When Competition Turns Risky: A Case Series Of Medial Epicondyle Fracture In Adolescents From Arm Wrestling.

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INTRODUCTION:

Humeral medial epicondyle fractures account for up to 12-20% of elbow fractures in paediatric and adolescents populations, with 60% associated with elbow dislocations. Isolated injuries can occur from direct trauma or avulsion. We present a case series of medial epicondyle fractures, its diagnostic challenges and treatment.

REPORT:

We report two cases of similar presentation, both patients were male and aged 15 and 17 respectively. Both were in an arm-wrestling competition with friends and were in winning position whereby their arms were internally rotated and wrists flexed. Both patients heard a click sound and subsequently felt pain and were unable to fully extend the elbow. Upon presentation at the emergency department, radiographs revealed an avulsion fracture of the humeral medial epicondyle. An above elbow splint was used for provisional stabilization, prior to screw fixation of medial epicondyle.

DISCUSSION:

The medial epicondyle humerus fracture is common amongst teenagers. Although direct impact is the primary cause, forceful traction of the attached flexor-pronator muscles can result in an avulsion fracture. In arm wrestling, the arm position will be in internally rotated, and wrist flexed, hence it induces a tractional force on the flexor-pronator apparatus which may result in an avulsion fracture at the medial epicondyle. Medial epicondyle is the last distal humerus ossification center to fuse at age 15-20, hence predisposing to fractures. Furthermore, adolescents of these age are less risk averse ergo increasing the likelihood of this occurrence. Despite having good, outcomes conservative treatment has shown high rates of non-union, therefore initial immobilization followed by early screw fixation was done.

Trauma Radiographs

Post-operative Radiographs

CONCLUSION:

Medial epicondyle fractures in adolescents can result from the tractional forces exerted at the origin of flexor-pronator muscles during activities such as arm wrestling, whereby the arm is internally rotated & wrist flexed. A high index of suspicion coupled with thorough examination and history taking is important to avoid missing such diagnosis and potentially devastating complications.

REFERENCE:

1. Rubini Pathy et al, Curr Opin Pediatr, 2015 Feb;27(1):58-66.