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A Clinical Overview of Management of First Time Anterior Shoulder Dislocation

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Abstract

Background: Instability following a traumatic shoulder dislocation is known to cause significant morbidity especially as post-traumatic dislocations occur in young active patients. The management of this injury is still controversial. There is always a debate between those that recommend surgical stabilization following a 1st time dislocation (FTD) and those that prefer treating them conservatively. The aim of treatment following a dislocation is to manage the episode such that there is no threat of recurrence, there is a full functional recovery with no apprehension, and an ability to get back to the same level of sporting activity.

Purpose: The purpose of the study is to review the current literature and provide recommendations regarding management following FTD.

Design: Clinical overview, Perspective.

Methods: Review of literature using PUBMED, MEDLINE.

Results: The present thought process is towards Arthroscopic primary stabilization following 1st time post-traumatic dislocation in young active individuals with projected significant overhead activities.

Conclusion: Management of a patient following a FTD/subluxation has been the subject of debate for a long time. A number of factors have been studied and published such as age, sports participation, sex, pathological findings after the dislocation to enable the surgeon to decide on the management of this condition. Recurrence comes at a cost of increasing the instability with every episode of dislocation. More the instability before the surgical stabilization, more are the chances of either failure or the requirement of a salvage procedure like a Latarjet with its inherent high complication rate. But not every patient with FTD should warrant a surgical stabilization. A personalized approach is recommended and not a one size fits all approach.

Keywords: First time dislocator, microinstability, Bankart lesion, Latarjet.

Introduction

Historically, dislocation of the shoulder has been seen in Egyptian murals of 3000BC. Hippocrates has known to even classify it as either traumatic or at will [1]. There is no proper definition in literature for recurrence, as some believe it is a frank dislocation requiring reduction by a surgeon while others have included patients with subluxation or feeling of instability and apprehension. Thus recurrence rates in literature have varied from 19% to 90% following 1st time dislocation (FTD) [2, 3, 4].

Dislocation of the shoulder joint occurs in 1–2% of the population. Its incidence is 1.7% among adults and it is 3 times more common among men. About 90% of shoulder dislocations are anterior, and traumatic injuries account for 95% of them. In athletic patients under the age of 20 years, the recurrence rates are >90%. Among patients aged 20–25 years, the rates are between 50% and 75% [5]. One of the earliest studies by Rowe et al. who investigated 500 shoulder dislocations found that 20% of these dislocations

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occurred to patients at the age between 10 and 20 but only about 2% to patients younger than 10 years Therefore, these pediatric traumas more often result in humeral physical or metaphyseal fractures [1].

The recurrence rate after FTD is higher in the younger population with a rate up to 100% in patients younger than 10 and 60–94% between 10 and 20 years of age. Children between 14 and 18 years of age are 24 times more likely to experience recurrent instability compared to infants aged 13 years and less, with a 14 times more likelihood of recurrent instability with a closed physis compared with those with an open physis [1].

Anatomy

Anatomically, the glenoid labrum enhances the stability of the glenohumeral joint through three primary mechanisms. First, the labrum deepens the concavity of the glenoid up to 9 mm in the superior-inferior direction and doubles the anteroposterior depth to 5 mm. Second, the labrum increases glenohumeral stability by increasing the surface area through which the glenoid contacts the humeral head through an arc of motion. Finally, the labrum is the site of attachment for the various glenohumeral ligaments that confer static stability to the joint [6, 7].

The anteroinferior labrum is the thickest rounded convex bumper integrated to the articular cartilage. Along with the Inferior glenohumeral ligament, it takes compressive forces. The superior labrum is relatively lax and has the biceps attached to it. It takes tensile forces. Once torn, the inferior labrum moves medially, hence the percentage of anterior labral periosteal sleeve avulsion (ALAPSA) lesions are very high [1].

Secondary stabilizers (Rotator Cuff, Deltoid through mediolateral and vertical force couples provide concavity compression effect). Thus, the stability of the shoulder is due to concentric compression, intact capsuloligamentous complex, balanced forces of rotator cuff and the axio-scapular musculature, scapular orientation, glenoid and humeral bony architecture, and version. The articulation is simply compared to a Golfball on a Tee.

