Arthroscopic Soft Tissue Shoulder Stabilization with Augmentation in Elite Judo Athletes

Shoulder & Elbow Service, Funabashi
Orthopaedic Sports Medicine & Joint Center

H. Hamada, H. Sugaya, N. Takahashi, K. Matsuki, M. Tokai, T. Morioka, Y. Ueda,
S. Hoshika, Y. Takeuchi,
Shoulder instability is common among Judo Athletes

Incidence of traumatic anterior shoulder instability in Judo athletes: 8.9% (50/562)

Uchiyama et al. AJSM 2009
Purpose

• To retrospectively investigate pathologies and clinical outcomes in Judo athletes after arthroscopic stabilization
Surgical Procedures

- **Arthroscopic soft tissue Bankart Repair**
  - Extensive labrum release
  - Entire IGHL re-tensioning
  - Bony Bankart repair (ABBR)
  - Using 4 suture anchors

- **Augmentation**
  - age, gender, bone morphology, sports type
  1. RIC (RI Closure)
  2. RIC + HSR (Hill- Sachs Remplissage)
Patients
May. 2004– Dec. 2015

125 shoulders

4 exclude
MDI 2, SSCrep. 1, Bone graft 1

121 shoulders

31 Lost to F-up (<2y)

Gender 67 shoulders in 62 ♂
23 shoulders in 21 ♀
F-up=5.6(2-14)y, age=18.5(13-32)y
Lapel hand 53, Sleeve hand 37

90 shoulders (>2y)
Assessment

◆ Pathologies
  ✓ Intraoperative findings
  ✓ Surgical procedures

◆ Clinical outcomes
  ✓ ROWE score, SSV score
  ✓ Time to start practice and full return
  ✓ Recurrence rate

Statistical Analysis

◆ Comparison among the groups
  • Mann-Whitney’s U test

◆ P < 0.05
Results: Intraoperative Findings

- Bankart lesion: 100% (90/90)
  - Distinct bony Bankart: 50% (45/90)
- Other findings
  - SLAP: 21% (19/90)
  - Capsular tear: 13.3% (12/90)
  - PASTA lesion: 6.7% (6/90)

► These required repair

Augmentations

<table>
<thead>
<tr>
<th></th>
<th>RIC only</th>
<th>RIC + HSR</th>
<th>HSR only</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABR</td>
<td>31</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>ABBR</td>
<td>22</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>total</td>
<td><strong>53</strong></td>
<td><strong>15</strong></td>
<td>3 (3.3%)</td>
<td>4</td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

- **ABR**: arthroscopic Bankart repair
- **ABBR**: arthroscopic bony Bankart repair
- **RIC**: rotator interval closure
- **HSR**: Hill-Sachs remplissage
Clinical Outcomes

**ROWE Score**

- Pre: [Value]
- Post: [Value]

**SSV Sports**

- Pre: [Value]
- Post: [Value]

* : P<0.05
Sports Return

- 5 shoulders in 4 players retired from competition
- 85 shoulders in 80 patients returned to competition (94%)
  - 79 shoulders in 74 patients returned to preinjury level
  - 6 shoulders in 6 patients returned to the lower level
- Mean time to complete return was 11 months (range, 5-36) after surgery
- Average SSV at the final follow-up was 91.6 (range, 70-100)
Recurrence

- 3 experienced postop dislocation
- 1 suffered postop subluxation

Recurrence rate: 4.4% (4/90)

- 1 underwent revision stabilization
- 2 patients are still competing with the lower level without revision
- 1 retired after recurrence
Discussion : Recurrence Rate

• Lack of reported literature!!
  • 7.6% (1/13)
    ➢ 0% ...9 open stabilization
    ➢ 25% ...(1/4) AS stabilization
    (Rhee YG, et al. AJSM 2006)

The present study
  ➢ 4.7% (4/85 competitive shoulders)
  ➢ All 4 patients were teens w/ medium HS !
RIC & HSR

- RIC: GHJ volume reduction
  - To accelerate proprioception by synergetic effect with ligament tensioning

- HSR: The strongest augmentation
  - Motion loss is the concern
  - HSR tended to have slow ROM recovery
  - No significant difference with RIC in time & ROM when complete return to Judo

To Prevent Recurrence

- Teens require more strong repair
- HSR should be more indicated in teens if they present medium HS lesion
Limitations

- Retrospective case series
- Relatively short F/U

Strength

- Large series exclusively focused on Judo

Conclusions

- AS soft tissue stabilization for Judo athletes can achieve high return rate with low recurrence.
- Selective augmentation in addition to Bankart repair is a key to prevent postop recurrence.