A 2-Year Follow-up May Not be Enough to Accurately Evaluate Recurrences After Arthroscopic Bankart Repair

A Long-term Assessment of 272 Patients With a Mean Follow-up of 10.5 Years

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Background: There is a great discrepancy between the rates of recurrent instability reported after arthroscopic Bankart repair in relation to the follow-up time.

Purpose: To analyze the rate of recurrences after arthroscopic Bankart repair in the long term, emphasizing whether a minimum follow-up of 2 years is adequate to assess this outcome.

Study Design: Case series; Level of evidence, 4.

Methods: Between January 2008 and April 2013, a total of 356 athletes underwent arthroscopic Bankart repair for anterior glenohumeral instability at our institution. Return to sports, the Rowe score, the Subjective Shoulder Value (SSV), and the Athletic Shoulder Outcome Scoring System (ASOSS) were used to assess functional outcomes. We analyzed the proportion of recurrences before and after 4 years of follow-up. Additionally, we performed a Kaplan-Meier analysis to evaluate recurrence-free time in patients with a recurrence.

Results: The mean follow-up was 10.5 ± 1.6 years, and the mean age was 20.8 ± 3.9 years. In total, 90% of patients were able to return to sports; of these, 91% returned to their preinjury level of play. The Rowe, SSV, and ASOSS scores showed a statistical improvement after surgery ($P < .01$). The proportion of patients with a recurrence during the follow-up period was 25% (95% CI, 20%-31%; n = 70), and the mean time until a recurrence was 3.8 ± 2.6 years. Only 39% of the recurrences (95% CI, 30%-48%) occurred in the first 2 years after surgery, while 61% (95% CI, 50%-73%) occurred in the first 4 years after surgery.

Conclusion: In our study, the effectiveness of Bankart repair to stabilize the shoulder decreased significantly over time. Indeed, less than half of the recurrences occurred after 2 years of follow-up. Therefore, we propose that the recommended minimum follow-up should be 4 years; otherwise, it is very likely that the actual rate of recurrences will be significantly underestimated.

Keywords: shoulder; shoulder instability; glenoid labrum

In recent years, there has been significant progress in the recognition of some risk factors of a recurrence associated with arthroscopic Bankart repair, such as age <20 years, collision sports, glenoid bone loss, presence of an engaging Hill-Sachs lesion, and hyperlaxity, among others.[15,16,19,26,30] This has prompted many shoulder surgeons to lean toward the use of other associated procedures to reinforce Bankart repair, such as remplissage, or directly to the use of alternative techniques such as glenoid reconstruction with bone grafts in higher-risk subgroups.[7,9,13,14]

A recurrence after Bankart repair is the most frequent complication.[29] This is because in a young athletic patient, recurrent instability usually necessitates further surgery,

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prolonged rehabilitation, and several months out of competition.[10,11] Although the risk factors for a recurrence after Bankart repair have been intensively investigated in recent years, there is very little information on the evolution of this complication over time. There is a great discrepancy between the rates of recurrences reported in different studies in relation to the follow-up time, which varies between 2% and 10%[17,23] in short-term studies and from 18% to 41% in studies with a long-term follow-up.[1,5,12,20,31] This may be a determining factor when choosing the most appropriate treatment, as the majority of patients who undergo surgery for recurrent glenohumeral instability are healthy young athletes who are looking for not only an effective solution for their shoulder but also a long-lasting one. Furthermore, if we only know what happens in the short term, we could be underestimating the real rate of recurrences associated with Bankart repair and giving our patients inaccurate information about what their expectations should be in relation to surgery in the long term. On the other hand, if the rate of recurrences increases significantly with a longer follow-up and does not stabilize over time, it could also warn us about the need to seek alternative procedures for our patients that can guarantee predictable results in the long term.

The hypothesis of our study was that although Bankart repair is associated with favorable functional outcomes and a high rate of return to sports, its effectiveness in reducing recurrences decreases over the postoperative course, leading to a substantial number of late failures in the long term. The purpose of our study was to analyze the rate of recurrences after arthroscopic Bankart repair in the long term, emphasizing whether a minimum follow-up of 2 years is adequate to assess this outcome.