Bankart lesion is the predominant lesion in traumatic anterior shoulder instability after anterior shoulder dislocation. Bankart lesion is seen in 79–100% of cases and in 93–97% of recurrent dislocations. Hence, the data suggests that there is a progressive pattern of injury to the soft tissue restraints of the shoulder in patients with recurrent instability [2, 8, 9, 10, 11, 12].

Pathophysiology

The pathology of FTD has been discussed extensively in various articles. McLaughlin and MacLellan were the first to describe the difference in pathology between younger and old individuals owing to the age-related higher tissue elasticity (young) and higher rotator cuff tears due to degenerate and weakened tendons in elderly. These authors suggested a posterior mechanism of injury in older patients as opposed to an anterior mechanism seen in younger individuals [13].

In Anterior dislocation, there is damage to the anteroinferior capsuloligamentous structures. Hence, the dislocation is anteroinferior rather than straight anterior. The anterior edge of the glenoid causes an associated injury to the posterior aspect of the humeral head, which is the Hill-Sach lesion [4, 14].

It is necessary to understand that the scapula slides upward and downward, anterior and posterior as well as tilts on the thorax, and its position and movement on raising the arm predisposes to the anteroinferior dislocation. The concept of the shoulder as a crane shows how this suspended joint depends on its function on the capsuloligamentous and bony structures and its movements are balanced by the axioscapular, scapulothoracic, and scapulohumeral muscle groups working in tandem [15]. Being a ball and socket joint whose socket is flat and the depth and concavity increased by the labrum, its stability is precariously dependent upon the intact labrum, scapular position, and the balance of muscular forces. Conversely, when there is a labral tear, there is affection in the function of the entire joint leading to cuff tears, cartilage erosions, and osteoarthritis. This is explained through the concept of primary and secondary stabilizers.

Primary stabilizers (glenoid version, inclination, Humeral Head version, labrum, negative intraarticular pressure).

Pollock et al. [8] studied the mechanical response of the inferior glenohumeral ligament to varying subfailure cyclic strain in 33 fresh-frozen human cadaveric shoulders, their results demonstrating that repetitive loading of the inferior glenohumeral ligament induced laxity and irreversible elongation in the ligament, as manifested in the peak load response and measured elongations. They also noted that mechanical response of the ligament is affected by both the magnitude of the cyclic strain and the frequency of loading at higher strain levels.

For many years recurrence rate was the only outcome measurement, but other factors have gained importance when considering treatment options for a 1st time traumatic shoulder dislocator such as apprehension, return to sports or work, and the development of post-traumatic glenohumeral osteoarthritis. Therefore, it is very important to take all these conditions into account they should influence the treatment decisions for each individual patient [2, 16].

Treatment

In conservative management after the dislocation episode, there is a danger of repetitive subfailures. These subfailures (subluxations) cause decreased ultimate load to failure. Pathophysiologically, after repetitive loading, there is an

accumulation of microtrauma, which causes capsular elongation and predisposes to recurrent traumatic dislocation. This in turn causes progressive bone defects. These bone defects increase the laxity and unless addressed with some salvage procedures, eventually increase the risk of arthroses.

Despite the evidence that nonoperative treatment can be effective in returning an athlete to competition in-season, several studies have shown that the young male athlete is most at risk for shoulder instability and recurrence with non-surgical treatment. One study reported a redislocation rate of 100 % in patients younger than 10 years, 94% in 10–20 year-olds, and 79% in 20–30 year-olds [17]. Robinson et al. [14] reported a recurrence rate of 87% in patients aged 15–20 years treated non-surgically following anterior shoulder dislocation. Another study found the rate of recurrence to decrease with age at the time of instability event. In this study, patients older than 30 years had a recurrence rate of 27%, while those younger than 23 years had a 72% rate of recurrence [18]. This information is important to consider when counseling a young athlete regarding risk of recurrence when returning them to sport in-season after non-surgical treatment [14, 19, 20].

