this study was 48.84% (42/86). The clavicular inter-tunnel ratio showed no statistically significant difference between both groups (8.76 ± 0.43% VS 8.3 ± 0.35%, p=0.32). Neither conoid nor trapezoid ratio was different between both groups. However, the initial reduction degree was statistically significantly different between both groups (p<0.001). Over-reduction of clavicle could reduce the risk of radiographic failure (15.38% VS 34.29%). On the other hand, under-reduction could increase the risk (73.68% VS 34.29%). Conclusion Clavicular inter-tunnel ratio failed to show any association with radiographic failure at 6 months. However, the initial reduction degree greatly affected the radiographic outcome. Further work with more advanced imaging that could cover all of the potential factors is needed to specify the causes of radiographic failure after this operation.

Category: Shoulder - AC Joint

Patient-Reported, Clinical and Radiological Factors Associated with the Result After Non-Surgical Management of Acute Type III and V AC Joint Dislocations with the Option of Delayed Surgical Reconstruction

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All Authors:
Ashish Gupta MBBS, MSc, FRACS AUSTRALIA
Nagmani Singh M.S., Arthroscopy and Sports Medicine Fellow NEPAL
Jashint Maharaj MBBS, FRSPH AUSTRALIA
Kathirazhagan Stalin MS Orthopaedics, DNB, MRCS, FAOAO INDIA
Freek Holland MD NETHERLANDS
Roberto Pareyom MEXICO
Mohammad Jomaa MD AUSTRALIA
Kenneth Curbush MBBS, FRACS, FAOrthA AUSTRALIA

Summary:
Clinical outcomes from acute and chronic ACJ reconstruction with LARS ligament using a 3-tunnel technique.

Data:
Introduction Acromioclavicular joint dislocations are commonly occurring injury accounting for 9-12% of the shoulder injuries. It is generally agreed that Rockwood type I and II are managed conservatively and surgical management is reserved for patients with higher grades of injury; type III to VI. More than 150 surgical techniques have been described in literature with biomechanical and anatomic studies to support efficacy and variable clinical outcomes; but there is still no consensus regarding the most appropriate technique for management of higher grades of injury. In this research, we will be describing our 3-tunnel technique of surgical management of both acute and chronic ACJ dislocations with clinical outcomes. Material and Methods This study includes 21 consecutive patients, from July 2016 to Jan 2021, with ACJ dislocation who underwent superior shoulder suspensory ligament complex reconstruction using LARS. Only subjects who had ACJ dislocation of Grade III to Grade VI, according to Rockwood classification, were included irrespective of their age and duration of injury. All the cases were operated by the same surgeon. Patients were followed up at 3 months, 6 months and one year for clinic-radiological outcome. Local institutional board ethics approval was attained and appropriate consent was obtained. All patients were evaluated clinically using a Constant Score, ASES, VAS, SST at sequential follow-up. Results & Discussion The mean age of the study group was 48 years (range 16 – 76 years). Right shoulder was affected in 11 patients while left shoulder in remaining 9 patients. All patients reported trauma as the causative factor. 9 patients had Rockwood type 5 injury; 2 patients had Rockwood type 4 injury and 9 patients had Rockwood type 3 injury with anteroposterior instability. One patient did not complete the follow up at one year and was excluded. Mean duration of dislocation was 19 months (range 2 days – 15 years). At a minimum follow up of 12 months, no tunnel widening or acromial fracture was noted radiologically and the CC distance was maintained in all cases. All patients returned to full active lifestyle, work and sports. Improved patient outcomes were reported for VAS (from 4 to 1), Constant (from 43 to 74), SACS (from 62 to 10), ASES (from 49 to 84), and SST (from 16 to 78), respectively. The range of motion improved in forward flexion from 130° to 166°; lateral elevation from 118° to 155°; and ER from 547° to 657°. No re-rupture or loss of reduction was noted. One case required removal of LARS at one year due to infection. Several synthetic ligaments have been used for the purpose of ACJ reconstruction however, complications such as ligament failure, incomplete reduction, foreign body reaction, bony erosion, coracoid fractures, and clavicle fractures have been reported with these implants. In comparison to our results, the failure rate and loss of reduction was reported higher in many of these studies. The possible reason would be the use of screws for fixation in clavicular tunnels and the technique utilized to only reconstruct the CC ligament which would only provide vertical instability. In our technique we use three tunnels; two in clavicle and one in acromion to reconstruct both AC an CC ligaments. This provides both horizontal and vertical stability by complete restoration of superior shoulder suspensory ligament complex. No screws are used for fixation of the LARS in tunnels which prevents the tunnel widening, bone erosion and screw...
related complications. To date, a single study has been published for fixation of both acute and chronic ACJ dislocations which reported one ruptured LARS ligament and one case of deep wound infection requiring revision surgery, and implant removal (screw) was performed in one patient. Their technique only reconstructed CC ligament. We did not find any re-ruptures and complications related to screws were avoided due to a modified fixation technique.