METHODS

We carried out a retrospective cohort study at a university hospital in *Buenos Aires, Argentina*. Data were collected using electronic health records. *Hospital Italiano de Buenos Aires* is a high-complexity third-level university hospital with 750 beds and 38 critical care beds for adult patients. The study protocol was approved by the local ethics committee of our institution (IRB: 00010193), and all patients provided written informed consent to participate in this investigation. This article adheres to Strengthening the Reporting of Observational Studies in Epidemiology guidelines.

Between January 2008 and April 2013, a total of 356 athletes underwent arthroscopic Bankart repair for anterior glenohumeral instability at our institution. The inclusion criteria for this study were patients aged <30 years, a minimum follow-up of 8 years, and at least 1 instability episode (defined as a subluxation or dislocation with a spontaneous reduction or complete dislocation requiring a reduction). Exclusion criteria were large bony Bankart lesions (bony defects of >20% on the anteroinferior portion of the glenoid), humeral avulsion of the glenohumeral ligament lesions, associated superior labrum anterior to posterior (SLAP) lesions, posterior labral tears, rotator cuff injuries, previous surgery on the same shoulder, anterior or inferior hyperlaxity, and multidirectional instability.

Clinical Evaluation

Preoperative and postoperative evaluations consisted of a patient-based questionnaire and a physical examination performed by a shoulder fellow who did not participate in the surgical procedure (I.P.). Instability was evaluated with apprehension and relocation tests performed preoperatively and at the last follow-up. Anterior hyperlaxity was defined as external rotation of >90° with the arms at the side (reaching the frontal plane), and inferior hyperlaxity was determined through the Gagey hyperabduction test.[4,6] Radiography and magnetic resonance imaging were performed in all cases. If bony defects were suspected on imaging, computed tomography was performed to evaluate the magnitude.

The Rowe score and the Subjective Shoulder Value (SSV) were used as global outcome measures.[8,25] Shoulder-dependent sports ability was examined with the Athletic Shoulder Outcome Scoring System (ASOSS).[27] Clinical outcomes were also assessed using the minimal clinically important difference for the Rowe score, defined as an increase from baseline in the Rowe score of ≥9.7 points.[21] Patients were also asked if they had been able to practice their previous sports and if they had been able to perform them at the same level as before the dislocation. The distinctive types of shoulder-dependent sports were categorized in an analog manner according to Allain et al[3]: noncontact/nonoverhead sport (G1), contact/collision sport (G2), overhead sport (G3), and martial arts (G4).

Patients were contacted by telephone and then examined at a minimum follow-up of 8 years. All surgery-related complications and reoperations were documented. This information was obtained from the electronic medical records of our institution.

Surgical Technique

The surgical procedure for all of the cases in this series was arthroscopic anterior stabilization performed with the patient in the lateral decubitus position, with combined general endotracheal and regional anesthesia. All athletes underwent primary arthroscopic anterior glenohumeral stabilization for anterior shoulder instability using a knotted anchor technique with simple sliding knots. In all cases, we used biodegradable anchors with double sutures. After complete liberation and release of the capsulolabral ligament beyond the
6-o'clock position, the labral edge was debrided. Next, the anterior and inferior glenoid rim and neck were abraded with a shaver. Then, 3 anchors with No. 2 nonabsorbable sutures (3.0 BioCorkscrew; Arthrex) were placed on the cartilage edge of the glenoid surface. No patients in this series were treated with posterior-inferior capsulolabral repair, rotator interval closure, SLAP repair, or remplissage.

Rehabilitation

A standardized postoperative physical therapy and rehabilitation program was used. The arm was supported in a sling for 4 weeks. After 1 week, supervised gentle physical therapy consisting of gradual passive range of motion was begun. Active-assisted range of motion exercises were started at 2 weeks after surgery. When the patient could achieve active forward elevation above the shoulder level, strengthening exercises were commenced. Running was authorized at 8 weeks. Return to sports was allowed when the patient was pain-free without apprehension, full shoulder range of motion had been achieved, and shoulder strength was nearly the same as before the injury.

Statistical Analysis

Categorical variables were presented as proportions and compared by the chi-square test or Fisher exact test as appropriate. Quantitative variables were presented as the mean and standard deviation or the median and interquartile range (IQR) and compared by the Student *t* test or Mann-Whitney *U* test according to distribution.

The primary outcome was the proportion of recurrences before and after 4 years of follow-up. Additionally, we performed a Kaplan-Meier analysis to evaluate recurrence-free time in patients with a recurrence.

