

البحث السادس

Treatment of AO type C distal end radius fractures by external fixator and supplementary k-wires fixation.

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Aim of the study:

The aim of the study was to assess radiological and functional results of the external fixator with additional k wire fixation in the treatment of AO type C distal radius fractures.

Method:

From January 2014 to January 2017, a prospective study was performed on thirty patients with type C fractures of the distal end radius- according to the orthopedic trauma Association system (AO/OTA), treated by external fixator and supplementary k wire fixation. Data were collected included; age, sex, mode of trauma, and side of injury. Cases were evaluated radiologically by using Sarmiento et al. modification of Lidstrom's scoring system. The external fixator was removed after an average of 6-8 weeks postoperatively. The range of movement was measured using a standard goniometer and compared to the healthy side, clinical evaluation of the results include deformity, complications, range of moment were done according to modified Gartland and Werley's point system.

Result:

The mean \pm SD of the follow-up period was 12.2 ± 1.3 months. According to the AO/OTA classification system, all cases were type C fractures, 14 patients (46.7%) were classified as type C2 fracture, 12 patients (40.4%) as type C1, and 4 patients (13.3%) as type C3. The time from injury to surgery ranged from (0-14) days, with a mean of 8 days. Radiological evaluation at the final follow up was; the mean \pm SD for radial height was 9.8 ± 2.8 mm, dorsal angel 5.9 ± 2.4 degrees, and radial tilt 19.2 ± 3.7 degrees. In the majority of patients 25/30 (83.3%), articular step-off was ≤ 1 . The mean range of motion of the wrist joint was; flexion (66.8 ± 11.0) degrees, extension (65.5 ± 10.6) degrees, supination (74 ± 12.0) degrees, pronation (70.8 ± 11.8) degrees, radial deviation (21.8 ± 5.8) degrees, ulnar deviation (28.2 ± 9.2) degrees. Grip strength was 84.2% (range 60%-100%) compared to the uninjured side. The final evaluation of function using Gartland & Werley's point system was excellent in 15 patients (50%), good in 10 patients (33.3%), fair in 4 patients (13.3%), and poor in only one patient (3.3%).

Conclusion:

External fixator with supplementary K wire fixation for AO type C, provide sufficient stabilization to restore wrist function with satisfactory radiological and functional results. It can be a useful modality in the treatment of these challenging fractures.