

Remplissage in addition to arthroscopic Bankart repair for shoulder instability with on-track Hill-Sachs lesions reduces residual apprehension without external rotation limitation.

Hyojune Kim, In-Ho Jeon, Kyoung-Hwan Koh

INTRODUCTION:

Bankart repair with Remplissage procedure is considered as one of the most promising arthroscopic techniques for management of engaging Hill-Sachs. However, the role of the remplissage in the non engage hill sachs lesion is not well-known. To evaluate remplissage with Bankart repair's role in patients with recurrent anterior shoulder dislocation and on-track Hill-Sachs lesion.

METHODS:

Arthroscopic Bankart repair with remplissage data (December 2018–2020) were collected (BR group).

Inclusion criteria were (1) recurrent anterior shoulder dislocation, (2) on-track Hill-Sachs lesion, (3) minimal/subcritical glenoid bone loss (<17%), and (4) postoperative follow-up > 1 year. Exclusion criteria were (1) revision surgery, (2) first dislocation with acute glenoid rim fracture, and (3) combined with other surgery.

The control group was identified in Bankart repair only cohort (B group).

Visual analogue scale for pain (PVAS), Self-Assessment Numerical Evaluation (SANE), American Shoulder and Elbow Surgeons Shoulder (ASES) score, ROWE, and Western Ontario Shoulder Instability (WOSI) were evaluated at preoperative and final follow-up. Residual apprehension experience and external rotation deficit were evaluated. Patients were asked how often they experienced any subjective apprehension in 4 grades (1: always, 2: frequently, 3: occasionally, 4: never). Any recurrent dislocation or revision surgery postop was investigated.

RESULTS:

53 patients (B, 28; BR, 25) were included. At final follow-up, both groups showed improvement in 5 clinical scores postsurgery ($P < 0.001$), and significant differences were found in the ROWE scores (B: 75.2 ± 13.6 , BR: 84.4 ± 10.8 ; $P = 0.009$).

Residual apprehension patient ratio (B: 71.4% (20/28), BR: 32% (8/25); $P = 0.004$) and the mean subjective apprehension grade (B: 3.1 ± 0.6 , BR: 3.6 ± 0.6 ; $P = 0.005$) showed statistically significant difference, while none in both groups' external rotation deficit (B: $14.8 \pm 12.9^\circ$, BR: $18.0 \pm 15.2^\circ$, $P = 0.420$).

Only one B group patient had failed surgery with dislocation recurrence ($p = .340$).

DISCUSSION AND CONCLUSION: With the treatment of recurrent anterior shoulder instability with non-engaged Hill-Sachs lesions and minimal glenoid bone loss (<15%), both group showed reliable clinical results. Remplissage performed with arthroscopic Bankart repair in non-engage hill sachs have a role with better clinical outcome reducing apprehension and subjective instability feeling.

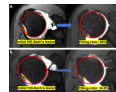
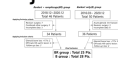
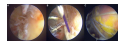
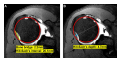


Table 1. Comparison of the general demographic data.

Parameter	B group	BR group
Age (mean)	32.1	31.5
Sex (M/F)	18/10	17/8
Side (L/R)	14/14	13/12
Time to surgery (mean)	120	115
Time to follow-up (mean)	24	23
Time to return to work (mean)	12	11
Time to return to sports (mean)	18	17
Time to return to normal life (mean)	22	21
Time to return to normal life (range)	10-36	9-35

Table 2. Comparison of the clinical scores at preoperative and postoperative.

Score	Preoperative	Postoperative
ASES	45.2	88.5
ROWE	65.1	82.3
WOSI	15.4	22.1
SANE	3.2	2.1
PVAS	4.5	2.8

Table 3. Comparison of the residual apprehension and instability.

Parameter	B group	BR group
Residual apprehension (patient ratio)	71.4%	32%
Mean subjective apprehension grade	3.1	3.6
External rotation deficit (mean)	14.8	18.0

Table 4. Comparison of the clinical scores at final follow-up.

Score	B group	BR group
ASES	85.2	88.5
ROWE	75.2	84.4
WOSI	25.4	22.1
SANE	2.2	2.1
PVAS	2.8	2.8