

Closed Reduction and Titanium Elastic Nail (Ten) in Pediatric Radial Neck Fracture - A Case Report

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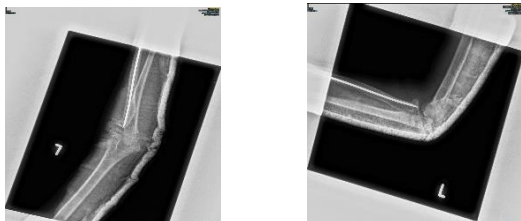
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INTRODUCTION:

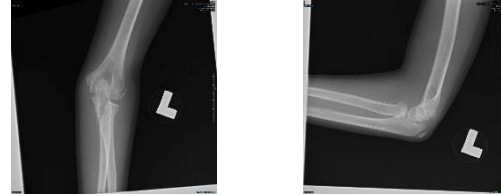
Radial head and neck fracture in children are infrequent but when not managed accurately can lead to complications. Paediatric radial neck fracture with angulation >30 degree (Judet Type III, IVa and IVb), surgical intervention often need to achieved satisfactory outcome. Open reduction permits anatomical reduction but gives high risk of avascular necrosis and the risk of radioulnar synostosis [1]. Métaizeau described in 1980 his technique of intramedullary reduction and fixation of the displaced radial neck fracture using a K-wire. This permits extracapsular but intramedullary reduction and fixation and early mobilisation. In 1993 he further developed this method to reduce and fix the displaced radial neck fracture by the use titanium elastic (TEN).

REPORT:

8 years old boy, alleged fell while playing, was complaining pain and swelling over left elbow. X-ray showed left radial neck fracture. He underwent close manipulation reduction and TENs insertion over left radius. He was discharged on day 1 post operation. During follow up, no complications noticed and patient showed satisfactory functional outcome. Evidence of union observed at 8 weeks post TENS insertion. Subsequently, TENS was removed at 12 weeks post operation.



Picture 1 & 2: Post-op left elbow X-ray



Picture 3 & 4: Right femur X-ray – united fracture

DISCUSSION

Luigi T. et al. reported excellent results in Mayo elbow performance scores (MEPS) were obtained in 71 and 69 % of TENs and percutaneous pinning groups respectively, with good results higher range of motion (ROM) in flexion, extension and pronation in TENs group [2]. Complications reported by Nisar et al, out of 26 patients, only 1 had radial head necrosis, 1 posterior angulation of 15°, and 1 radial head displacement however all complications were resolved without long-term effects [3]

CONCLUSION:

TENS is a simple, easy to perform, and obtains exciting results with few complications.

REFERENCES:

- 1) Pseudo JV et al “Leverage Method in Displaced Fracture of Radial Neck,” Clinical Orthopaedics, Vol. 169, 1982, pp. 215-217.
- 2) Tarallo L, et al “Management of displaced radial neck fractures in children: percutaneous pinning vs. elastic stable intramedullary nailing”. J Orthop Traumatol. 2013 Dec;14(4):291-7.
- 3) Nisar A et al. “Complications of Elastic Stable Intramedullary Nailing for treating paediatric long bone fractures”. J Orthop. 2013 Feb 26;10(1):17-24.