As a secondary objective, we evaluated if the type of sport and patient's age (<20 years or ≥20 years) were associated with the risk of recurrences. These analyses were performed with Cox regression to evaluate the hazard ratio (HR) of recurrences depending on the subgroups of the study. We reported the crude and adjusted HRs. We performed a complete case analysis without imputation for missing data. Statistical analysis was performed with STATA Version 16 (StataCorp). A P value <.05 was considered statistically significant.

RESULTS

A total of 356 athletes who met the inclusion criteria underwent surgery during the study period. Of these, 59 patients were excluded, and 25 were lost to follow-up; thus, the final analysis entailed 272 patients (91% follow-up rate) (Figure 1).

All the demographic characteristics are presented in Table 1. The median follow-up was 10.3 years (IQR, 9.2-11.8 years). The median age was 20 years (IQR, 18-23 years), and 73.5% of the patients (95% CI, 69%-78%; n = 200) were male. Additionally, 92% (n = 251) were able to return to sports, and 87% (95% CI, 83%-91%; n = 237) returned to the same previous level as before the injury (Table 2). The mean time between surgery and return to competition was 59.0 ± 10.0 months.

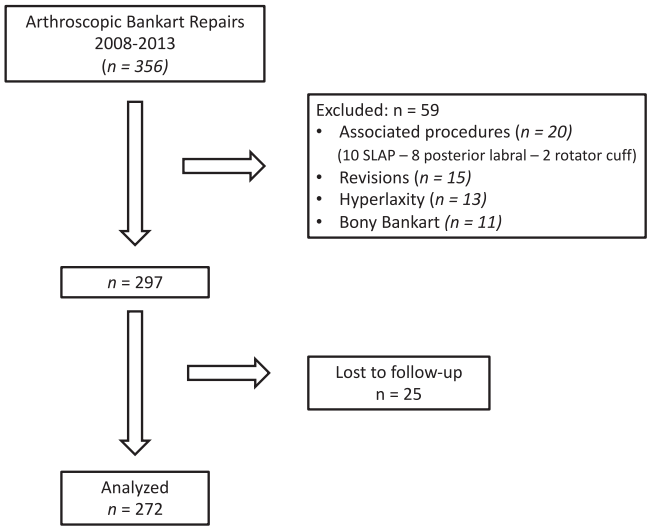

Figure 1. Flowchart demonstrating the patient selection process. SLAP, superior labrum anterior to posterior.

The Rowe, SSV, and ASOSS scores showed a statistical improvement after surgery. Specifically, the Rowe score increased from a median of 45 (IQR, 40-50) points preoperatively to 95 (IQR, 90-100) points after surgery ($P < .01$). The SSV score improved from a median of 50 (IQR, 40-60) preoperatively to 90 (IQR, 80-90) at the last follow-up ($P < .01$). The ASOSS score improved significantly from a median of 52 (IQR, 52-54) points preoperatively to 93 (IQR, 92-94) points after surgery ($P < .01$).

The proportion of patients with a recurrence during the follow-up period was 25% (95% CI, 20%-31%; n = 70), and the mean time until a recurrence was 3.8 ± 2.6 years. Only 39% of the recurrences (95% CI, 30%-48%) occurred in the first 2 years after surgery, while 61% (95% CI, 50%-73%) occurred in the first 4 years after surgery (Figure 2). The Kaplan-Meier curve to evaluate recurrence-free time in patients with a recurrence is presented in Figure 3. The cumulative revision rate at 10 years of follow-up was 19%

On Cox regression analysis, we observed that patients in contact/collision sports (G2) and martial arts (G4) had a higher recurrence risk than patients in noncontact/non-overhead sports (G1), with a crude HR of 2.40 (95% CI, 1.18-4.89) and 4.62 (95% CI, 2.09-10.19), respectively, and with an adjusted HR, using age as a potential confounder, of 2.45 (95% CI, 1.20-4.99) and 4.81 (95% CI, 2.18-10.62), respectively (Table 3 and Figure 4).

