

Maintenance Method of Preliminary Closed Reduction Prior to Lateral Percutaneous Pinning for Displaced Paediatric Supracondylar Fractures

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INTRODUCTION

Paediatric supracondylar humerus fractures are common presentation to Orthopaedic Service. Closed manual reduction (CMR), percutaneous pinning and cast immobilization is a proven effective method of treatment for Gartland IIa and above fractures. We present a case of a Gartland III fracture which were preliminarily reduced under fluoroscopy and maintained with a simple splint using soft compression bandaging prior to lateral pinning procedure.

REPORT:

A 5-year-old boy was brought to the emergency department with a painful & deformed right elbow following a mechanical fall. Radiographs confirms a displaced Gartland III fracture. Clinically, there were no open wounds, neuropraxia, compartment syndrome or vascular compromise of the right upper limb. The elbow was initially splinted with an above elbow backslab and armsling while waiting for surgery.

After anaesthesia have been given, initial skin cleansing was performed followed by preliminary CMR (Right elbow was fully flexed, wrist supinated, lateral-medial control achieved using thumb and index finger pressure by surgeon) under fluoroscopy. The wrist and upper arm are bandaged using a soft compression bandage to maintain position once satisfactory reduction is achieved. Routine skin preparation with iodine and draping done at the elbow region. This is then followed by percutaneous lateral pinning and above elbow casting. At all times, the surgeon checks that the reduction is maintained.

Preliminary CMR and splinting using bandages adequately maintains acceptable reduction prior to pinning. Procedure time was much quicker, and this method also gives the surgeon a rough idea if an open reduction is required in a Gartland III supracondylar humerus fracture.



Figure 1. Preliminary CMR and splintage

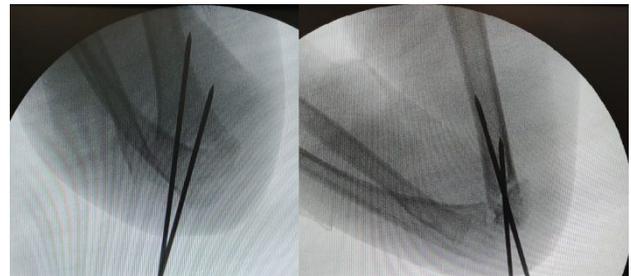


Figure 2. Lateral pins inserted.

CONCLUSION:

Practical strategies of CMR and maintenance of adequate reduction prior to percutaneous pinning of supracondylar humerus fractures aids the surgeon in achieving shorter operative time, prevents open reduction and reduces the need for trained assistant to manually maintain reduction during procedure. Care must be taken not to use this method unstable comminuted Gartland fractures.

REFERENCES:

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