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Summary:
Early versus delayed arthroscopic treatment of high-grade acromioclavicular joint instability

Data:
Background: Arthroscopic assisted cortical fixation devices have been increasingly used in the operative management of both acute and chronic cases of acromioclavicular joint instability (ACJI). It has been hypothesized that delayed surgical management leads to inferior clinical and radiological outcomes compared to acute treatment. The purpose of this study is to compare clinical and radiologic outcomes, scapula dyskinesia, and failure/revision rates of arthroscopically treated acute with chronic ACJI. Methods: This retrospective study of prospectively collected data included all surgically treated patients with chronic ACJI between 2013 and 2017, matched 1:1 to a group of acute ACJI patients treated during the same time period. Chronic ACJI was defined as delayed surgical treatment > 21 days after injury. Chronic cases received an additional hamstring autograft next to the suture pulley systems. Follow-up was obtained at an average of 3.2 years (range: 1.4-6.2). Clinical outcome scores included the Constant Score (CS), Taft Score (TF), Nottingham Clavicle Score (NCS), ACJI Score, Sickle Scapula Score (SSS), Subjective Shoulder Value (SSV), Subjective Shoulder Test (SST), American Shoulder and Elbow Score (ASES) and the VAS pain scale. Radiological follow up was obtained pre- and post-operatively and at an average of 3.2 years (range: 1.4-6.2). Clinical outcome scores included the Constant Score (CS), Taft Score (TF), Nottingham Clavicle Score (NCS), ACJI Score, Sickle Scapula Score (SSS), Subjective Shoulder Value (SSV), Subjective Shoulder Test (SST), American Shoulder and Elbow Score (ASES) and the VAS pain scale. Radiological follow up was obtained pre- and post-operatively and at final follow up. The 2-year results were compared to the results of a 1:1 matched pair comprising patients that were treated with an acute ACJI during the same period. Results: 33 out of 41 (80.5%) of chronic ACJI cases were available for follow-up and were compared with 33 matched-paired cases of acute ACJI (out of 141). The clinical scores were significantly better in the acute cohort for the CMS (92.1 ± 8 vs 88.8 ± 8, p = 0.030); ASES (91.1 ± 13 vs 85.1 ± 13; p = 0.002); SSS (1.4 ± 1.6 vs 3.4 ± 2.5, p = 0.0004); NCS (86.1 ± 13 vs 81.1 ± 13, p = 0.049); TF (9.9 ± 1.9 vs 9.0 ± 2.1, p = 0.030) and ACJI (83.1 ± 13 vs 75 ± 1; p = 0.003). In contrast to the chronic cohort, the acute cohort illustrated a significantly less loss of reduction at follow up (p = 0.020). Conclusion: Based on the results of this study, early arthroscopic assisted operative treatment seems superior to delayed surgical intervention. Furthermore, an additional autograft loop leads to less loss of reduction compared to suture pulley/suspensory loop fixation standalones. Level of evidence: IV Keywords: Acute AC-Joint Instability; Chronic AC-Joint Instability; Scapula Dyskinesia; SICK Scapula Syndrome; Arthroscopic assisted treatment

Category: Shoulder - AC Joint

The Importance of a Structured Failure Analysis in Revision Acromioclavicular Joint (ACJ) Surgery: A Multi-Rater Agreement on the Causes of Stabilization Failure from the ISAKOS-Shoulder Committee

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Summary:
According the ISAKOS shoulder committee, biological failure is noted as the most common reason for failure of primary acromioclavicular joint stabilization followed by technical and traumatic failure. Data: Background Acromioclavicular joint (ACJ) stabilizations are associated with a high overall failure rate, while 9.5% of these patients requiring subsequent revision surgery. Consequently, understanding the specific cause of primary ACJ stabilization failure is paramount to improving surgical decision making in this challenging patient cohort. Purpose To (1) identify risk factors and mechanisms for failure following primary arthroscopically-assisted ACJ stabilization to highlight the importance of conducting a detailed failure analysis and to (2) establish revision strategies based on real-life cases of primary failed ACJ stabilization. Methods A survey was shared internationally among members of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS) shoulder committee. The survey contained failure analysis of 11 real-life cases of failed primary arthroscopically-assisted ACJ stabilization. For each case, a thorough patient history, standardized x-rays and computer tomography (CT) scans were provided. Participants were asked to give their opinion on bone tunnel placement, cause of failure (biological, technical, traumatic, or combined), the stabilization technique used as well as give a recommendation for revision. Results Seventeen members of the ISAKOS shoulder committee completed the survey. Biological failure was considered the most common cause of failure (47.1%), followed by technical (35.3%) and traumatic (17.6%) failure. The majority deemed two modifiable factors (i.e., patient’s profession and sport) as well as non-modifiable factors (i.e., patient’s age and time from trauma to initial surgery) to be risk factors for failure. In 10 of 11 cases, the correct fixation device was used in the primary setting (90.9%; 52.8-82.4% agreement), however, in eight of those cases, the technique was not performed correctly (80.0%; 58.8-100% agreement). In 8 of all 11 cases, the majority recommended an arthroscopically-assisted technique with graft augmentation for revision (52.9-58.8% agreement). Conclusion Biological and technical failure are the most common reason for failure in primary ACJ stabilization followed by traumatic failure. Besides biological failure, failure can be triggered by technical errors such as clavicular or coracoidal tunnel misplacement. Consequently, a detailed failure analysis including preoperative CT should be conducted before performing revision surgery and, if possible, an arthroscopically-assisted technique with graft augmentation should be prioritized in revision ACJ surgery.

Category: Shoulder - AC Joint

Does Clavicular Inter-Tunnel Distance Ratio Affect Radiographic Failure After CC-Stabilization Of Acute Acromioclavicular Joint Dislocation?

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Summary:
Can clavicular inter-tunnel distance ratio help predicting radiographic outcome after CC-stabilization in patients with acute acromioclavicular joint dislocation? Data: Background Acromioclavicular joint dislocation was one of the most common injuries of the shoulder. CC-stabilization has been popularized as one of the mainstay treatments for this injury. However, dislocation after this procedure is still one of the crucial problems that we face today. This study’s main objective was to evaluate the clavicular inter-tunnel ratio as a new potential predictor of postoperative radiographic failure. Methods This multicenter retrospective cohort study included patients aged 18 – 60 years old who underwent cc-stabilization after acute acromioclavicular joint dislocation and had follow-up data for at least 6 months postoperative. Patient’s demographic data, operative details and radiographic parameters (conoid & trapezoid ratio / clavicular inter-tunnel ratio / inter-tunnel angle / reduction degree) were collected. Radiographic failure was determined at 6 months after surgery. Results A total of 86 subjects were included in this study. The radiographic failure rate in