

Pulseless Paediatric Supracondylar Humeral Fracture: A Case Report

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INTRODUCTION:

Supracondylar fracture of the humerus is the most common type of elbow injury in the paediatric population. An algorithm has been proposed to aid the management of pulseless supracondylar humeral fracture. We present a case of pulseless-but-pink supracondylar fracture of the humerus which is being successfully salvaged via surgical intervention.

CASE REPORT:

NB, a 6-year-old right hand dominant boy, presented to the hospital complaining of left elbow swelling and pain for 16 days after sustaining a fall on his left outstretched hand. His left elbow was deformed with absent radial and brachial pulses on palpation and Doppler examination. Plain radiographs revealed a Gartland III left supracondylar humeral fracture with the medial edge of the proximal fragment obtruding into the skin. Intra-operatively, the brachial artery was found to be partially transected with surrounding hematoma and callus formation at the fracture site. He underwent brachial artery repair and cross Kirschner wiring for the supracondylar humeral fracture.

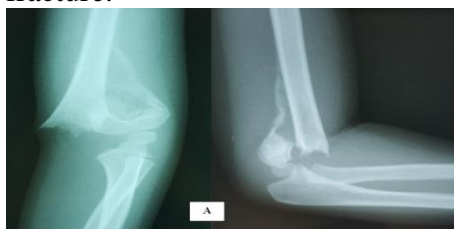


Figure A: Initial plain radiographs of the left elbow showing a Gartland III supracondylar humeral fracture.

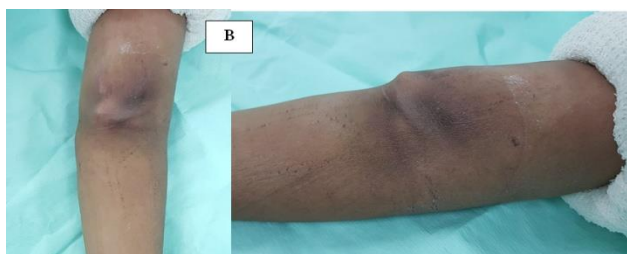


Figure B: The medial edge of the proximal fragment is obtruding into the skin causing severe pain.



Figure C: Intra-operatively, the brachial artery (looped by a blue vessel loop) is noted to be partially transected by the sharp edges of the proximal fragment.

DISCUSSIONS:

In supracondylar humeral fracture, any displaced fracture fragments can cause injuries to the surrounding soft tissues including the brachial artery, median and ulnar nerves. Vascular injuries can be present in up to 20% of these patients. This patient, to our knowledge, is the first to present late after sustaining a pulseless-but-pink supracondylar humeral fracture.

Based on the treatment algorithm, a gentle traction or closed reduction is recommended in patients with well-perfused pulseless injury. However, this is not applicable for him as the injury is 16-day-old with callus formation at the fracture site. Instead, an open exploration and reduction is done to avert further damage. Intra-operative findings have confirmed our suspicion as the partially-transected brachial artery is lying adjacent to the fracture site.

CONCLUSION:

Each patient with pulseless supracondylar fracture should be assessed thoroughly with the management tailored to each patient.

REFERENCES:

1. H Badkoobehi et al. Management of the pulseless paediatric supracondylar humeral fracture. *J Bone Joint Surg Am.* 2015;97(11):937-43.