2019 NEHS Annual Meeting Abstract Submission

ABSTRACT TITLE *	Outcomes of flexor tendon rupture following volar plate fixation
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Name of who will present abstract at NEHS meeting on December 6, 2019 Please note that the same person cannot present more than one abstract at the meeting. *	Meryam Zamri
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ABSTRACT - should include background information and a description of methods, programs, or practices. *

Background: The estimated rate of flexor pollicis longus (FPL) rupture ranges between 0 and 10% of patients that undergo volar plate fixation of distal radius fractures. Therefore, the aim of this study is to report the patient-reported outcomes following FPL surgery after distal radius volar plating. The secondary aim is to assess radiographic characteristics in these patients.

Materials & Methods: Nine patients were identified that had an FPL rupture following volar plate fixation. Seven patients (78%) agreed to complete PROMIS upper extremity (UE), Quick DASH and Numeric Rating Scale (NRS) for pain score questionnaires. Questionnaires were completed at a median of 3.4 years (range: 2.2-4.0) post-operatively. Patients had a median age of 55 years (range: 52-68), 4 patients (57%) were female, and 6 (86%) had FPL rupture of the dominant hand. In six of the seven patients, radiographs were retrievable. All patients had Soong grade I volar plate position, one patient had a prominent screw and one patient a prominent tension band wire.

Results: The median time to FPL rupture after distal radius fixation was 21.6 months (range 2.9-36 months). The techniques used for FPL reconstruction included tendon grafting with a palmaris longus autograft (PL; n=4), ring finger flexor digitorum superficialis autograft (FDS; n=1), brachioradialis autograft (n=1) and combined flexor carpi radialis graft and PL graft (n=1). The majority (n=5) of the patients started occupational therapy (OT) after 4 weeks (range 1-4 weeks), two patients started OT one week after FPL reconstruction. At final follow-up, the median NRS-pain score was 0 (range 0-7); the median PROMIS-UE score was 47.1 (range 25.9-61); and the median QuickDASH-score was 12.5 (range 4.5-75). Five out seven (71%) patients reported no pain at final follow-up. The two patients with pain (NRS pain 2 and 7) had higher QuickDASH scores (34.1 & 75) and lower PROMIS UE scores (36.8 & 25.9).

Conclusion: In conclusion, FPL rupture is a rare complication of volar plate fixation of distal radius fractures. Based on patient rated measures, outcomes are modest after reconstruction. Although Soong grading is predictive for tendon rupture, all patients had Soong grade I plate positioning in this cohort.