Additionally, we observed that patients aged <20 years had a higher risk of recurrences than patients aged ≥20 years, with an HR of 2.04 (95% CI, 1.20-3.40). Also, using the type of sports as a potential confounder, we observed that the risk of recurrences in young athletes was higher independently of the type of sports, with an adjusted HR of 2.10 (95% CI, 1.30-3.60) (Figure 5). Other than recurrences, there were 8 complications (2.9%), the

TABLE 1
Patient Characteristics[a]

	All (N = 272)	Without Recurrence (n = 202)	With Recurrence (n = 70)	*P* Value
Demographics				
Age, y	20 (18-23)	20 (18-24)	19 (18-21)	<.010
Male sex	200 (73.5)	148 (73.3)	52 (74.3)	.890
Follow-up, y	10.3 (9.2-11.8)	10.2 (9.2-11.9)	10.6 (9.4-11.7)	.534
Allain classification				<.010
No contact/no overhead	76 (27.9)	66 (32.7)	10 (14.3)	
Contact/collision	111 (40.8)	79 (39.1)	32 (45.7)	
Overhead	53 (19.5)	41 (20.3)	12 (17.1)	
Martial arts	32 (11.8)	16 (7.9)	16 (22.9)	
Outcome scores				
Preoperative Rowe	45 (40-50)	45 (40-50)	45 (40-50)	.286
Postoperative Rowe	95 (90-100)	95 (89-100)	96 (90-100)	.629
Preoperative ASOSS	52 (52-54)	52 (52-54)	52 (52-54)	.322
Postoperative ASOSS	93 (92-94)	93 (92-94)	94 (92-96)	.404
Preoperative SSV	50 (40-60)	50 (40-60)	55 (50-60)	.062
Postoperative SSV	90 (80-90)	90 (80-90)	80 (80-90)	.086
Return to sports				.103
Same level	237 (87.1)	178 (88.1)	59 (84.3)	
Lower level	14 (5.2)	7 (3.5)	7 (10.0)	
No return	21 (7.7)	17 (8.4)	4 (5.7)	
Time between surgery and return to sports, mo	59.0 ± 10.0	5.1 ± 16.0	56.0 ± 0.8	.771

[a]Data are shown as median (interquartile range), n (%), or mean ± SD. ASOSS, Athletic Shoulder Outcome Scoring System; SSV, Subjective Shoulder Value.

TABLE 2
Return to Sports Depending on Allain Classification[a]

	All (N = 272)	Returned to Same Level (n = 237)	Never Returned or Returned to Lower Level (n = 35)	*P* Value
No contact/no overhead	76 (27.9)	69 (90.8)	7 (9.2)	.543
Contact/collision	111 (40.8)	94 (84.7)	17 (15.3)	
Overhead	53 (19.5)	46 (86.8)	7 (13.2)	
Martial arts	32 (11.8)	28 (87.5)	4 (12.5)	

[a]Data are shown as n (%).

TABLE 3
Recurrences Depending on Allain Classification[a]

	Before 4 y (n = 43)	After 4 y (n = 27)
No contact/no overhead	6 (60)	4 (40)
Contact/collision	21 (66)	11 (34)
Overhead	6 (50)	6 (50)
Martial arts	10 (62)	6 (38)

[a]Data are shown as n (%).

majority being stiffness and biceps tendinitis. None required a reoperation.

DISCUSSION

There were 2 main findings in the present study. The first is that the effectiveness of Bankart repair in preventing recurrences decreased significantly over time. Specifically, the proportion of recurrences increased from 5% at 2 years of follow-up to 25% at 10 years. Second, although the rate of events that occurred was greater during the first postoperative years, only 39% of the first episodes of recurrences occurred after 2 years of follow-up, which calls into question whether the minimum 2-year follow-up routinely accepted to report the results of Bankart repair is sufficient.

Current evidence shows that Bankart repair is associated with very good functional results and a high rate of return to sports.[14] However, the results regarding its ability to prevent recurrences in the long term are more controversial, and there is enormous variability in the percentage of recurrences reported depending on the follow-up time in the studies evaluated.[17,18,23,31] Recently, 2 randomized controlled trials published in 2021 reported 2% and 10% recurrence rates after arthroscopic Bankart repair at 24 months of follow-up.[17,23] Moreover, a recent systematic review reported a 6.5% recurrence rate after 3 years of follow-up with arthroscopic Bankart repair.[2]

