Rotational Deformity In Humeral Supracondylar In Children. Does It Matter?

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INTRODUCTION:
Isolated rotational deformity following fixation of supracondylar fracture of humerus is not well reported in literatures due to low incidence. Controversy arises when deciding whether it needs revision as little understanding that we have on functional outcome in child with such residual deformity.

METHODS:
We conduct a retrospective study of children who underwent closed reduction and percutaneous pinning following unstable supracondylar humerus fractures in 2013-2016. Patients were grouped into two; group 1 – those with acceptable reduction and no rotation and group 2 - those with clinical and radiological evidence of rotation. Range of motion, motion loss degree, and carrying angle loss were analysed. Demographic data and complications including nerve injury, pin tract infection were recorded.

RESULTS:
Significant degree of motion losses in flexion (p=0.015) and supination (p=0.022) were identified in patients with rotation. Motion loss of extension (p=0.44), pronation (p=0.153) and carrying angle loss (p=0.143) were not statistically significant. 19 (90.5%) patients with rotation achieved satisfactory results with excellent (7.0%), good (25.6%) and fair (11.6%) scores respectively. Only 2 (9.5%) had poor functional scores based on Flynn’s criteria All patients (n=22, 100%) without rotation had achieved satisfactory results based on Flynn’s criteria.

DISCUSSIONS:
Remodelling potential of supracondylar humeral fracture is not great based on the fact that distal humerus only contributes 20% of humeral growth [1]. Due to poor remodelling capacity, up to 30-45degree of rotation malignment in axial plane can be accepted as shoulder rotation can compensate [2].

CONCLUSION:
Children with residual rotation achieved satisfactory function despite some degree of flexion and supination loss. Our thought again based on the fact that compensatory shoulder rotation has taken place successfully enough to overcome such limitations, thus renders revision unnecessary.

REFERENCES: