

LATERAL HUMERAL CONDYLE FRACTURE IN PRE-EXISTING POST-TRAUMATIC SUPRACONDYLAR HUMERUS FRACTURE WITH CUBITUS VARUS DEFORMITY

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Introduction: In children, the most common complication following displaced supracondylar fractures is cubitus varus deformity, or gunstock deformity.¹ Its incidence ranges from 9 to 58%.² Cubitus varus occurred in cases treated with closed manipulative reduction and cast immobilization, as well as those treated with percutaneous pinning.² Left untreated, cubitus varus can predispose to lateral humeral condyle fractures, as depicted in the following case.

Discussion: The patient was first seen in July 2016, a 4 year old boy who presented with a left supracondylar fracture Gartland 2. He was treated non-operatively with an above elbow cast for one month, and then commenced on range of motion exercises. Patient then gradually developed cubitus varus of the left elbow. However later defaulted his follow up. He presented again in August 2019 with left elbow pain and swelling after a fall. He sustained a left lateral condyle fracture and was planned for open reduction and fixation of the lateral humeral condyle with K-wires and a screw, keep in view corrective osteotomy. Intra-operatively after fixation it was decided for corrective osteotomy later. Mean age of initial supracondylar fracture is 5.7 years.¹ while subsequent injury occurred around 2 years 8 months after.² All cases involved were Milch type II fractures with similar mechanism of injury.² Cubitus varus occurs as inadequate reduction causes rotational deformity which eventually tilts medially³ due to asymmetric forces of the biceps and triceps leading to coronal plane varus angulation.² This is initially not appreciated as the patient is unable to fully extend the elbow.² Davids et al suggested a two-stages, open reduction and internal fixation followed by valgus supracondylar osteotomy.² Razak et al performed a single stage surgery in lateral humeral condyle non-union with cubitus varus.⁴

Conclusion: Lateral humeral condyle fractures with pre-existing cubitus varus deformity can be treated with single stage or two-stage surgeries.