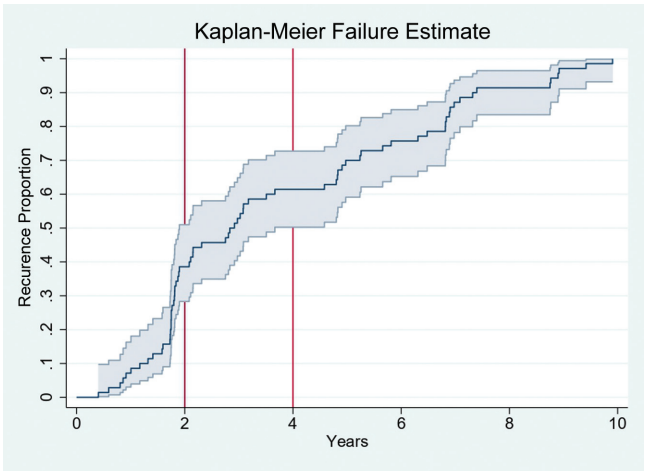

Figure 2. Kaplan-Meier failure curve of dislocations in all patients with recurrences. Vertical lines mark 2 and 4 years' follow-up.

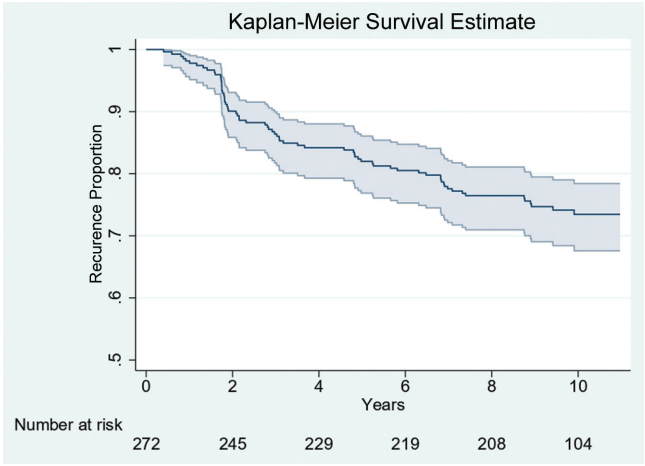

Figure 3. Kaplan-Meier survival curve of recurrences in all patients.

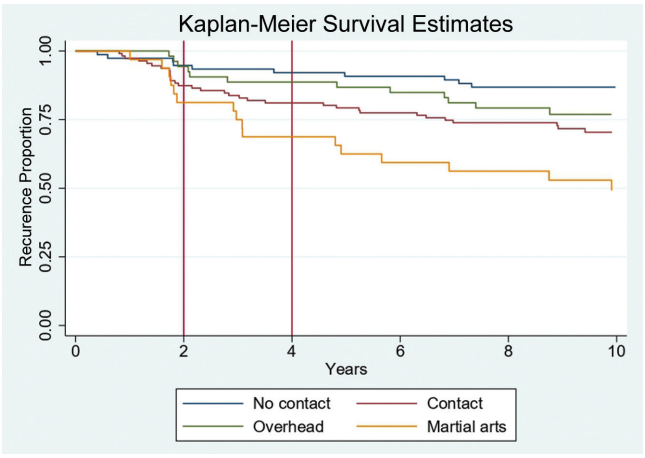

Figure 4. Kaplan-Meier survival curve of recurrences in patients categorized by the Allain classification. Vertical lines mark 2 and 4 years of follow-up.

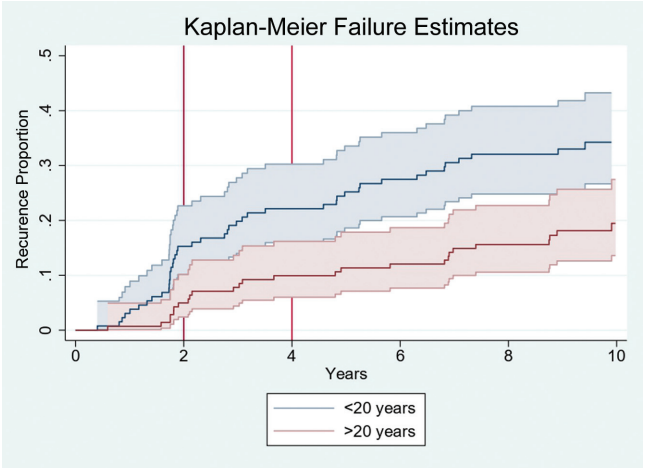

Figure 5. Kaplan-Meier failure curve of recurrences in patients aged <20 years or ≥20 years. Vertical lines mark 2 and 4 years of follow-up.

