

Floating Shoulder Injury: Radiographic and Functional Outcomes after Operative and Conservative Treatment O-188

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Introduction: A scapular neck fracture is considered unstable if it is associated with an ipsilateral clavicular fracture or an acromioclavicular joint dislocation. Discussions about an appropriate therapy of this rare entity are controversial because of small numbers of patients. The purpose of this retrospective study was to compare the radiographic and functional outcomes of simultaneous clavicular-scapular fixation, clavicle fixation only with conservative treatment for floating shoulder.

Materials and Methods: From 2005 to 2011, there were 192 patients who had sustained scapular fracture combined with other injuries in our institution. Patients who met definition of floating shoulder were included. Associated ipsilateral neurovascular injuries and humeral head fractures were excluded. The decision of double fixation for scapular neck and clavicle or fixation of clavicle alone was depended the surgeon. Patients received conservative treatment because they were not candidates for surgery of high morbidity or hesitation of surgery. Anteroposterior radiographs were performed for each patient during following. Glenopolar angle (GPA) was measured at time of injury and last time of follow-up. In addition, each patient had a function evaluation by the Disabilities of the Arm, Shoulder and Hand (DASH) score.

Results: Thirty-nine (23 men, 16 women) patients were enrolled, with mean age 43.6 years old and mean ISS 14.6. Surgery was performed in 26 patients and conservative in 13. Among operative group, there were 13 patients under double fixation, while another 13 under fixation of clavicle alone. Fracture was fixed with plate by posterior approach for scapular neck. Clavicle fracture was treated with plating or pinning. The mean follow-up was 25 months. Fracture union was achieved in all patients radiographically and clinically. The mean GPA at time of injury was 15.5, 28.1, 25.8 degree, and 35.5, 35.5, 21 degree at last time of follow-up, among double fixation, fixation of clavicle alone, and conservative treatment, respectively. DASH score was 1.13, 20.13, and 19.64, respectively.

Discussion: Restoring anatomy of shoulder girdle by double fixation of scapular neck and clavicle is favorable than fixation of clavicle alone from the difference of GPA and DASH score. However, if the displaced scapular neck is not simultaneously reduced, malalignment may persist. GPA is a good predictor of DASH score. We concluded that double fixation of floating shoulder yield predictably good results.

急性肩峰鎖骨關節脫臼之手術治療結果:三種內固定器之回顧性比較 O-189
**Surgical Outcome of Acute Complete Acromioclavicular Dislocation:
A Retrospective Comparasion of Three Internal Fixators**

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Introduction: Although nonoperative treatment is considered the standard of care for the treatment of grade I and II acromioclavicular joint injuries, the treatment of grade III injuries is controversial. There are as many methods for operative stabilization, yet no one has been proven to be superior to another. In this study, we compare therapeutic effects between Kirschner tension band wiring fixation (TBW), hook-plate fixation (HP) and Knowles pin fixation (KP) for treating acute complete acromioclavicular dislocations.

Materials and Methods: From June 2008 to June 2010, a total of 52 patients (53 shoulders) who were diagnosed as acute acromioclavicular joint dislocation of Grade III were reviewed in the study. 23 patients were treated with Kirschner tension band fixation (Group TBW, n=23). 27 patients were treated with clavicular hook plate fixation (Group HP, n=27). 2 patients were treated with Knowles pin fixation (Group KP, n=2). All the patients were followed up with a period from one month to 3 years after removal of implants. Clinical and radiographic results were investigated. Constant's score was used to evaluate the operated shoulder after the removal of implants. Radiographic evaluation focused on re-subluxation.

Results: The implants were removed at an average of 5.5 months later. According to Constant's score, in group TBW, 16 shoulders were assessed as good, 4 as fair and 3 as poor. In group HP, 24 shoulders were assessed as good, 2 as fair and 1 as poor. In group KP, 2 shoulders were assessed as good. Radiographic evaluation results: 7 shoulders in TBW group, 2 shoulders in HP group had re-subluxation. The functional and radiographic outcome of group TBW were significantly inferior than group HP and group KP. No complication was noted in group KP and group TBW, yet 1 patient in group HP had clavicular fracture at 3 months after internal fixation.

Discussion: The three fixation methods are all effective and safe methods to treat Grade III acromioclavicular dislocation. Nevertheless, in our experience, the hook plate fixation had superior outcome compared with Kirschner tension band fixation based on clinical and radiographic evaluation.