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DYNAVISC®
Adhesion Barrier Gel
for Tendon and Peripheral Nerve Surgery

CASE REPORT

Tenolysis of Flexor Pollicis Longus (FPL) and Neurorrhaphies of Digital Nerves

Report on functional recovery and scar prevention

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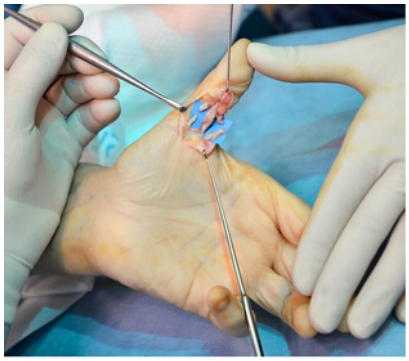
Case Introduction

A 74-year-old hypertensive woman, non-smoker, presented to our clinic in November 2023 for a check-up after a tenorrhaphy of the flexor pollicis longus (FPL) of the left hand, performed at another hospital in June 2023.

Case Presentation

The patient reported an active flexion deficit (of the second phalanx) with a presenting attitude in extension and hypoesthesia at the pulp level. An ultrasound examination did not show anatomical alterations of the tendon structures.

Operative Treatment



The patient was positioned supine, and pneumatic ischemia was obtained with an Esmark bandage. She underwent tenolysis of the flexor pollicis longus (FPL). During the surgical procedure, a complete transection of the ulnar and radial collateral digital nerves was discovered.

The neuromas were excised and neurorrhaphies of both collaterals were performed using a 7/0 Prolene stitch.

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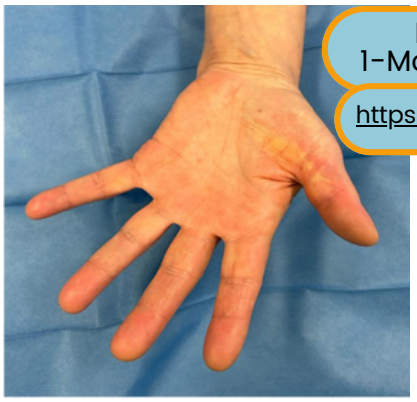
Operative Treatment

To mitigate the risk of scar formation due to tendon size mismatch and potential adhesion formation, **Dynavisc® Adhesion Barrier Gel** (FzioMed, San Luis Obispo, CA, USA) was applied.

One Month Follow-Up



LINK to 22 second 1-Month Follow-up VIDEO
https://youtu.be/2mvhiLmGbBI

One month after the surgical repair, during the post-operative checkup, the patient reported that she underwent physiokinesis therapy, starting 15 days before. Flexion of the first finger was improved, with a strength of 4/5. Sensitivity had slightly recovered.

Dynavisc is a gel composed of the combination of two polymers—carboxymethylcellulose (CMC) and polyethylene oxide (PEO)—that serves as a temporary mechanical barrier and persists at the application site for approximately four weeks. **Dynaivsc** separates opposing tissue surfaces during the healing process, preventing deposition of scar tissue around the tendons and nerves.

Discussion

In the presented case, the application of **Dynavisc** contributed to the improvement of the patient's clinical course, with an increase in thumb flexion strength without complications. It is important to note that this is a single case report, and further studies are needed to confirm the efficacy of **Dynavisc** in this setting.

In conclusion, this case report demonstrates the use of **Dynavisc** in repeat hand surgery involving both tenolysis and neurorrhaphies. These observations support further discussion and investigation. As we navigate the intricate landscape of modern hand surgical interventions, incorporating innovative biomaterials such as **Dynavisc** holds the potential to redefine the standards of care, ultimately benefiting patients and shaping the future trajectory of hand surgery.

Additional Clinical Research

-Riccio, Michele. "Prevention of Peritendinous Adhesions after Tenolysis by Means of a Carboxy-Methylcellulose (CMC), Poly-Ethylene Oxide (PEO) Based Gel: A Light and Electron Microscope Study In the Rabbit." (2015).
-Bassetto F, Pajardi G, Battiston B, Corain M, Sargenti S, Scarpa C, Novelli C, Tiengo C, Vitali A, Facchin F, Bertolini M, Cara L, Caruso G. Efficacy and Safety of Dynavisc Gel in Prevention of Scar Adhesions Recurrence after Flexor Tendons Tenolysis In Zone 2. Multicenter Retrospective Cohort Study. Ann Ital Chir. 2023;94:529-536. Pmid: 38051506.
-Svingen J, Wiig M, Turesson C, Farnebo S, Arner M. Risk factors for reoperation after flexor tendon repair: a registry study. J Hand Surg Eur Vol. 2022 Nov;47(10):1071-1076. doi: 10.1177/17531934221101563. Epub 2022 May 17. PMID: 35579214; PMCID: PMC9634328.
-Ebelin M, Le Viet D, Lemerle JP, Meriaux JL. Secondary Surgery of the Flexor Pollicis Longus Tendon. A Comparative Study of Forty-Three Cases. Ann Chir Main. 1985;4(2):111-9. English, French. doi: 10.1016/s0753-9053(85)80121-6. PMID: 4026426.