However, other authors have reported very high percentages of recurrences with a longer follow-up that vary between 18% and 37%.[1,5,20] In a recent systematic review of the long-term results of Bankart repair, Murphy et al[18] reported a recurrence rate of 31% at 149 months of follow-up. This is a very significant finding that alerts us of the low effectiveness that Bankart repair could have in the long term. However, a limitation of the study by Murphy et al was that the authors did not report at what time of follow-up the recurrences occurred. In our study, we had a rate of recurrences at 10 years of 25%. However, it is important to note that only 39% of them occurred in the first 2 years and 61% were in the first 4 years. This is a very significant finding that highlights the decreased effectiveness of Bankart repair in the medium to long term. In a similar study, Zimmermann et al[31] evaluated the long-term effectiveness of Bankart repair in patients with recurrent glenohumeral instability. The authors reported a 41% recurrence rate after a mean follow-up of 10 years. Also consistent with our findings, 61% of the instability episodes occurred after 2 years, and 20% occurred after 8 years of follow-up.

Therefore, a controversy that arises from our study is whether the minimum 2-year follow-up accepted by most orthopaedic journals is adequate to accurately assess recurrences after Bankart repair. We believe that a minimum follow-up of 2 years is insufficient to evaluate recurrences because it is only after 4 years that the number of recurrences began to decrease, and a high proportion of them (61% in our study) occurred after 4 years of follow-up. Therefore, we believe that the recommended minimum follow-up should be 4 to 5 years, which is the time when 60% to 70% of the recurrences have already occurred.

Otherwise, if 2 years of follow-up is considered acceptable, it is very likely that the actual rate of recurrences experienced by patients will be significantly underestimated. We understand that extending the minimum follow-up time presents a greater challenge for researchers so as not to lose patients during the follow-up period, but we believe that, in this case, it is worth the effort because the results obtained otherwise may not accurately reflect the real rate of recurrences.

Another interesting finding of our study is that in our subgroups, Bankart repair was even more unpredictable in the long term. Specifically, in the subgroup aged <20 years, the rate of recurrences was 34% and in contact/collision athletes was 45% at 10 years of follow-up. In addition, our study showed how in these subgroups, recurrences continued to increase significantly, even after 5 years of follow-up. For example, in the patients aged <20 years and in contact/collision athletes, the rate of recurrences at 2 years was 14% and 15%, respectively, and at 8 years, it was 33% and 25%, respectively. Furthermore, in our study, the cumulative revision rate at 10 years of follow-up was 19%. Zimmermann et al[31] also reported significantly high revision rates in the long term after Bankart repair. In their study, at a mean follow-up of 10 years, the cumulative revision rate for recurrent instability was 21%.[17] This is a very relevant finding to consider when talking with patients about what their expectations should be in relation to surgery. It is important to keep in mind that these patients are usually healthy young athletes, who have very high expectations regarding their surgery.[22] A recurrence would indicate not only the failure of treatment but also facing a new procedure and undergoing anesthesia, several months out of competition, and a long rehabilitation time.[10,11] In addition, various authors have reported suboptimal results in patients undergoing revision surgery after a previous failed procedure.[10,11,28]

An alternative that could be considered in the face of unfavorable long-term results with Bankart repair is bone reconstruction with the Latarjet procedure. A recent systematic review conducted by Hurley et al[12] evaluating long-term outcomes of the Latarjet procedure for anterior shoulder instability reported an 8.5% recurrent instability rate at a mean follow-up of 17 years. One limitation of this meta-analysis was that it did not include studies in which the Latarjet procedure was indicated in patients without a significant bone deficit. A recent study by Rossi et al[24] comparing outcomes between arthroscopic Bankart repair and the Latarjet procedure in competitive rugby players with glenohumeral instability and glenoid bone loss <20% showed a rate of recurrences of 20% in the Bankart group and 4% in the Latarjet group (P = .01) at a mean follow-up of 40 months. However, there are no long-term follow-up studies to date comparing Bankart repair with the Latarjet procedure or Bankart repair with other associated procedures such as remplissage in patients with subcritical glenoid bone deficits and on-track Hill-Sachs lesions so as to confirm whether these alternatives are better in the long run.