Category: Shoulder - AC Joint

More Than 90% Satisfactory Results After Non-Surgical Treatment of Type III and V Acute AC Joint Dislocation. A Prospective Cohort Study With 1-Year Follow-up of 95 Patients Managed Non-Surgically with the Option of Delayed Surgical Intervention

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All Authors:
Kristine Bramsen Haugaard MD DENMARK
Klaus Bak MD DENMARK
Dorthe Ryberg PT DENMARK
Omar Muharemovic PhD DENMARK
Per Hølmich DMSc, Prof. DENMARK
Kristoffer W. Barfod MD, PhD DENMARK

Summary:
This prospective cohort study with 95 patients with acute type III and V AC joint dislocation showed that >90% of patients recovered well with non-surgical management and type III and V presented equal results.

Data:
Background The need for surgical intervention in patients with acute acromioclavicular (AC) joint dislocation is debated. The objective of the study was to describe clinical, functional, patient-reported and radiological outcomes in patients with acute Rockwood type III and V AC joint dislocations managed non-surgically with the option of delayed surgical intervention. Methods Patients aged 18-60 with acute AC joint dislocation with >50% superior displacement of the clavicle to the acromion were eligible for inclusion in this prospective cohort study. All patients were treated non-surgically with 3 months of home-based training and with the option of delayed surgical intervention. Patients were seen 6 weeks, 3 months, 6 months and 1 year after the injury. At baseline patients were graded as type III or V according to the Rockwood classification. Patients with unsatisfactory progression (ROM <90 degrees and reduced ADL) at 6 weeks or later were referred for surgery (OP-group). The primary outcome was the Western Ontario Shoulder Instability Index (WOSI) score (0-100%, 100% being the best). Other outcomes of interest were the Shoulder Pain and Disability Index (SPADI), satisfaction with the cosmesis (0-10 NRS scale, 10 being best), and number of days until return to work and sports. Between-group analyses were performed with students’ t-test for continuous and normally distributed data, Mann-Whitney U test for skewed data and the Fishers exact test for categorical data. ClinicalTrials registration NCT03727178. This publication concerns objective 2 and 4. Results Ninety-five patients, 86 males and 9 females (male:female ratio 9.6:1), mean age 39.5 (range 18-59), were included. At baseline, 57 patients were graded Rockwood type III and 38 patients were graded type V. There were no statistically significant differences in WOSI or SPADI scores between patients with type III and V injuries at any time-point. Nine patients (9.5%) were referred for surgery at an average of 189 days (range 75-358) after the injury; 7 type III and 2 type V (p = 0.31). At 6 weeks follow-up, there was a statistically significant and clinically relevant difference in the WOSI score between patients who recovered well with non-surgical treatment (WOSI median [range] 60% [11;96]) and patients who were eventually referred for surgery (28% [11;53]). All patients returned to their occupation at mean (SD) 14 (20) days after the injury. 81/95 (85%) patients participated regularly in sports and of those 68/81 (84%) returned to their pre-injury sport in average 74 (51) days after the injury. Patients’ satisfaction with the cosmesis changed from 5.5 [0-10] at baseline to 9 [0-10] at 1 year follow-up. Conclusion Non-surgical management of Rockwood type III and V injuries shows overall satisfactory results with 91% recovering well without the need of surgery. Those who required surgery had significantly worse WOSI scores at 6 weeks. Rockwood type III and V presented equal results.