The Need for Distal Radioulnar Joint Pinning in Galeazzi Fracture Is Not Associated With Poor Outcomes

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Purpose: This study evaluates whether the need for pinning of the distal radioulnar joint (DRUJ) in Galeazzi fractures impacts patient outcomes, particularly focusing on range of motion and postoperative complications.

Methods: This retrospective IRB-approved review involved 116 patients whose Galeazzi fractures were treated at an academic medical center from January 2000 to October 2023. Patients were categorized into 2 groups based on whether they were pinned for an unstable DRUJ: 20 pinned (P) and 96 non-pinned (NP). All patients underwent open reduction and internal fixation. The study recorded patient demographics, injury characteristics, surgical details, and outcomes including healing time, range of motion, and complications. Statistical analyses comprised independent samples t-tests and $\chi 2$ tests to compare the groups.

Results: The study found no differences in demographics or injury characteristics (besides DRUJ instability) between the P and NP groups. Healing times were comparable: NP at 20.94 ± 16.66 weeks and P at 18.53 ± 7.14 weeks (P = 0.560). No differences were noted in wrist dorsiflexion (NP: 73.74 ± 17.76° vs P: 72.37 ± 16.78°, P = 0.761), palmar flexion (NP: 72.99 ± 19.59° vs P: 71.05 ± 19.90°, P = 0.702), and supination (NP: 83.51 ± 11.47° vs. P: 80.53 ± 12.12°, P = 0.318) at final follow-up. However, pronation was notably lower in the P group (NP: 83.83 ± 11.72° vs P: 76.58 ± 18.93°, P = 0.037). A single incident of contracture was statistically significant in the P group (P: 1 vs NP: 0, P = 0.023). The pinned group had a significantly greater need for secondary procedures (P: 0.42 ± 0.61 vs NP: 0.03 ± 0.17, P<0.001) as 8 of the 20 P had their pins removed in the operating room. No other differences were observed in elbow range of motion or complications like nonunion, fracture-related infection (FRI), wound breakdown, hardware failure, and nerve dysfunction.

Conclusion: The need for DRUJ pinning following repair of a Galeazzi fractures does not seem to impact overall patient clinical outcomes, including time to healing and most range of motion measures. The slight reduction in pronation and isolated incidence of contracture in the pinned group warrant further investigation but do not indicate a trend towards worsened outcomes.