

No Differences Found In Short-Term Outcomes between Suture Tape Cerclage and Double-Suture Button Technique in Patients with Acute Acromioclavicular Joint Dislocations

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INTRODUCTION: Acromioclavicular dislocations (ACD) account for 9% of shoulder traumatic injuries. Surgical management is currently recommended for patients with complete acromioclavicular (AC) separation and/or horizontal instability of the AC joint. Over 100 techniques have been described to treat this condition with a growing debate on which is the best type of implant and repair configuration for each case. Among the available techniques, suture buttons and high-strength suture tape cerclages have been proposed for the treatment of acute ACD. While buttons are more expensive than suture tape cerclage, it is unclear whether buttons provide a better clinical outcome or not. Therefore, the purpose of this investigation is to compare the clinical results of suture tape cerclage versus the double-button technique in patients with acute acromioclavicular joint dislocations.

METHODS: An observational retrospective cohort study was conducted. All patients surgically treated for acute ACD between January 2020 and December 2021 with either suture tape cerclage (Group A) or a double-button technique (Group B) were included. Surgery was indicated according to Rockwood classification for patients with ACD type IIIB, IV, and V. Exclusions entailed patients operated after 3 weeks from their injury, revision surgeries, patients with prior ipsilateral shoulder surgery, and follow-up shorter than 6 months. Demographic data, preoperative and postoperative radiographs, and clinical evaluations were pooled from the clinical record of each patient. Radiographic quality of reduction immediately after surgery and at final follow up was recorded. According to previous studies, a coracoclavicular widening of 25% or more compared to the contralateral coracoclavicular distance was considered as a loss of reduction. Clinical outcomes included range of motion (ROM), the Constant-Murley Score (CMS), pain Visual Analog Scale (VAS), QuickDASH, and Shoulder Subjective Value (SSV). Complications and return to work rates were reported. Statistical analyses were performed using STATA v.14 with significance set at 5%.

RESULTS: A total of 38 patients were included with 15 (39.5%) in Group A and 23 (60.5%) in Group B. Average follow up was 17 months (range 6-36) without a significant difference between groups. Also, there were no differences found in age (Group A = 37 [23-68] vs. Group B = 31 [19-62], $p=0.1$) or sex (Group A: 86.7% male vs. Group B: 87% male $p=0.9$). Overall, most ACD were type V (65.8%, $n = 25$), followed by type IV (28.9%, $n = 11$) and type IIIB (5.3%, $n = 2$) with no significant differences between groups ($p=0.5$). Baseline characteristics, clinical outcomes, complications and return to work rates are summarized in Table I. Interestingly, loss of reduction was higher in Group B ($n = 6$, 33.3%) compared to group A ($n = 2$, 13.3%) though this observation did not reach statistical significance ($p=0.2$) and was not correlated with clinical outcomes.

DISCUSSION AND CONCLUSION: Suture tape cerclage and the double-button technique provided similar clinical and radiological short-term outcomes without statistically significant differences in patients with acute acromioclavicular joint dislocation. Though loss of reduction rates were relatively high, good clinical outcomes are to be expected. Provided the higher direct cost of buttons, the use of suture tape cerclages may be more cost-effective. Future studies with a larger number of patients, longer follow up, and an indirect cost analysis would be necessary to confirm our findings.