In 25 years 40% of those with recurrent dislocation and 18% of those without recurrent dislocation after the primary episode would develop arthritis. Hence, it is imperative that after the primary episode of dislocation, the management should be such that there is no threat of either dislocation or apprehension and there is a full functional recovery [8].

Thus there is a cost of recurrence even if just more than two. There are more likelihood of ALAPSA lesions (which have 4 times more risk of failures than Bankart lesion) more capsular and cartilage lesions, large and deeper Hill-sach lesion, increased glenoid bone loss, and increased glenohumeral arthrosis [21].

In a level 3 casecontrol study it is concluded that an increased number of recurrent dislocations before primary repair was associated with increased odds of recurrent instability after surgery [22].

In a well-executed study, Duethman et al. [23] studied the success rate of nonoperative treatment of 379 patients with average age of 23.9 years, followed up for 10.2 years, and factors associated to conversion to surgery and concluded that 35% of patients treated conservatively after the first dislocation experienced dislocation after 6 months and 20% underwent surgical treatment. Patients who experience multiple instability events before or after consultation were more likely to undergo conversion to surgery after initial nonoperative management. Recurrent instability among patients treated without surgery at final follow-up was 52.3%.

About 92.4% of patients experienced multiple instability events before or during the study and had surgical stabilization with a final recurrence rate of 10.1%. A comparison of findings in patients with recurrent instability as compared with primary dislocators demonstrated increased frequency of rotator cuff tears, ALPSA lesions, intra-articular loose bodies and capsular laxity, while another study compared acute instability patients with those with six or more instability events and demonstrated increased rates of glenoid bone loss and ALPSA lesions. These findings suggest that further instability events after primary dislocation may cause progressive damage to the glenohumeral joint [24].

There are a number of studies justifying operative treatment following an anterior dislocation in the young. In this population Off- Track Hill-Sachs lesions are common in with multiple dislocations. Hence Bukhart et al. has made out a case for stabilizing adolescent FTDs [21]. There is a Landmark paper published in Arthroscopy Journal in 1989 wherein arthroscopic versus Nonoperative treatment of Acute shoulder dislocations in young athletes at the United States Military Academy was compared [2]. The nonoperative treatment was conventional whereas operative treatment was early arthroscopic staple capsulorraphy or glenoid abrasion [5]. The rate of recurrent instability after a shoulder dislocation was 92% (35 of 38) in cadets treated nonoperatively. All recurrences of instability occurred within 14 months of the initial injury. In comparison, arthroscopic treatment has been successful thus far in 78% (7 of 9) cadets followed for at least 14 months. Conclusions of this paper have been repeatedly reiterated in various RCTs and Level1 and 2 studies [2].

Systematic review published in Journal of Arthroscopy in April 2012 wherein Anatomic Bankart repair was compared with Nonoperative treatment and/or Arthroscopic Lavage for 1st time traumatic shoulder dislocation [25]. The recurrence rate of lavage patients at 1 year was 13% and conserved was 43%, however, at 4 years the recurrence rate of lavage patients increased to 55%.

Hovelius et al. examined the results of conservative treatment of primary anterior shoulder dislocations over a follow-up period of 25 years. There was a recurrence rate of 72% in patients aged 12–22 years, 56% in patients aged 23–29 years, and 27% in patients older than 30 years [18]. The long-term results of surgical arthroscopic stabilization and conservative primary treatment for 1st time anterior shoulder dislocation/dislocator (FTASD) were also compared in a study by Jacobson et al. At 2 years follow-up after treatment, it was found that the recurrent instability rates were 54% for the non-surgical treatment group and 10% for the surgically treated group. At follow-up of 10 years after treatment, the instability rates were 26% and 9%, respectively [26].