Our study has some limitations that should be mentioned. First, we did not have a control group to compare long-term results because at the time of performing the surgical procedures in this series, the treatment of choice for the patients included in this analysis was arthroscopic Bankart repair. Therefore, although it is clear from the data of our study that Bankart repair was not effective in the long term, we cannot guarantee that another procedure would have been more effective in the same group of patients. In addition, no action was taken in relation to the Hill-Sachs lesions in this series. Currently, some authors recommend performing remplissage in addition to Bankart repair in patients with an engaging Hill-Sachs lesion.[9]

CONCLUSION

In our study, the effectiveness of Bankart repair to stabilize the shoulder decreased significantly over time. Indeed, less than half of the recurrences occurred after 2 years of follow-up. Therefore, we propose that the recommended minimum follow-up should be 4 years; otherwise, it is very likely that the actual rate of recurrences will be significantly underestimated.

REFERENCES

1. Aboalata M, Plath JE, Seppel G, Juretzko J, Vogt S, Imhoff AB. Results of arthroscopic Bankart repair for anterior-inferior shoulder instability at 13-year follow-up. *Am J Sports Med*. 2017;45(4):782-787.
2. Alkhatib N, Abdullah ASA, AlNouri M, Ahmad Alzobi OZ, Alkaramany E, Ishibashi Y. Short- and long-term outcomes in Bankart repair versus conservative treatment for first-time anterior shoulder dislocation: a systematic review and meta-analysis of randomized controlled trials. *J Shoulder Elbow Surg*. 2022;31(8):1751-1762.
3. Allain J, Goutallier D, Glorion C. Long-term results of the Latarjet procedure for the treatment of anterior instability of the shoulder. *J Bone Joint Surg Am*. 1998;80(6):841-852.
4. Coste JS, Jund S, Lemaire M, Pascal B. Evaluation arthroscopique du test de laxité du ligament glénohuméral inférieur. *Rev Chir Orthop*. 1999;85:61.
5. Delgrande D, Lonjon G, Hardy P, Schoch B, Werthel JD. Long-term results of arthroscopic Bankart repairs for anterior instability of the shoulder in patients aged thirty years or older. *Int Orthop*. 2021;45(6):1583-1589.
6. Gagey OJ, Gagey N. The hyperabduction test. *J Bone Joint Surg Br*. 2001;83:69-74.
7. Gilat R, Haunschild ED, Lavoie-Gagne OZ, et al. Outcomes of the Latarjet procedure versus free bone block procedures for anterior shoulder instability: a systematic review and meta-analysis. *Am J Sports Med*. 2021;49(3):805-816.
8. Gilbart MK, Gerber C. Comparison of the subjective shoulder value and the Constant score. *J Shoulder Elbow Surg*. 2007;16(6):717-721.
9. Gouveia K, Abidi SK, Shamshoon S, et al. Arthroscopic Bankart repair with remplissage in comparison to bone block augmentation for anterior shoulder instability with bipolar bone loss: a systematic review. *Arthroscopy*. 2021;37(2):706-717.
10. Haskel JD, Wang KH, Hurley ET, et al. Clinical outcomes of revision arthroscopic Bankart repair for anterior shoulder instability: a systematic review of studies. *J Shoulder Elbow Surg*. 2022;31(1):209-216.
11. Hong IS, Sonnenfeld JJ, Sicat CS, et al. Outcomes after arthroscopic revision Bankart repair is dependent on glenoid bone loss: an updated systematic review of recent literature. *Arthroscopy*. Published online April 7, 2022. doi: 10.1016/j.arthro.2022.03.030

