
INTRODUCING A NOVEL APPROACH: ULTRASOUND-GUIDED HYDRODISSECTION OF FLEXOR TENDON ADHESIONS COMBINED WITH INDIVIDUAL KINESIOTHERAPY TO PROMOTE POST-OPERATIVE AND POST-INJURY REHABILITATION

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Background

Flexor tendon adhesions, a formidable challenge following injuries or surgeries involving the fingers, particularly in tendon repair, necessitate a new treatment approach. The formation of adhesions, often a result of an over-stimulated inflammatory response, can lead to restriction in the gliding function of the tendons, progressing to decreased range of motion and impaired functionality, thus limiting the use of the fingers in activities of daily living (ADL). Post-operative rehabilitation outcomes are significantly impacted by the formation of adhesions, often leading to prolonged therapy without satisfactory results.

Case report

Our approach has yielded promising results. We present a series of cases of 15 patients treated in our department after finger and hand injuries and/or operations, who later developed flexor tendon adhesions with severe limitation in the range of motion of the finger/s. Surgical adhesiolysis was not indicated, predominantly due to an abundance of scar formation, worsening prognosis of consequent adhesion formation after repeated surgical incisions. Ultrasound was used as a diagnostic tool for the localization of adhesions and kinematic evaluation of the tendon. Most cases were treated in the region of proximal phalanges (zone 2). Ultrasound-guided hydrodissection of flexor tendon adhesions in local anesthesia was then used in combination with physiotherapy. In selected patients, a combination of regional anesthesia was used to further promote adhesiolysis by manual redress therapy. Progression in finger movement and hand function was recorded, resulting in satisfactory results for patients and therapists.

Conclusion

Ultrasound-guided hydrodissection of the flexor tendon adhesions is a minimally invasive procedure with the potential to significantly improve post-injury and/or post-surgical rehabilitation after the formation of flexor tendon adhesions. We propose that this method be considered part of the rehabilitation treatment to shorten the recovery and markedly improve the functional results of these patients, offering hope for better outcomes.

Keywords: USG, hydrodissection, adhesions, flexor tendon