In a meta-analysis published in Arthroscopy journal in September 2020 wherein Arthroscopic Bankart repair was compared with conservative management for 1st time traumatic anterior instability [27]. Recurrent instability was reported in all 10 studies, with 299 patients in the arthroscopic Bankart repair cohort and 270 patients in the conservative treatment cohort. Overall, 29 patients (9.7%) in the arthroscopic Bankart repair cohort experienced some form of instability, whereas 182 (67.4%) in the conservative treatment group had recurrent instability. A statistical significant difference was observed in favor of arthroscopic Bankart repair. Subsequent instability surgery was performed in 5.9% of the arthroscopic Bankart repair cohort versus 46.7% in the conservative group. 92.8% returned to play in the arthroscopic Bankart repair cohort as against 80.6% in the conservative group. Hence the authors concluded that Arthroscopic Bankart repair resulted in a 7 fold lower recurrence rate and higher return to play than conservative management [1, 18, 28]. Primary Surgery minimizes recurrences, improves the quality of life, decreases the risk of glenohumeral arthrosis [11, 29]. Arciero and Taylor have shown that most 16–30 years have <20% bone loss [14].

However, the risk factors for recurrence are Young age, Glenoid bone loss, Hill-Sach lesion (seen in 93% of 1st time dislocators), ligamentous laxity, multidirectional instability, prior ipsilateral dislocation, and contact or overhead sports participation [30]. Diffusely small labral morphology and increased number of preoperative dislocations before Bankart repair was associated with increased odds recurrent instability after surgery [31].

One must remember that there are some contraindications to primary repair like epilepsy, Multidirectional laxity and instability, other medical comorbidities , inability to follow rehabilitation programme, and voluntary dislocators. The three major reasons cited in the literature for supporting immediate stabilization over conservative treatment are: (a) the unacceptable high risk of recurrence in the young athletic population; (b) the recurrent instability that propagates significant and progressive soft tissue and bony traumas; and (c) the improvement in the quality of life conferred by surgery (Sadder et al.) [3, 18, 27, 29, 32, 33, 34].

As the body of evidence-based literature regarding traumatic anterior shoulder instability grows, models are being created to provide outcome information for operative versus non-operative treatment for patients of varying ages, activity levels, etc. The value of this modeling is that it can apply subjective patient-derived factors with objective functional data to stratify treatment options. Mather et al. [32] designed a Decision Analysis Model that used the validated WOSI score as the primary outcome measure, with secondary measures including risk of one year and overall instability, stability at 10 years, risk of future surgery, and risk of revision surgery. All of the data that created these models were from level I or II studies only.

In the future, this will be a publicly available tool for patients and physicians to become more informed regarding potential surgical outcomes based on individual information. Using a computer program, the physician can enter information into the model to help assess factors such as rate of recurrent dislocation. For example, the Decision Analysis Model shows that an 18-year old male treated non-operatively has a 77% risk of recurrent dislocation within the 1st year and only a 32% chance of having a stable shoulder at 10 years. When treated operatively, the recurrence rate is only 17%. Conversely, a 30-year old female painter (significant overhead activity) also treated non-operatively has a 34% chance of recurrent instability at 1 year and a 62% chance of having a stable shoulder at 10 years [32]. Her recurrence rate if treated operatively with early arthroscopic labral repair is 23%. This modeling system provides personalized patient care, allowing various factors to help make the best decision for each patient.

Conclusion

Recurrence comes at a cost [12]. More the instability before the surgical stabilization, more are the chances of either failure or the requirement of a salvage procedure like a Latarjet with its inherent high almost 30% complication rate. But not every patient with FTD should warrant a surgical stabilization. It is necessary to study the profile of the patient, the injury pattern, future expectations, and goals and then decide on the management of this patient. As Dr Ujas Sheth has mentioned in his editorial commentary that a personalized rather than a one size fits all approach would be most effective [35].

