Long Term Results of Arthroscopic Debridement of Osteochondritis Dissecans in Adolescent Athletes

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We do not have any conflict of interest to disclose.
Background

Osteochondritis Dissecans (OCD) of the capitellum

Arthroscopic debridement for OCD is a common and minimally invasive procedure.
Previous studies

Excellent or good clinical results in short term

✓ Bexkens R et al. (AJSM, 2017)
  mean follow-up length: 3.5 years

✓ Levine EB et al. (J Pediatr Orthop, 2016)
  mean follow-up length: 2.2 years

✓ Schoch B et al. (Arthroscopy, 2010)
  mean follow-up length: 3.6 years

Necessary to examine the long term outcome!!
Purpose

✓ To investigate **minimum 10 year follow-up outcome** of arthroscopic debridement of OCD in adolescent athletes
Subjects

- **25 athletes** with OCD
  - 23: baseball
  - 1: basketball
  - 1: kendo

- **Average age at surgery:**
  - 15.0 y.o. (13-17 y.o.)

- **Mean follow-up:**
  - 12.7 years (10-13.5 years)
Operation

✓ Position:  
Supine position

✓ Anesthesia:  
general or axillar block

✓ Arthroscope:  
30º & 70º arthroscopes
Anterior compartment

From the proximal anterior-medial portal by 70° scope

radial head

loose body
capitellum
Posterior compartment

From the posterolateral portal by 70° scope

capitellum

radial head

loose body

capitellum

radial head
Arthroscopic treatment

- Removal of loose bodies
- Debridement of unstable cartilage
- Microfractures in the lesion bed
Postoperative management

~1w  immobilization in a splint
1w ~ assisted passive range of motion exercise
4w ~ strengthening training
12w ~ return to previous activity
Clinical evaluation

- Elbow pain
- Timmerman & Andrews (TA) score
- Return to sports
- Preoperative radiographic lesion size
  (Takahara et al, 1999 CORR)
Results

Pain
- Final follow-up -

No pain (76%)

Occasional mild pain (20%)

Pain with moderate activity (4%)

(N=25)
Results

TA scores - Final follow-up -

Excellent (96%)

Poor (4%)

( N=25)
Results

Return to sports

- Previous competitive level (88%)
- Chose another sport (6%)
- Retired from sport (6%)

(N=25)
Results

Preoperative radiographic lesion size

Lesion size (%) = $\frac{D}{A} \times 100$

(Takahara et al, 1999 CORR)

(N=25)

Large (~60%) 28%
Middle (30~59%) 20%
Small (~29%) 52%
### Discussion

**Pain and preoperative lesion size**

<table>
<thead>
<tr>
<th>Lesion size</th>
<th>Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>0%</td>
</tr>
<tr>
<td>Middle</td>
<td>20%</td>
</tr>
<tr>
<td>Large</td>
<td>57.1%</td>
</tr>
</tbody>
</table>

Postoperative pain is related to lesion size.
Limitations

✓ Retrospective design
✓ Small population
✓ Lack of follow-up radiographic examination
Conclusion

Arthroscopic debridement of OCD for small lesion size leads to excellent results and allow a return to the previous sport level
Thank you!!