Randomized Clinical Study Comparing Early Active Rehabilitation Program for Flexor Tendon Repair versus Early Passive Rehabilitation Program

Thesis

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Amir Labib

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List of Abbreviations

Abb.	Full term
APL	Abductor pollicis longus
DIP joint	Distal Inter-Phalangeal joint
ECRB	Extensor carpiradialis Brevis
ECRL	Extensor carpiradialis longus
ECU	Extensor carpiulnaris
EDC	Extensor digitorum communis
EDM	Extensor digiti minimi
EIP	Extensor indices Proprius
EPB	Extensor pollicis brevis
EPL	Extensor pollicis Longus
FDP	Flexor Digitorum Profundus
FDS	Flexor Digitorum Superficialis
FPL	Flexor pollicis longus
IF	Index Finger
LF	Little Finger
MCP joint	Meta-Carpo-Phalangeal joint
MF	Middle Finger
PIP joint	Proximal Inter-Phalangeal joint
RF	Ring Finger

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Abstract

Restoration of full range of motion of digits and prevention of joint contraction following flexor tendon repair is a challenge. The rehabilitation program evolved from immobilization program to early mobilization techniques. Because of the poor results of the immobilization programs as regard incidence of joint adhesions and contracture, Kleinert et al developed controlled motion protocol based on active extension passive flexion of the injured digit within a dorsal blocking splint.

The good results of early passive mobilization encouraged several authors to think about controlled early active mobilization. Their studies yield that early active mobilization has better tendon motion with less adhesions.

There is lack of the solid evidence as regard the most suitable rehabilitation protocols following flexor tendon repair. This is due to the limited number of studies comparing different rehabilitation protocols. Also the present studies advocate a specific technique with no comparative group. Even the few controlled studies vary in methods of repair and rehabilitation, and outcome assessment.

To our knowledge the only randomized controlled trial comparing early passive rehabilitation with early active rehabilitation is the one done by Trumble et al in 2010. They reached a conclusion that patients on active rehabilitation program had better range of motion with less flexion contractures and greater satisfaction scores than those in a passive rehabilitation protocol. Yet this study was performed upon 4 strand repaired tendons.

We conducted our study comparing early active mobilization protocol “place and hold” with early passive mobilization “Modified Kleinert” after ***standard 2 strand modified Kessler repair*** in ***different*** hand zones.

Key words: Flexor tendon, Rehabilitation, flexion deformity, tendon lag.

Introduction

Aim of the Work

Chapter (1)
Anatomy

Chapter (2)
Diagnosis of Hand Injuries

Chapter (3)
Methods of Repair of Flexor Tendon Injuries