Lateral Epicondylar Fractures in the Pediatric Population: an Assessment of Patient Reported Outcomes

Ramesh Ghanta, Nicole A. Wunderlich, Todd W. Phillips[1], Rachel Silverstein[2], Indranil Kushare
[1]Baylor College of Medicine, [2]Texas Children's Hospital

INTRODUCTION:

Pediatric lateral epicondylar fractures are not well studied, with just a few case-reports in literature. There is no consensus on management strategies and no long-term data to assess outcomes in pediatric lateral epicondylar fracture.

METHODS:

IRB-approved retrospective case series included patients under the age of 18 years diagnosed with lateral epicondyle fractures from 2015-2021 based on clinical exam and radiographic findings which were agreed upon by all collaborators. Patient reported outcome measures (PROM) were assessed using the QuickDASH score and associated functional variables.

RESULTS:

22 patients (10 male, 12 female) with average age at time of injury of 10.5 years were included. Mean height, weight, and BMI were 144.2 cm, 41.3 kg, and 19.2 respectively. The most common method of injury was sports-related (9, 36.4%) while other cases were due to miscellaneous high-energy falls such as falls off bicycles, stairs, or hover boards. 16 (72.7%) patients sustained nondisplaced fractures versus 6 (27.3%) with displaced fracture. 12 (54.5%) patients had associated injuries, including 6 (27.3%) elbow dislocations on presentation, 4 (18.2%) isolated coronoid process fractures, 2 (9.1%) isolated ligamentous injuries. 3 (13.6%) patients presented with concomitant elbow fractures, most commonly the medial epicondyle. Primary treatment modality was rigid immobilization in long arm cast or splint for mean 4.1 weeks in 63.6% of patients. Physical therapy was recommended for 36.4% of patients. 3 (13.6%) patients required operative intervention, 2 for symptomatic nonunion and the other for LCL reconstruction**.** In 17 (77.2%) patients with mean follow-up time of 3.1 years, patients had Quick DASH score of 6.4 compared to mean 10.9 in general US population. PROMs were similar between isolated lateral epicondylar fractures and those with associated injuries.

DISCUSSION AND CONCLUSION:

Lateral epicondylar fractures are rare with variable means for injury leading to axial load and valgus directed force on a supinated forearm. Based on our case series, most fractures are nondisplaced, for which conservative management in a long arm cast is recommended. Care should be taken to evaluate for associated fractures and ligamentous injuries with displaced high-energy injuries which may require operative intervention or lead to nonunion. Patient-reported outcomes indicate that with appropriate treatment, this injury does not significantly affect long-term function.