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the Journal. The patient understands that his name and initials will not be published, and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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References

1. Imhoff AB, Beitzel K, Voss A. Overview of the spectrum of instability in the very young: Evolving concepts. In: Shoulder Instability Across the Life Span. Berlin, Germany: Springer Science+Business Media; 2017. p. 3-5. Available from: https://www.link.springer.com/chapter/10.1007/978-3-662-54077-0_1 [Last accessed on 2022 Feb 07].
2. Wheeler JH, Ryan JB, Arciero RA, Molinari RN. Arthroscopic versus nonoperative treatment of acute shoulder dislocations in young athletes. Arthroscopy 1989;5:213-7.
3. Kirkley A, Werstine R, Ratjek A, Griffin S. Prospective randomized clinical trial comparing the effectiveness of immediate arthroscopic stabilization versus immobilization and rehabilitation in first traumatic anterior dislocations of the shoulder: Long-term evaluation. Arthroscopy 2005;21:55-63.
4. Norlin R. Intraarticular pathology in acute, first-time anterior shoulder dislocation: An arthroscopic study. Arthroscopy 1993;9:546-9.
5. Carrazzone OL, Tamaoki MJ, Ambra LF, Neto NA, Matsumoto MH, Belloti JC. Prevalence of lesions associated with traumatic recurrent shoulder dislocation. Rev Bras Ortop 2011;46:281.
6. Provencher MT, Frank RF, Gross DJ, Golijanin P. Normal and Pathological Anatomy of the Shoulder. Berlin, Germany: Springer Science+Business Media; 2015. p. 35-45. Available from: https://www.link.springer.com/chapter/10.1007/978-3-662-45719-1- [Last accessed on 2022 Feb 07].
7. Seung-Ho K. Pathoanatomy of glenohumeral instability. In: Bain GI, Itoi E, Di Giacomo G, Sugaya H. editors. Normal and Pathological Anatomy of the Shoulder. Berlin, Heidelberg: Springer Berlin Heidelberg; 2015. p. 115-22.
8. Pollock RG, Wang VM, Bucchieri JS, Cohen NP, Huang CY, Pawluk RJ, et al. Effects of repetitive subfailure strains on the mechanical behavior of the inferior glenohumeral ligament. J Shoulder Elbow Surg 2000;9:427-35.
9. Urayama M, Itoi E, Sashi R, Minagawa H, Sato K. Capsular elongation in shoulders with recurrent anterior dislocation. Quantitative assessment with magnetic resonance arthrography. Am J Sports Med 2003;31:64-7.
10. Yiannakopoulos CK, Mataragas E, Antonogiannakis E. A comparison of the spectrum of intra-articular lesions in acute and chronic anterior shoulder instability. Arthroscopy 2007;23:985-90.
11. Thomas SC, Matsen FA. An approach to the repair of avulsion of the glenohumeral ligaments in the management of traumatic anterior glenohumeral instability. J Bone Joint Surg Am 1989;71:506-13.
12. O'Brien SJ, Neves MC, Arnoczky SP, Rozbruck SR, Dicarlo EF, Warren RF, et al. The anatomy and histology of the inferior glenohumeral ligament complex of the shoulder. Am J Sports Med 1990;18:449-56.
13. McLaughlin HL, Maclellan DI. Recurrent anterior dislocation of the shoulder. II. A comparative study. J Trauma 1967;7:191-201.
14. Robinson CM, Howes J, Murdoch H, Will E, Graham C. Functional outcome and risk of recurrent instability after primary traumatic anterior shoulder dislocation in young patients. J Bone Joint Surg Am 2006;88:2326-36.
15. Bain G, Phadnis J, Itoi E, Di Giacomo G, Sugaya H, Sonnabend DH, et al. Shoulder crane: A concept of suspension, stability, control and motion. J ISAKOS 2019;4:63-70.
16. Buss DD, Lynch GP, Meyer CP, Huber SM, Freehill MQ. Nonoperative management for in-season athletes with anterior shoulder instability. Am J Sports Med 2004;32:1430-3.
17. Marans HJ, Angel KR, Schemitsch EH, Wedge JH. The fate of traumatic anterior dislocation of the shoulder in children. J Bone Joint Surg Am 1992;74:1242-4.
