Stenting of the Nail Fold following Nailbed Repair Does Not Impact Outcomes: Early Results of a Randomized Controlled Trial

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INTRODUCTION:
In the setting of traumatic fingertip injuries with associated nailbed lacerations, the utility of stenting the nail fold open remains unclear. We hypothesized that stenting of the eponychial fold would not impact patients' cosmetic or functional outcomes following nailbed repair.
METHODS:
A prospective randomized controlled trial was conducted on patients 18 years or older who presented with nailbed lacerations between 2/2021-2/2022 at a single institution. Patients were randomized to either stent placement using the residual nail or a suture wrapper or to no stent placement. Information on patient demographics, medical comorbidities, and injury history were collected at the time of presentation. Patients were seen at 1 week, 1 month, and 3 months following the injury. Patient- and physician-reported outcomes were collected at each follow-up visit. Results were compared using t-tests for continuous variables and chi-square tests for categorical variables. Statistical significance was set at $p<0.05$.
RESULTS: Thirty-four eligible patients were enrolled. There were 28 male patients and 6 female patients. The average age was 44.9 (range 19-71). The mechanism of injury was a crush injury to the finger for the majority of patients with 3 patients reporting a laceration and 1 patient reporting a lawnmower accident. Nine patients were injured at work. Twenty-one patients sustained a distal phalanx fracture at the time of injury. Approximately 50% of patients injured a finger on their nondominant hand. There was no significant difference in patient-perceived functional or cosmetic scores and visual-analogue pain scores at 1 week, 1 month, and 3 months for the two groups. Additionally, there was no difference in physician-reported outcome scores at 1 week, 1 month, and 3 months for the two groups. On average, patients required 26.3 days (range 1-98) off from work following nailbed repair. No patients required secondary procedures. One patient required an additional course of antibiotics.
DISCUSSION AND CONCLUSION:
Early results demonstrate no advantage of stenting the nail fold open following nailbed repair in this randomized controlled trial. Nailbed injuries continue to be associated with significant morbidity including distal phalanx fractures and time off from work. While this study looked at outcomes up to 3 months, it is unclear if outcomes improve with longer follow up. Further research is required.