12. Hurley ET, Jamal MS, Ali ZS, Montgomery C, Pauzenberger L, Mullett H. Long-term outcomes of the Latarjet procedure for anterior shoulder instability: a systematic review of studies at 10-year follow-up. *J Shoulder Elbow Surg*. 2019;28(2):e33-e39.
13. Hurley ET, Toale JP, Davey MS, et al. Remplissage for anterior shoulder instability with Hill-Sachs lesions: a systematic review and meta-analysis. *J Shoulder Elbow Surg*. 2020;29(12):2487-2494.
14. Imam MA, Shehata MSA, Martin A, et al. Bankart repair versus Latarjet procedure for recurrent anterior shoulder instability: a systematic review and meta-analysis of 3275 shoulders. *Am J Sports Med*. 2021;49(7):1945-1953.
15. Lee SH, Lim KH, Kim JW. Risk factors for recurrence of anterior-inferior instability of the shoulder after arthroscopic Bankart repair in patients younger than 30 years. *Arthroscopy*. 2018;34(9):2530-2536.
16. Mahure SA, Mollon B, Capogna BM, Zuckerman JD, Kwon YW, Rokito AS. Risk factors for recurrent instability or revision surgery following arthroscopic Bankart repair. *Bone Joint J*. 2018;100(3):324-330.
17. Minkus M, Königshausen M, Maier D, et al. Immobilization in external rotation and abduction versus arthroscopic stabilization after first-time anterior shoulder dislocation: a multicenter randomized controlled trial. *Am J Sports Med*. 2021;49(4):857-865.
18. Murphy AI, Hurley ET, Hurley DJ, Pauzenberger L, Mullett H. Long-term outcomes of the arthroscopic Bankart repair: a systematic review of studies at 10-year follow-up. *J Shoulder Elbow Surg*. 2019;28(11):2084-2089.
19. Nakagawa S, Mae T, Sato S, Okimura S, Kuroda M. Risk factors for the postoperative recurrence of instability after arthroscopic Bankart repair in athletes. *Orthop J Sports Med*. 2017;5(9):2325967117726494.
20. Ono Y, Dávalos Herrera DA, Woodmass JM, et al. Long-term outcomes following isolated arthroscopic Bankart repair: a 9- to 12-year follow-up. *JSES Open Access*. 2019;3(3):189-193.
21. Park I, Lee JH, Hyun HS, Lee TK, Shin SJ. Minimal clinically important differences in Rowe and Western Ontario Shoulder Instability Index scores after arthroscopic repair of anterior shoulder instability. *J Shoulder Elbow Surg*. 2018;27(4):579-584.
22. Plath JE, Saier T, Feucht MJ, et al. Patients' expectations of shoulder instability repair. *Knee Surg Sports Traumatol Arthrosc*. 2018;26(1):15-23.
23. Pougès C, Hardy A, Vervoort T, et al. Arthroscopic Bankart repair versus immobilization for first episode of anterior shoulder dislocation before the age of 25: a randomized controlled trial. *Am J Sports Med*. 2021;49(5):1166-1174.
24. Rossi LA, Tanoira I, Gorodischer T, Pasqualini I, Ranalletta M. Recurrence and revision rates with arthroscopic Bankart repair compared with the Latarjet procedure in competitive rugby players with glenohumeral instability and a glenoid bone loss <20. *Am J Sports Med*. 2021;49(4):866-872.
25. Rowe C, Patel D, Southmayd W. The Bankart procedure: a long-term end-result study. *J Bone Joint Surg Am*. 1978;60:1-16.
26. Shanmugaraj A, Chai D, Sarraj M, et al. Surgical stabilization of pediatric anterior shoulder instability yields high recurrence rates: a systematic review. *Knee Surg Sports Traumatol Arthrosc*. 2021;29(1):192-201.
27. Stein T, Linke RD, Buckup J, et al. Shoulder sport-specific impairments after arthroscopic Bankart repair: a prospective longitudinal assessment. *Am J Sports Med*. 2011;39(11):2404-2414.
28. van Iersel TP, van Spanning SH, Verweij LPE, Priester-Vink S, van Deurzen DFP, van den Bekerom MPJ. Bony reconstruction after failed labral repair is associated with higher recurrence rates compared to primary bony reconstruction: a systematic review and meta-analysis of 1319 shoulders in studies with a minimum of 2-year follow-up. *J Shoulder Elbow Surg*. 2022;31(9):1982-1991.
29. Williams HLM, Evans JP, Furness ND, Smith CD. It's not all about redislocation: a systematic review of complications after anterior shoulder stabilization surgery. *Am J Sports Med*. 2019;47(13):3277-3283.
30. Yian EH, Weathers M, Knott JR, Sodl JF, Spencer HT. Predicting failure after primary arthroscopic Bankart repair: analysis of a statistical model using anatomic risk factors. *Arthroscopy*. 2020;36(4):964-970.
31. Zimmermann SM, Scheyerer MJ, Farshad M, Catanzaro S, Rahm S, Gerber C. Long-term restoration of anterior shoulder stability: a retrospective analysis of arthroscopic Bankart repair versus open Latarjet procedure. *J Bone Joint Surg Am*. 2016;98(23):1954-1961.