18. Hovelius L, Olofsson A, Sandström B, Augustini BG, Krantz L, Fredin H, et al. Nonoperative treatment of primary anterior shoulder dislocation in patients forty years of age and younger. A prospective twenty-five-year follow-up. J Bone Joint Surg Am 2008;90:945-52.
19. Hovelius L, Eriksson K, Fredin H, Hagberg G, Hussenius A, Lind B, et al. Recurrences after initial dislocation of the shoulder. Results of a prospective study of treatment. J Bone Joint Surg Am 1983;65:343-9.
20. Liavaag S, Brox JI, Pripp AH, Enger M, Soldal LA, Svenningsen S. Immobilization in external rotation after primary shoulder dislocation did not reduce the risk of recurrence: A randomized controlled trial. J Bone Joint Surg Am 2011;93:897-904.
21. Burkhart SS. Editorial commentary: Off-track hill-sachs lesions in adolescents with multiple anterior dislocations: The case for stabilizing adolescent first-time dislocators. Arthroscopy 2017;33:1762-3.
22. Vaswani R, Gasbarro G, Como C, Golan E, Fourman M, Wilmot A, et al. Labral morphology and number of preoperative dislocations are associated with recurrent instability after arthroscopic Bankart repair. Arthroscopy 2020;36:993-9.
23. Duethman NC, Bernard CD, Leland D, Wilbur RR, Krych AJ, Dahm DL, et al. Multiple instability events at initial presentation are the major predictor of failure of nonoperative treatment for anterior shoulder instability. Arthroscopy 2021;37:2432-9.
24. Shin SJ, Ko YW, Lee J. Intra-articular lesions and their relation to arthroscopic stabilization failure in young patients with first-time and recurrent shoulder dislocations. J Shoulder Elbow Surg 2016;25:1756-63.
25. Chahal J, Marks PH, MacDonald PB, Shah PS, Theodoropoulos J, Ravi B, et al. Anatomic Bankart repair compared with nonoperative treatment and/or arthroscopic lavage for first-time traumatic shoulder dislocation. Arthroscopy 2012;28:565-75.
26. Jacobson ME, Riggenbach M, Wooldridge AN, Bishop JY. Open capsular shift and arthroscopic capsular plication for treatment of multidirectional instability. Arthroscopy 2012;28:1010-7.
27. Hurley ET, Manjunath AK, Bloom DA, Pauzenberger L, Mullett H, Alaia MJ, et al. Arthroscopic bankart repair versus conservative management for first-time traumatic anterior shoulder instability: A systematic review and meta-analysis. Arthroscopy 2020;36:2526-32.
28. Brophy R, Marx R. The Treatment of traumatic anterior instability of the shoulder: Nonoperative and surgical treatment. Arthroscopy 2008;25:298-304.
29. Handoll HH, Almaiyah MA, Rangan A. Surgical versus non-surgical treatment for acute anterior shoulder dislocation. Cochrane Database Syst Rev 2004;2004:CD004325.
30. Porcellini G, Campi F, Pegreffi F, Castagna A, Paladini P. Predisposing factors for recurrent shoulder dislocation after arthroscopic treatment. J Bone Joint Surg 2009;91:2537-42.
31. Provencher CM, Midtgaard KS. Editorial commentary: Evidence to support surgical intervention for first-time shoulder instability: Stabilize them early! Arthroscopy 2020;36:2533-6.
32. Mather RC, Orlando LA, Henderson RA, Lawrence JTR, Taylor DC. A predictive model of shoulder instability after a first-time anterior shoulder dislocation. J Shoul Elbow Surg 2011;20:259-66.

33. Jakobsen B, Johannsen H, Suder P, Søjbjerg J. Primary repair versus conservative treatment of first-time traumatic anterior dislocation of the shoulder: A randomized study with 10-year follow-up. Arthroscopy 2007;23:118-23.
34. Bottoni C, Wilckens J, De Berardino T, D'Alleyrand J, Rooney R, Harpstrite J, et al. A prospective, randomized evaluation of arthroscopic stabilization versus nonoperative treatment in patients with acute, traumatic, first-time shoulder dislocations. Am J Sports Med 2002;30:576-80.
35. Sheth U. Editorial commentary: Management of first-time anterior shoulder instability requires risk stratification and surgery for many, but not all. Arthroscopy 2021;37:2440-3.

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