Radiographic Healing and Functional Outcomes of Untreated Ulnar Styloid Fractures Following Volar Plate Fixation of Distal Radius Fractures: A Prospective Analysis
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Purpose: Ulnar styloid fractures (USFs) are common concomitant injuries associated with distal radius fractures (DRFs). Recent studies have found conflicting evidence on whether these fractures treated or untreated affect pain and functional outcomes. The purpose of this study was to prospectively evaluate pain and functional outcomes of consecutively untreated USFs in surgically repaired DRFs. We hypothesized that the presence of and treatment of USFs would have no effect on outcomes or reoperations.

Methods: A prospective study at a single institution of consecutive DRFs treated surgically with volar locked plating was undertaken. Patients were scrutinized for the type of USF, and their ultimate effect on the Quick Disabilities of the Arm, Shoulder and Hand (q-DASH, and abbreviated version of the DASH questionnaire) score and the Patient Rated Wrist Evaluation (PRWE) scores. Outcome measures were collected at 2 weeks, 3 months, and 1 year postoperatively.

Results: There was an incidence of 48% (146/306) of surgically treated DRFs with an associated distal ulna fracture. By location, there were 65.8% tip, 27.4% base, and 6.8% neck USFs. Only tip and base fractures were subsequently analyzed. However, there was no statistically significant difference in q-DASH scores irrespective of type at any time point postoperatively. Similarly, no significant difference in PRWE scores was seen irrespective of type at any time point postoperatively. By 1 year postoperatively, there were 53.8% non-united USFs. Nonunions occurred in 58.8% of tip, 42.9% of base, and 50% of neck USFs. Again, tip and base USF nonunions compared to united USFs also showed no difference in q-DASH and PRWE scores. Lastly, there was no difference in reoperation rate for any reason between patients with versus without an associated USF by final follow-up.

Conclusion: Ulnar styloid fractures are a common concomitant injury occurring in nearly half of distal radius fractures treated surgically, and the majority go on to nonunions. Our prospective cohort analysis showed that neither the presence, type, nor bony union status of a concomitant USF has any significant effect on patient outcomes or reoperations. Our study confirms our hypothesis that USF of the tip and neck should be left untreated.