loss (gGBL), glenoid version, acromial morphology and posterior humeral head subluxation. Cox proportional hazard analysis was used to evaluate risk factors for failure. Results: 42/90 (46.7%) patients failed a 6-month trial of nonoperative management and went onto receive an arthroscopic stabilization procedure. The failure group demonstrated a significantly greater humeral head subluxation ratio than the cohort of patients who survived nonoperative management (0.65 +/- 0.2 vs 0.62 +/- 0.2; p = 0.0375). Cox proportional hazard analysis identified glenoid bone loss, greater posterior acromial height, less posterior acromial coverage, and posterior humeral subluxation as significant risk factors for failure of nonoperative management. Of those who failed nonoperative management 17 had repeat MRI’s for comparison, demonstrating a statistically significant progression of gGBL (index MRI 2.68% +/- 1.71 verses after nonoperative treatment 6.54% +/- 1.59; p = 0.00274). Conclusion: In patients that underwent 6-months of nonoperative management for isolated posterior glenohumeral instability, failure occurred approximately 47% of the time and was associated with a greater posterior humeral head subluxation, less posterior acromial coverage, greater posterior acromial height, and greater amounts of glenoid retroversion on index MRI than those who did not fail. Additionally, those who had repeat MRI on average 1.3 years later demonstrated greater glenoid bone loss when compared to the index MRI. The findings of this study suggest that a trial of nonoperative management as a first line treatment for all isolated posterior instability patients might not be as conservative or risk free as once thought.

Category: Shoulder - Instability

Glenoid Concavity Affects Anterior Shoulder Stability In A Biomechanical Model Including Soft Tissue and The Rotator Cuff’s Compressing Forces

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Summary:
In our biomechanical shoulder model, including soft tissue and muscle forces, the glenoid concavity correlated with shoulder stability and with that should be considered in the individualized therapy of glenoid defects.

Data:
The therapy of anterior shoulder instability in the presence of bony glenoid defects usually depends on the defect size, which is considered the main indicator of instability. Recent studies, based on computed tomography and simplified bony biomechanical models, revealed the glenoid concavity to be relevant for shoulder stability as well. However, the concavity’s effect in the presence of soft tissue and muscular forces, which are included in this study, is still unknown. We hypothesized, that the glenoid concavity would have a major impact on stability in a shoulder model including soft tissue surroundings and glenohumeral compression forces, exerted by the rotator cuff. In n = 8 human shoulder specimens, glenoid depth and concavity was measured and individual coordinate systems were calculated based on anatomical landmarks. Static load was applied to the rotator cuff’s tendons, the deltoid muscle and the biceps long head tendon. In a robotic test setup, an anteriorly directed force was applied to the humeral head until its translation of 5 mm. This was performed in native joints, as well as in joints with Bankart lesions and glenoid bone defects of 10% and 20%. Depending on their concavity, the specimens were divided into two subgroups (low vs. high concavity with n=4, respectively). A high correlation between native glenoid concavity and stability could be shown (R²=0.79). For each level of defect, we found a significantly higher stability in joints with high concavity compared to the low concavity subgroup (p=0.027). In bony defects of 20% the loss of stability correlated with the initial concavity (R²=20.89), as we could see a higher loss of stability in initially high concavity joints compared to lower concavity (p=0.004). In a test setup including soft tissue and muscle forces, the glenoid concavity correlates with shoulder stability. In bony defects, loss of concavity has a severe impact on instability. Thus, glenoid concavity should be considered in a differentiated, individualized therapy of bony glenoid defects.

Category: Shoulder - Instability

Minimum Five Years Follow-Up After Arthroscopic Latarjet at Oslo University Hospital

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Summary:
Evaluation of clinical outcomes, recurrence rates, quality of life and radiological signs of glenohumeral osteoarthrosis at a minimum of 5 years follow-up after arthroscopic Latarjet procedure.

Data:
PURPOSE: The Latarjet procedure is considered the standard surgical procedure for patients with recurrent shoulder instability after failed operative treatment or significant bone loss. Recurrence rate after arthroscopic Bankart increases significantly between one and five years follow-up; however, lower recurrence rates have been reported after open Latarjet procedure. The use of arthroscopic Latarjet procedure is increasing; however, there is still limited data on long term outcomes. The aim of this study was to evaluate clinical outcomes, recurrence rates, quality of life and radiological signs of glenohumeral osteoarthrosis (OA) after arthroscopic Latarjet procedure and a minimum 5 years follow-up.

METHODS: A consecutive cohort of 51 patients operated with arthroscopic Latarjet procedure at Oslo University Hospital were prospectively registered from November 2014 until June 2017. All patients had a double screw fixation technique. Preoperatively, patient demographics and The Western Ontario Shoulder Instability Index (WOSI) were recorded. The WOSI score was repeated at one and five years follow-up. At 5 years follow-up, patient reported quality of life was assessed using the EQ-5D and EQ-VAS, and radiographs were performed to evaluate signs of OA. Complications and reoperations were recorded by reviewing patient’s medical records. RESULTS: Of the 51 patients operated, 40 patients had complete pre-operative data sets. Of the 40 patients, 5 patients were lost to follow-up, and 4 patients refused participating in the study, thus 31 were available for follow-up and were included in patient demographics and radiographic evaluation after 5 years. Two patients had incomplete or missing WOSI during follow-up, leaving 29 with complete data sets. The median age at the time of the procedure was 26.2 year (range 17.5–46.4), the majority (26/31) were men and more than half (18/31) had a history of > 10 dislocations before surgery. A total of 15/31 were reoperations after former instability surgery. At five years, there was no recurrence of dislocations, however 7/29 reported experience of subluxation. The median preoperative WOSI score was 44.6 (IQR:24.2,57.8), and after minimum 5 years 75.7 (IQR: 58.2, 91.1) (p < 0.001). Median WOSI after 1 year was 75.4 (IQR: 58.9, 89.6). There was no significant difference in WOSI between 1 year and 5 years (p=0.6). The EQ-5D at 5-years follow-up was 0.86 (SD 0.10) according to the Danish value set in the reference range 0.62, 1. At 5-year follow-up, radiological signs of shoulder OA were observed in 13/31 (42%), of which 4 presented with grade 1, 6 grade 2 and 3 grade 3, according to Samilson and Prieto classification. Reported complications requiring reoperations during follow-up was 8/31 (25.8%). CONCLUSIONS: At five years follow-up after Arthroscopic Latarjet procedure there was a significant improvement in WOSI compared to pre-operative evaluation and low rates of recurrent dislocation. However, there was a relatively high (42%) rate of radiographic OA. There was no significant change in WOSI from one to five years follow-up, suggesting that the improvement from preoperative function was maintained at 5-years follow-up.

Category: Shoulder - Instability

Goalkeepers Have a Higher Recurrence and Return to a Lower Level of Play Compared to Field Position Soccer Players Following Arthroscopic Bankart Repair

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