Thumb Web Release for Hyperextended MCPJ with CMCJ Arthritis Using the Needle Technique

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Introduction

A 70-year-old RHD patient presents with right thumb CMCJ arthritis with a web adduction contracture which worsened their CMCJ subluxation. Needle aponeurotomy was selected for treatment of this patient's disease due to its less invasive, 10-minute office procedure under local anesthesia with a short-term recovery.

Thumb Dupuytren contracture is a more unusual presentation and occurs in about 3% of patients and proximal cord disease is much rarer than distal cord disease. Surgery is the most common solution; however, diagonal skin flaps and/or Z-plasty techniques are necessary to avoid constricting scar bands. Collagenase can be useful and has durability but is not FDA approved for the thumb in the United States. Percutaneous needle fasciotomy is rarely discussed and there has been no case series.

Methods

The procedure was done in office under local anesthesia.

- The patient was treated with a needle aponeurotomy of two thumb adduction cords
- Needle aponeurotomy may be used for these ligaments due to this being a safe area away from digital nerves or tendons
- Vertical Grapow ligaments on the commissural cords, a common occurrence must be released via subcision in the subdermal plane

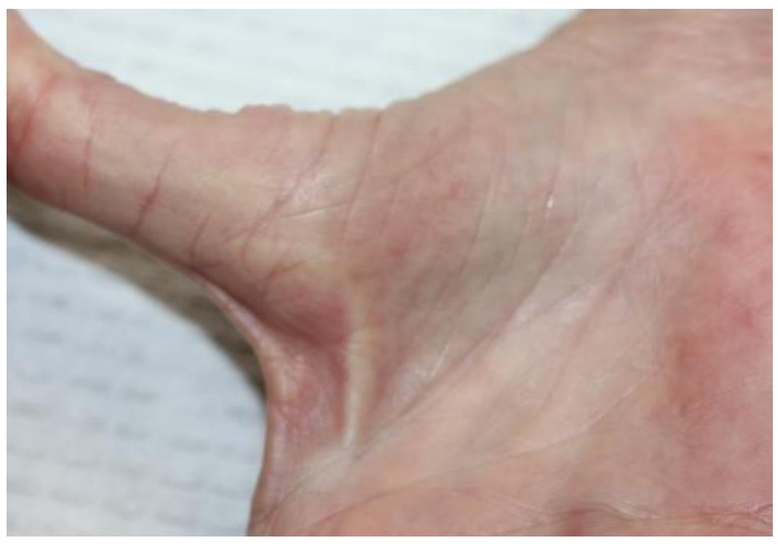

Photo 1
Patient prior to needle aponeurotomy of two thumb adduction cords.

The proximal commissural cord is the dominant problem leading to thumb adduction and hyperextension of the metacarpophalangeal (MCP) joint.

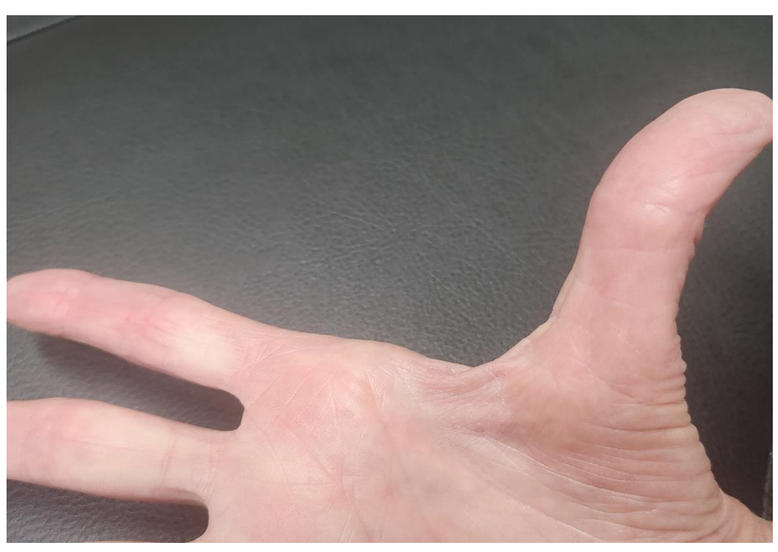

Photo 2
Patient status-post needle aponeurotomy of two thumb adduction cords with thumb in abduction.

Only three access sites were needed to release the cords and undermine the perpendicular (Grapow) attachments to the skin.

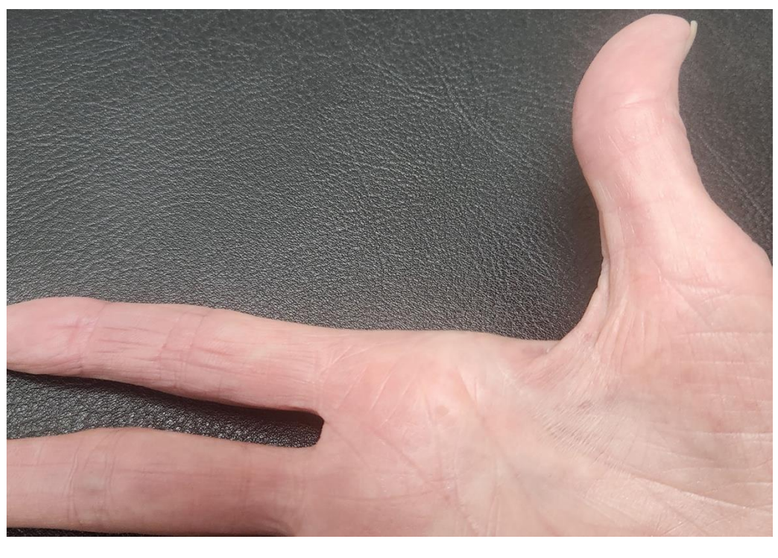

Photo 3
Patient status-post needle aponeurotomy of two thumb adduction cords with thumb in extension.

Only three access sites were needed to release the cords and undermine the perpendicular (Grapow) attachments to the skin.

Results

Needle aponeurotomy not only relieved the contracture but also improved the patient's CMCJ arthritis pain.

At two-week follow-up she had less CMC pain, and she was very pleased with the increased ROM

Please refer to photos for pre- and post-procedure release.

Immediately post-procedure, the patient was instructed to:

- Keep hand clean, dry, and elevated with ice and scheduled acetaminophen and ibuprofen for pain
- Perform gradual range of motion exercises
- Strict return precautions for any early local or systemic infectious symptoms

Discussion

A needle aponeurotomy office technique requiring a minimum of entry points under local anesthesia can release the proximal and distal commissural cords.

This technique may not only change the dynamics of CMC arthritis but also allow for more proper splinting of the thumb CMCJ arthritis.

For this reason, needle aponeurotomy should be considered in select patients due to it being a less invasive, 10-minute procedure under local anesthesia with a short-term recovery.