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Short Commentary

Modified Core Suture Pulvertaft Weave *in vivo*

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Pulvertaft [1] technique has been used since 1956 for tendon transfer, in his original paper, 149 cases of tendon reconstruction were performed, since then multiples techniques or tendon reconstruction were used. In order to restore EPL function after a spontaneous rupture or laceration when primary suture is not an option, tendon transfer using the Extensor Indicis Proprius (EIP) is a valid option [2]. The aim of this letter is to share the results of our clinical experience using an innovative technique in patients with traumatic rupture of the Extensor Pollicis Longus (EPL) after carefully performed in vitro study, we want to recreate this technique *in vivo*. We have successfully applied this technique to three patients with these specific conditions, three patients in two years with a minimum follow up of one year. Case number one is a 62-year-old female patient hat EPL rupture associated with a non-surgical radius fracture treatment, the rupture occurred 4 months after the initial trauma. Case number two is a 42-year-old male patient that had a chronic rupture of the EPL more than 6 months secondary to a laceration on the dorsal aspect of the radius. The last patient is a 38-year-old male that underwent Open Reduction Internal Fixation of the Distal Radius and 3 months after the surgery the EPL has spontaneous rupture. The diagnosis in all three patients for EPL rupture was pure clinically and no images were needed for the final diagnosis. The surgical technique was performed and suture was the same according the original paper by Van Royen et al. [3] Figure 1.

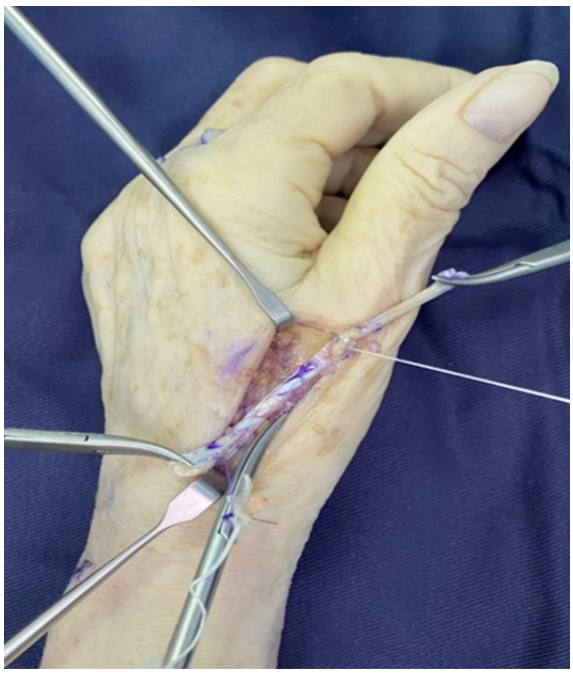

Figure 1: Patient 1 Measurement every centimeter EPL for modified cores suture Pulvertaft Weave. Modified cores suture Pulvertaft Weave suture.

After surgery a thumb spica was applied, immobilization for one week and followed by physical therapy for four weeks, sliding tendon with the aim of restoring full mobility with no restriction. At four weeks the thumb was released. One-year follow up, case number one has full range of motion, no pain, no discomfort. As shown in Figure 2. Case number two and three followed the same protocol and full range of motion was gained with no pain. No complications were identified during the surgical intervention and the clinical follow up.

Figure 2: Patient 1. One year follow-up no abnormal scarring. Thumb full extension.

In conclusion, we are pleased to report that the surgical technique is feasible for any trained hand surgeon. An established physical therapy protocol should be standardized for tendon transfer. Patients demonstrated satisfactory recovery and functional restoration of the EPL following this surgical technique and our physical therapy protocol. Additionally, our in vitro testing confirmed the stability of the tendon transfer, supporting the efficacy and safety of this technique.

References

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