

# The treatment of ruptures of multiple extensor tendons at wrist level by using each reversed extensor digitorum communis (EDC) half-slip tendons of proximal stump in the rheumatoid hand

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## Introduction

- In rheumatoid arthritis (RA), rupture of extensor tendons often occurs in multiple fingers.
- Direct repair was usually impossible because of retraction, shortening of the muscle.
- We tried to reduce the tendon gap and repair directly by using each reversed EDC half-slip tendons of proximal stump.
- we evaluated our surgical repair outcome.

## Methods

Total EDC tendon ruptures of RA wrist

4 RA patients (3 women, 1 man)

Follow-up:  $2 \pm 1$  years

Age at surgery:  $67 \pm 2$  years

Reviewed :

patient's satisfaction

ROM of MP joint

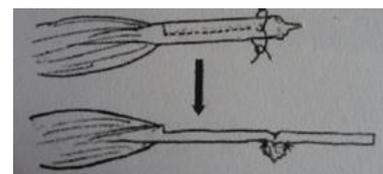
ROM of wrist

## Operative procedure and post-operative treatment

Our treatment consisted of synovectomy, wrist arthroplasty by Sauve-Kapandi's procedure, tendon end-to-end interlacing suture using each reversed 5cm EDC half-slip tendons of proximal stump, and repaired tendon was sutured side-to-side each other. Active exercise of the fingers was started immediately after the surgery.

## Scheme of operation

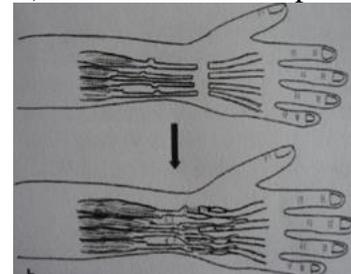
1) preparation of ruptured EDC half-slip tendon



suturing of distal stump

5cm half-slip tendon is made from the suture site, and reversed.

2) reconstruction of ruptured EDC tendons



interlacing suture is done by using each reversed 5cm EDC half-slip tendons

each tendons is sutured side-to-side.

## Results

Patient's satisfaction

Highly satisfaction: 3 patients

Satisfaction: 1 patient

ROM of MP joint

Active extension:  $1.7^\circ$  (range, 0~5)

Active flexion: 78.3 (range, 65~83)

ROM of wrist

Extension 85 (range, 80~90)

Flexion 31 (range, 10~45)

## Conclusions

For multiple extensor tendon ruptures of rheumatoid hand, our tendon reconstruction procedure led to almost full finger extension function without damage of other intact tendon and active finger ROM exercise could start soon after surgery. Full finger flexion also obtained in all cases. Although limitation of wrist flexion ROM were observed, no one complained of ADL disturbance.

## Case Presentation

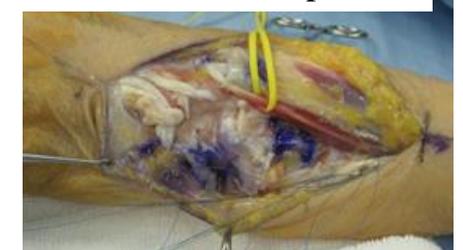
79y/o female RA patient

Pre-operation: active finger extension



Intraoperative findings

Total EDCs were ruptured.



Total EDC were reconstructed by reversed EDC half-slip tendons of proximal stump



Post-operation: active finger motion



Post-operation: wrist motion

