ARTHROSCOPIC MANAGEMENT OF INTRA ARTICULAR DISTAL RADIUS FRACTURE

Ch. Mathoulin
Clinical case
Clinical case
Clinical case
Cas clinique
Technique

- Local-regional anaesthesia
- Tourniquet
- Outpatient surgery
- Elbow flexed 90°
- « Japanese » fingers traps
• Usually, it is better to wait for 3-5 days before surgery

• Average waiting period between fracture and arthroscopic surgery 2 days (range 0-5 days)

• Dry technique (Paco Pinal)
• Reduction = traction with arthroscopic and fluoroscopic controls
• Fixation = K-wires +/- volar plate
• Splint = 45 days
Technique
four fragments IA fractures
Open reduction & Provisional Plating
Arthroscopic Fine-Tuning
Technique
four fragments IA fractures
Surgeon #1 maintains the reduction.
Surgeon #2 stabilizes the reduction

Surgeon #1 maintains the reduction
Surgeon #1 maintains the reduction

Surgeon #2 stabilizes the reduction

The assistant is in the way obscuring the picture
Technique
four fragments I A fractures
Technique

Dorsal pinning with fluoroscopic and arthroscopic control
Stable Fixation under Arthroscopic Control
Proximal radius fixation
Technique for four fragments I A fractures
Clinical case
four fragments IA fractures
Clinical case
four fragments LA fractures
Clinical case
four fragments IA fractures
Clinical case
four fragments 1A fractures
Clinical case
four fragments IA fractures

2 years of follow-up
WRIST ARTHROSCOPY IN DISTAL RADIUS Fx.

- Assoc. Ligamentous injury.
- DRUJ instability.
Geisslerº III
K-wires preplaced on the scaphoid under fluoroscopy control
Assoc. Ligamentous injury.

DRUJ instability.
Stable

Inestable

FALSE
TFCC’s SURGICAL ANATOMY


Toshi Nakamura.
TFCC’s SURGICAL ANATOMY

Toshi Nakamura.

EWAS.

Tommy Lindau
Andrea Atzei
Paco Pinal.
Fan shape type

Funnel shape type
1.- Bone anchor in fovea.
Material

- 59 patients
- 28 females
- 31 males
- Average age: 36 y.o. (range 19 – 71)
Material

- 4 radial styloid fractures
- 6 postero-medial fragments
- 19 «T» «3 fragments» fractures
- 30 «4 fragments» fractures … (volar plate)
Associated lesions

- 11 TFCC tears
- 4 luno-triquetral ligament tears
- 10 scapho-lunate ligament tears
Clinical case
Clinical case
Clinical case
Clinical case
Results - pain

AVERAGE FOLLOW-UP : 39 m ( range 15-53 )

- No pain : 43
- Mild, occasional : 12
- Moderate, tolerable : 4
- Severe to intolerable : 1
Results – range of motion

Flexion-extension
- > 120° : 47
- 60° to 120° : 8
- < 60° : 4

Pronation-supination
- > 120° : 55
- 60° to 120° : 4
- < 60° : 0
Clinical case
Clinical case
Clinical case
Clinical case

3 years of follow-up
Results – strength

COMPARATIVE OPPOSITE SIDE

- 75 % to 100 % : 46
- 50 % to 75 % : 12
- < 50 % : 1
Results – x-rays

- Dorsal tilt: 3
- Frontal tilt: 0
- Ulnar abutment: 4
- Intra-articular step-off > 1mm: 0

No necessary secondary reduction!
Complications

- Carpal tunnel : 2
- Süddeck’s dystrophy : 3
- Secondary displacement : 0
- Radial nerve lesion : 2
# Outcome score

90% of good and excellent results

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cases</th>
</tr>
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<tbody>
<tr>
<td>EXCELLENT</td>
<td>28</td>
</tr>
<tr>
<td>GOOD</td>
<td>25</td>
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<tr>
<td>FAIR</td>
<td>5</td>
</tr>
<tr>
<td>POOR</td>
<td>1</td>
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Clinical case
Clinical case
Clinical case
Discussion

- Knirck – Jupiter 1986
- Hanker – Nuys 1991
- Bain – Richard – Roth 1992
- Geissler 1992
- Mathoulin 1993
- Fontes 1995
Discussion

- Osterman 1995
- Lindau 1997
- Wolfe 1997
- Palmer 1998
- Doi 1999
- Hardy 1999
- Mathoulin 2001
- Pinal 2006
Conclusion

Arthroscopically assisted reduction of intra-articular distal radius fracture gives anatomical reduction and allows the treatment of intrinsic ligament associated lesions.

Internal fixation with wrist traction allows stable reduction, guarantee of good functional results.