

Management of Flexor Pollicis Longus Rupture Secondary to Volar Plate Fixation

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OBJECTIVES

- The purpose of this study is to develop a treatment protocol for attritional FPL rupture due to volar plate fixation.

MATERIALS & METHODS

- Cases of volar distal radial plate removal at one hand surgery practice were retrospectively reviewed.
- The study period ranged from 2010 to 2017 and involved 4 hand surgeons.
- When hardware removal was associated with treatment of an FPL rupture, the medical records were further investigated.
- Patient demographics, Soong volar plate prominence classification, volar plate type, and surgical technique were reviewed.

RESULTS

- 93 volar plates were removed.
- In 7 cases, this was due to FPL rupture, and in 1 case, this was due to impending FPL rupture.

- FPL ruptures occurred at a mean of 3.1 years (range, 0.5-9.9 years) following volar plate fixation (6 cases) or distal radial osteotomy (1 case).
- Mean age at the time of FPL treatment was 59.6 years (range, 41-75 years).
- Plate designs included 2 Acumed DVR plates, 2 Synthes volar rim plates, 1 Synthes Volar locking plate, 1 Small Bone Innovations volar metadiaphyseal plate and a small nonlocking t-shaped volar plate.
- 2 cases were Soong grade 1, and 5 cases were grade 2.
- 6/7 patients underwent repair or reconstruction. 1 elderly patient underwent thumb interphalangeal joint fusion.
- In patients with retracted tendon ends and scarred tendon edges, FPL reconstruction with a palmaris longus or a strip of flexor carpi radialis graft was performed (n=4/6). Pulvertaft weaves were used.
- One case with a chronically retracted tendon, z-lengthening and primary repair of the tendon was performed.
- When the tendon edges were robust and could be brought out to length, primary side-to-side repair was performed (n=1).

Figure 1. 54-year-old female underwent FPL reconstruction with FCR strip

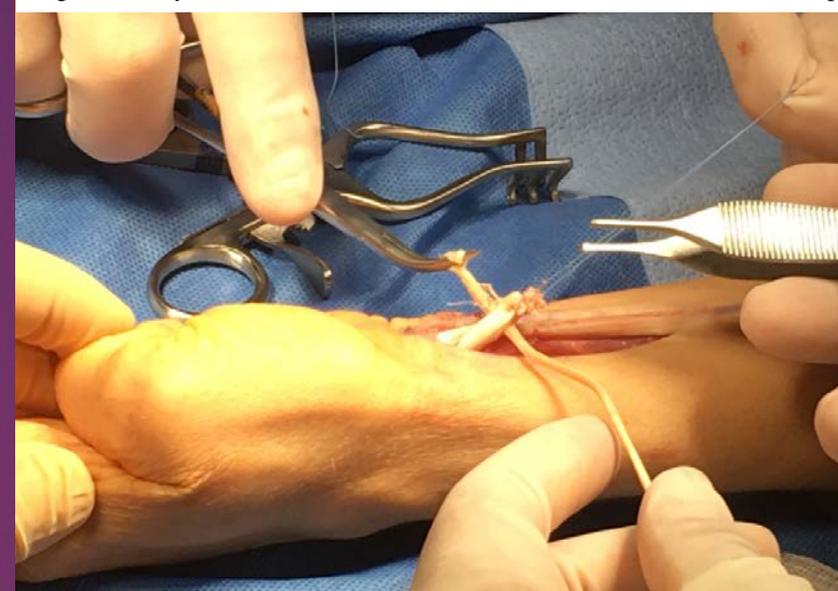


Figure 2. Low-demand patient treated with plate removal and IPJ fusion

CONCLUSION

- While hardware removal is the essential step, in this clinical series, the surgical management of attritional FPL rupture was based on patient factors including functional demands, as well as the chronicity of the rupture, the degree of tendon retraction and the soft tissue quality of the ruptured tendon.
- Patient counselling regarding the dangers of loss to follow-up and early hardware removal for at-risk patients are encouraged.
- The acquisition of clinical outcomes is ongoing.

REFERENCES

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