

Pink Pulseless with Anterior Interosseus Nerve Injury Following Supracondylar Humerus Fractures

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INTRODUCTION:

Supracondylar humeral fracture being the most common fractures in paediatric population (Solomon, Warwick, & Nayagam, 2010). With increasing fracture displacement, the risk of neurovascular injury in children has been reported as high as 49% owing to the proximity of the brachial artery and major peripheral nerves to the elbow joint. The management of patients that present with a perfused, viable hand yet no pulse continues to be a source of controversy.

REPORT:

11 years old, Malay, boy, alleged fall from horse with left elbow hit the ground. Post fall, he sustained left elbow swelling, pain and deformity. On examination, swelling and deformity left elbow, bruises anteromedial aspect antecubital fossa, reduce sensation at median nerve distribution with +ve benediction sign. Radial and ulna pulses not palpable, pink peripheries, CRT immediate. We proceed with CTA left upper limb, showing non opacification distal third of left brachial artery till ulna-radial bifurcation possible vascular spasm, compression or thrombosis. Patient underwent emergency open reduction and pinning left supracondylar. Post operation, pulses was returned back with good circulation.

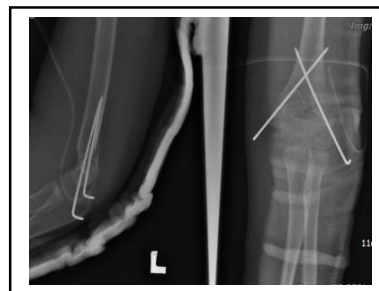
Supracondylar fractures can be significant injuries with a reported incidence of associated nerve injuries between 11% and 15%. Posterolateral displacement of the fracture fragment is more likely to injure the median nerve while posteromedial displacement more likely to have radial nerve injury. The incidence of vascular compromise with displaced supracondylar humerus fractures specifically has been reported between 2.6% and 18.6%, and most often associated with extension-type



a. closed fracture supracondylar fracture



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c. Post open reduction and pinning

fractures with posterolateral displacement (64%). In the 'pink, pulseless hand', a concurrent nerve palsy prompts early exploration as it is strongly predictive of nerve and vessel entrapment. Majority of patients were treated with prompt surgical reduction, stabilization, and vascular exploration, have a **good functional outcome** (POSNA-approved survey) and vascular status. Vascular exploration approach needs to be considered in managing those patients for the restoration of brachial artery patency, even though, majority of surgeons choose "watchful expectancy" approach in pink pulseless hand.

CONCLUSION:

Neurological and vascular injuries occur in patients with displaced supracondylar humeral fractures. There remains substantial controversy regarding the management of patients who have

a perfused, pulseless extremity following a supracondylar humeral fracture.

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