COMPLICATIONS OF VOLAR PLATING USING STANDARDIZED SURGICAL TECHNIQUE

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INTRODUCTION

- Volar locking plate fixation has become the most popular treatment for distal radius fractures (DRFs)
- Some series have patient reported complication rates up to 21% and physician reported complication rates up to 27%
- We report on complication rates for procedures by 4 fellowship trained hand surgeons who routinely use the extended flexor carpi radialis (EFCR) approach
- It is our belief that using this technique, complication rates can be lower than reported in the literature

MATERIALS & METHODS

- Retrospective review of 808 consecutive cases over 4 years
- Patients were asked to complete a survey to evaluate satisfaction (0-10) and report or comment on complications
- Questionnaires, medical records, and x-rays were reviewed
- Major complications: deep infection; complication requiring revision
- Minor complications: bruising or pain that resolved with time

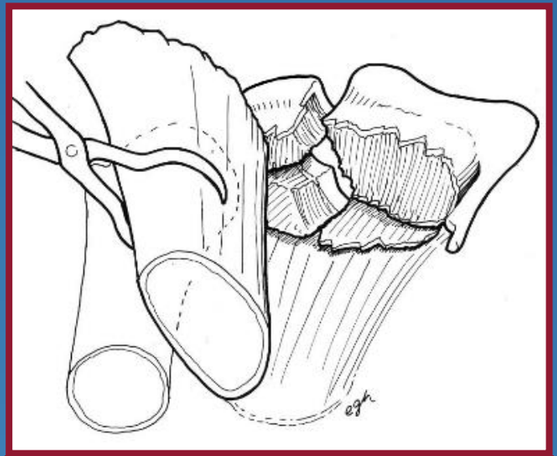

Fig. 3: The Extended FCR approach provides dorsal exposure by pronating the proximal fragment, therefore allowing hematoma debridement

Fig. 4: Proper reduction and plate placement prevents flexor tendon injury

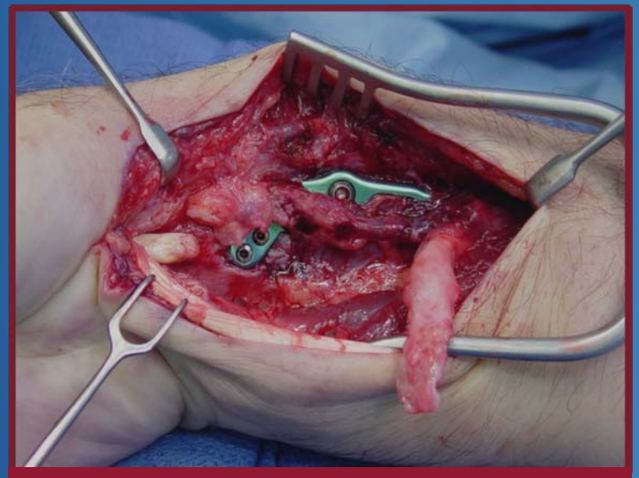

Fig. 1: Flexor tendon injury is a devastating complication of volar plating

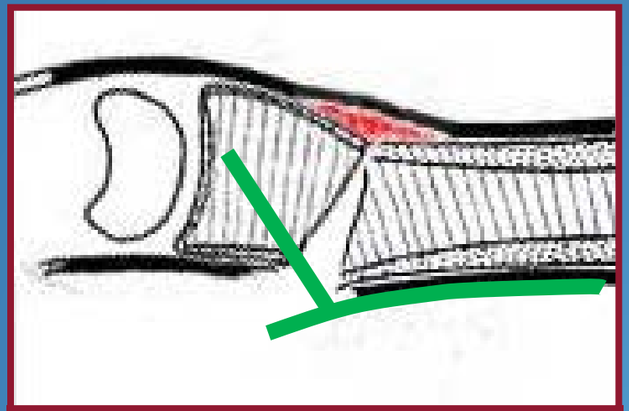

Fig. 2: Inability to manage the dorsal hematoma from the volar approach is the most common cause of mal-reduction, and therefore flexor tendon rupture.

RESULTS

- 443 (54.8%) patients completed the survey
- Mean satisfaction: 9.14 out of 10
- Total Complications: 41 (9.3%)
- Major complications: 21 (4.7%)
  - 2 (<0.5%) patients with infection & antibiotic treatment
  - 19 (4.3%) revision surgeries
    - 5 (1.1%) hardware removal due to soft tissue irritation
    - 1 (<0.25%) tendon rupture
- Minor Complications: 20 (4.6%)

CONCLUSIONS

- 4.7% complication rate and 0.25% incidence of tendon rupture is significantly lower than other series, as is a 1.1% hardware removal rate
- Lower complication rates are related to our standardized surgical technique and surgeon experience