Trigger Finger Release in Patients With vs Without Diabetes

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BACKGROUND

- The concept of the diabetic hand was developed in the 1970s, describing the spectrum of disease effecting the soft tissues in patients with diabetes, involving carpal tunnel disease, stenosing tenosynovitis, joint contractures, and Dupuytren's contractures. (1,2,5,6)
- Among both diabetics and non-diabetics, "trigger fingers" are very common, with many going on to surgical treatment. The incidence within diabetic patients is upwards of 10% in some studies. (1,2,5)
- The underlying disease process from diabetes results in glycosylated proteins stimulating the proliferation of fibroblasts which can in fact lead to stenosing processes involved in the diabetic hand. (6)
- Most patients respond well to A1 pulley injections, but patients with diabetes tend to respond less favorably, and can result in some residual deformity. (5,10,12)
- Some studies have demonstrated that immediate release of diabetic trigger fingers may even be more cost effective (8), and many have stated there is a potential for residual or concomitant joint contractures after an A1 pulley surgical release. (6,7,10)

OBJECTIVES

- Determine the prevalence and severity PIP finger contractures in diabetics and non-diabetics both before and after surgical release of the A1 pulley.
- We hypothesize that diabetics will have greater prevalence and magnitude of pre-operative deformity of the trigger finger as well as greater post-operative deformity compared to non-diabetics.

METHODS

- This is a prospective cohort study of all patients age 18+ with a diagnosis of trigger finger undergoing trigger finger release with two orthopedic surgeons at Samaritan Health Services
- Study data (patient characteristics, symptoms, and PIP joint measurements) is being collected by study investigators within an electronic data collection system.
- Patients with a contracture at 1-2 weeks post-op are to be followed at 6 weeks and 10 weeks. If contracture is resolved at 1-2 weeks post-op, there is no need for continuing to 6 week or 10 week follow up.
- Study investigators aim to collect data on 150 patients. The present data is a preliminary analysis of currently available data.

RESULTS

- Data is available from pre-op and 1-2 weeks post-op for 64 patients.
- 41% of patients had either type I or type II diabetes mellitus
- 67% of patients had a single finger affected, while 33% had more than one. The number of fingers affected were similar across diabetic vs non-diabetic patients (69% and 66%, respectively)
- At the 1-2 week post-op visit:
  - 48% of patients had not regained full extension post-operative
  - 31% were sent to therapy for motion
  - 11% had moderate swelling
  - 58% had a PIP angle of 0 degrees at the first post-operative visit.
  - These outcomes are compared across patients with vs without diabetes in Figure 2.

Figure 1: Percent of patients with a PIP angle of 0 at pre-op , by diabetic status

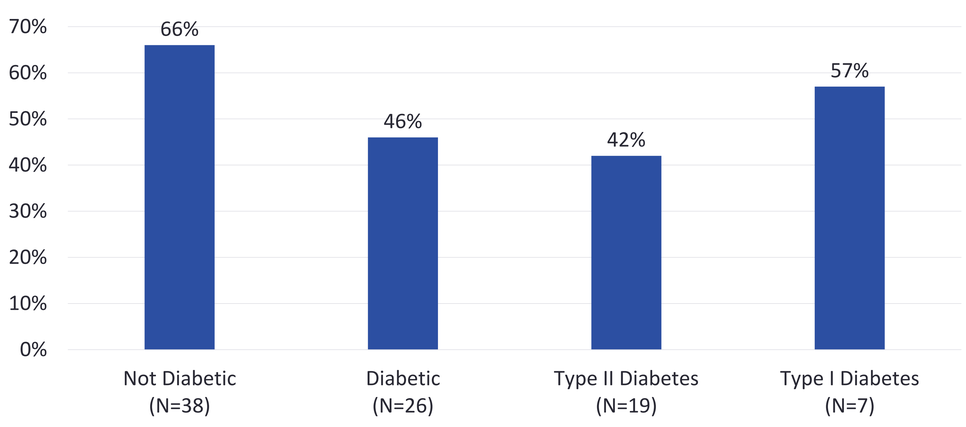
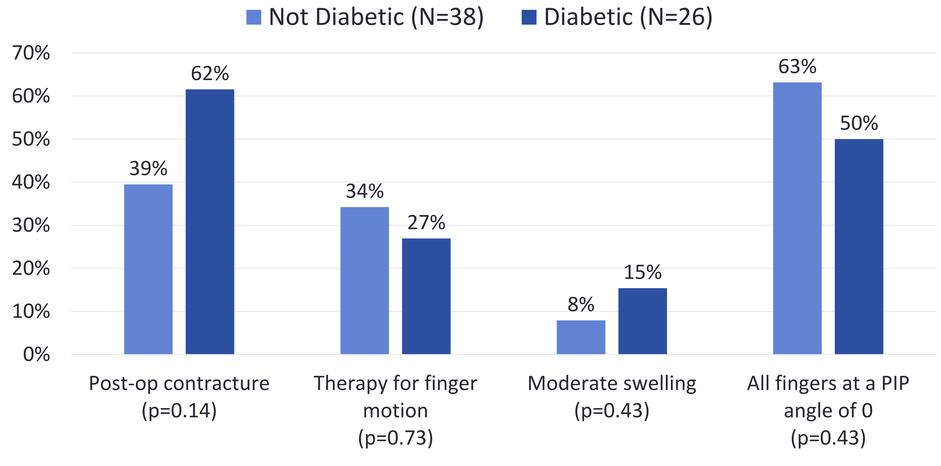


Figure 2: Patient Outcomes at 1-2 Week Post-op by Diabetes Status



CONCLUSIONS

- No significant differences were found across patients with vs without diabetes in PIP angles at pre-op (Figure 1, p=0.19) or in 1-2 week post-op outcomes (Figure 2, all p>0.05)
- Although non-significant, diabetic patients did have a higher rate of post-op contracture, were sent to therapy less often, had more swelling, and achieved all PIP angles of 0 less frequently.
- Patients with diabetes tended to have a less likely chance of having full range of motion both pre- and post-operative after trigger finger release
- This is a preliminary analysis of an ongoing study, and thus conclusions are difficult to draw

FUTURE IMPLICATIONS

- The eventual goal would be to establish if diabetic patients might benefit from an early aggressive finger motion therapy program (as most patients with A1 pulley releases do not need such intervention) vs a more extensive index surgical procedure to include joint contracture releases, partial palmar fasciectomies or other similar procedures.

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