted to stabilize the fracture.



Figure C showed the patient's functional and cosmetic outcomes post-operatively.

DISCUSSIONS:

The treatment of paediatric radial neck fracture varies based on the displacement, degree of angulation and skeletal maturity. It is normally treated with a closed reduction and casting or surgically with percutaneous pin reduction or elastic intramedullary nailing. Open reduction is indicated when the displacement is more than 30% with angulation more than 45 degrees and failure of closed reduction.

Patients treated with open reduction are associated with poorer outcomes in view of the more severe nature of the injury. These patients require follow-up of long duration due to the risk of premature epiphyseal plate closure and avascular necrosis.

CONCLUSION:

Paediatric radial neck fracture is an uncommon injury and is associated with a high complication rate.

REFERENCE:

F Falciglia et al. Radial Neck Fractures in Children: Results When Open Reduction Is Indicated. *J Pediatr Orthop* 2014;34:756-762.