acceptable symptom state (PASS) for the ASES and SANE did not differ significantly between groups. Thirty-four of patients in both cohorts returned to preinjury levels of work (77.27% vs 85.00%, p = 0.3677). Thirty-two (72.72%) repair patients and 33 (82.50%) of tenodesis patients returned to preinjury levels of sporting activity (p = 0.2850). There were no significant differences in the rates of medical discharge, failure of repair, or revision procedures between groups (p = 0.2019, p = 0.6024, p = 0.9293). Conclusion Both arthroscopic SLAP repair and combined arthroscopic-assisted subpectoral biceps tenodesis and anterior labral repair led to statistically and clinically significant increases in outcome scores, marked improvement in pain, and high rates of return to unrestricted-active duty in military patients with type V SLAP lesions. The results of this study suggest that both procedures represent appropriate treatment options for the surgical management of this injury.

Category: Shoulder - Instability

How Does a Standardized Dynamic Arthroscopic Engagement Test Compare with Radiological Glenoid Track Method for Identification of On- and Off-Track Hill-Sachs’ Lesion

Abstract ID# 22668
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Summary:
A dynamic arthroscopic engagement test performed in a standardized manner (DASE test) is highly reliable with near-perfect interobserver agreement for classification of Hill-Sachs’ lesions. In contrast, radiological method was less reliable and showed greater interobserver variability. Incorporating DASE test in current algorithms may help reduce variability in surgical decision-making.

Data:
Purpose Radiological classification of glenohumeral bone defects into “on-track,” and “off-track” morphology has high inter-observer and intra-observer variability, and this may influence choice of surgical procedure. The purpose of this study was to assess the reliability, reproducibility, and diagnostic validity of a dynamic arthroscopic standardized engagement test (DASE) in comparison with the current gold-standard radiological track measurement method for identification of on/off-track bony lesions in patients with anteroinferior instability. Methods Between January 2018 and 2022, 114 patients who presented with traumatic anterior shoulder instability were evaluated clinically and radiologically (MRI and/or CT scan) and Hill-Sachs’ lesions (HSL) were classified as on-track or off-track, and peripheral-track (HSO%) by two independent researchers. During arthroscopy, a standardized method of evaluation (Dynamic Arthroscopic Standardized Engagement [DASE] test) was used to classify defects into on-track, peripheral-track, and off-track lesions by two experienced shoulder surgeons, and the interpretation was documented independently. Interobserver reliability for DASE test and radiological (HSL) method classification was calculated using Kappa statistics and reported as percent agreement along with 95% confidence intervals. Diagnostic validity (sensitivity, specificity, positive predictive value, and negative predictive value) of DASE test was calculated using the radiological (HSL) track as a gold standard. Results Radiologically measured mean glenoid bone loss (GBL), Hill-Sachs interval (HSI) and Hill-Sachs’ occupancy (HSL) for off-track lesions were lower in the arthroscopically classified off-track lesions (DASE test) as compared with the radiological method. The arthroscopic method showed a near-perfect agreement between the 2 observers for the on-off track classification system (k=0.96, p<0.001) as well as for the on-off peripheral track classification (k=0.88, p<0.001). The radiological method showed greater interobserver variability (0.31, 0.24) with only fair agreement for both classification systems. Inter-method agreement varied between 71% and 79% (CI 62-86%) between the 2 observers, and reliability was assessed as only slight to fair agreement (k=0.38, 0.16). Overall, the DASE test showed maximum specificity (81%, 78%) for diagnosis of an off-track lesion by both observers when radiological peripheral-track lesions (HSL% 75-100) were considered as off-track lesions. Similarly, the DASE test demonstrated maximum sensitivity when arthroscopic peripheral track lesions were classified as off-track lesions. Conclusion The DASE test showed a near-perfect interobserver agreement for lesion classification and the radiological method demonstrated greater variability and less reliability. Clinical relevance: Incorporating the DASE test in current treatment algorithms may help reduce variability in score-based algorithms for decision-making in anterior shoulder instability. Level of evidence: Level 1 Diagnostic Keywords: Instability; Bone defect; glenoid track; Hill-Sachs lesion; Arthroscopy; engaging Hill-Sachs’ lesion

Category: Shoulder - Instability

Inferior Hill-Sachs Position Predicts Failure Following Primary Bankarth Repair for On-Track Lesions

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Summary:
An inferiorly-based Hill-Sachs lesion represents a higher risk lesion as compared to superiorly-based lesions for recurrent instability following Bankart repair. Data: Background: The on-track/off-track concept for shoulder instability primarily describes the medial-lateral rotational relationship between an engaging Hill-Sachs lesion and a Bankart defect. Though clinically more protective, on-track lesions retain some risk for failure following primary arthroscopic Bankart repair. While some of this risk can be explained by the “near-track” concept, the role of the superior-inferior position of the Hill-Sachs lesion has never been studied in the context of failure of primary Bankart repair. This study aims to identify the relationship between the superior-inferior position of a Hill-Sachs lesion and risk for failure following primary arthroscopic bankart repair. Our hypothesis is that inferiorly-based Hill-Sachs lesions may engage with the arm in neutral and thus be higher risk for failure following primary Bankart repair. Methods: We performed a retrospective analysis of 201 individuals with on track lesions who underwent primary arthroscopic Bankart repair between 2007 and 2019 who have minimum 2 year follow-up. Patients with failure were defined as those who sustained a dislocation or subluxation after the index procedure. A pre-operative sagittal MRI cut showing the maximum Hill-Sachs diameter was used for position analysis. Sagittal position of the Hill-Sachs was defined the angle formed by the Hill-Sachs bisecting line through the humeral head center, against the mid-humeral axis on a sagittal MRI cut; An angle of 0 is twelve o’clock on the humeral head, while an angle of 90 is equatorial. We defined a priori four Hill-Sachs quadrants for semi-quantitative analysis, based on physiologic arm positions: Superior (angle < 40), Mid-Superior (40-60), Mid (61-90), and Inferior (>90). Hill-Sachs quadrants were then correlated against failure following primary arthroscopic Bankart repair. Results: Failure rates following arthroscopic bankart repair as it relates to superior-inferior position of the Hill-Sachs lesion is as follows: No Hill-Sachs (10 of 73, 13.7%), Superior (0 of 7, 0%), mid-superior (6 of 36, 16.7%), Mid (19 of 71, 26.8%), and Inferior (1 of 6, 16.7%). We grouped Hill-Sachs lesions into low grade (No Hill-Sachs, Superior, and Mid-Superior quadrants) and high grade (Mid, and Inferior quadrants). Low grade represented a 13.8% risk of failure, while High grade represented a 26% risk for failure (p=0.034). Receiver Operating Characteristic (ROC) analysis demonstrates a Youden Index of 66 degrees as optimal cut-off for high-risk Hill-Sachs. Conclusion: The superior-inferior sagittal position of a Hill-Sachs lesion may contribute to risk for failure of primary arthroscopic Bankart repair for on-track lesions. Inferiorly-based Hill-Sachs lesions may risk engagement at lower degrees of arm abduction, and in our study represent nearly double the risk of failure of arthroscopic Bankart repair as compared to superior Hill-Sachs positions.

Category: Shoulder - Instability

Capsuloligamentous Laxity Predicts Failure Following Arthroscopic Anterior Bankarth Repair

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