

Ulnar styloidectomy and arthroscopic TFCC repair for symptomatic hypertrophic non-union of the ulnar styloid base fractures with DRUJ instability

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Hypertrophic non-union of the ulnar styloid base

Rare, Only few case reports in literature

Mostly asymptomatic non-unions
Rarely hypertrophic

Clinical presentation

- Ulnar Pain
- Initial trauma long time before
- Mimicking ulnar styloid impingement syndrome
- Unstable, painful DRUJ balottement test
- Esthetically displeasing deformity



RX

Remodelled non-union



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Hypertrophic non-union of the ulnar styloid base

MRI

- Irritative loose body
- Bone edema
- Remodelled non-union
- Foveal attachment of TFCC not identifiable



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Treatment?

- osteosynthesis ulnar styloid (Nunez et al, JHS Eur. 2017)



- risk of delayed union or hardware problems
- no visible correction of the displeasing deformity

➤ alternative? Styloidectomy? Treat the TFCC and address the DRUJ instability?



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Materials & Methods

Patients

- 5 patients - mean time interval initial injury – surgery: 26 years
- Conservative treatment of distal radial fractures with ulnar styloid base fractures
- Healed with acceptable radial length and inclination



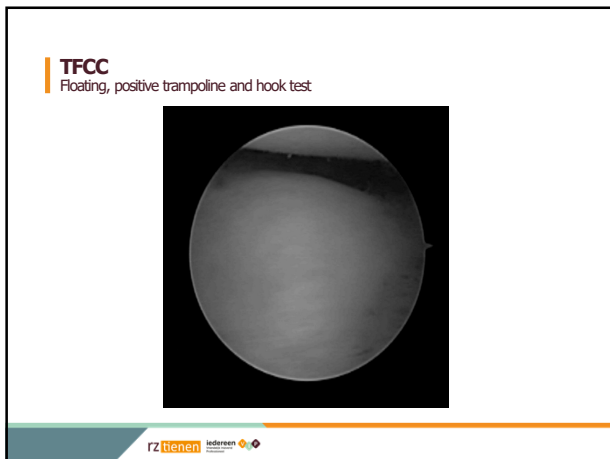
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Surgical technique

- Arthroscopic visualisation of floating TFCC with Trampoline and Hook test+
→ confirmation of unstable TFCC stage II (Atzei-EWAS classification)
→ TFCC already unstable before styloidectomy
→ Decision to perform styloidectomy + TFCC repair
- Open styloidectomy (using an enlarged 6U portal)
detaching it from its capsular attachments
+ roughen remaining ulnar base
- Arthroscopic TFCC repair with bone anker and all-inside knot
+ capsular all-inside suture to close capsular rent (caused by styloidectomy)
- 4 weeks of immobilisation followed by wrist strengthening protocol



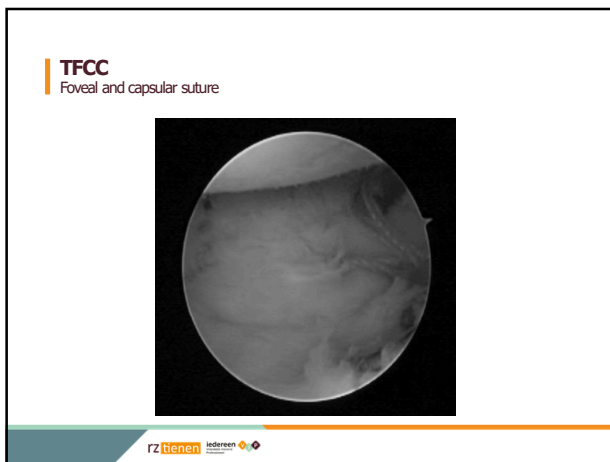
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Results


- Disability - Quick DASH score:
Improved by 77%
- Pain –VAS score:
Decreased bij 71%
- Mobility and grip strength improved to a degree comparable to the contralateral side
- Restart professional activities
- Esthetically pleasing results

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Discussion

- Hypertrophic remodelling due to
 - abnormal motion in nonunion site?
 - DRUJ instability?
- Burgess et al., CORR 1988
 - Subperiosteal excision of hypertrophic nonunion
 - Doesn't change DRUJ stability
 - No description of the TFCC as contributor
- Protopsalpitis et al. JHS Am 2010
 - Recommend arthroscopy to evaluate the TFCC component
 - Open styloidectomy + AS capsular suture
 - "only avulsion of ulnar capsular margin"
 - no hypertrophic remodelled cases described
- Limitations
 - Small sample
 - No comparative with ORIF

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Conclusion

(Hypertrophic) symptomatic non-union? Test DRUJ stability!

If DRUJ is unstable, satisfying clinical outcome can be obtained with styloidectomy and arthroscopic TFCC repair as alternative for osteosynthesis
even in the longterm remodelled cases

Questions?