

Outcomes and failures after open Latarjet stabilization

Rezultati i pogreške pri otvorenoj stabilizaciji ramena po Latarjetu

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TO THE EDITOR

There are various possible options for operative correction of recurrent anterior shoulder instability. These include soft-tissue repairs such as the Bankart procedure¹⁻⁴ or repairs that incorporate osseous reconstructions of the anterior aspect of the glenoid such as the Eden-Hybbinette^{5,6} or Latarjet⁷⁻¹¹ procedure. Multiple studies have shown restoration of glenohumeral (GH) stability with either open or arthroscopic techniques⁵⁻¹⁴ in > 90 % of the affected shoulders. Arthroscopic examination of the GH joint before an open Latarjet is recommended because associated pathology can be found in up to 73 % of cases¹⁵. These are SLAP II lesions, loose bodies, rotator cuff tears, chondromalacia and posterior labral tears. Latarjet procedures are gaining in popularity, particularly for the management of instability associated with bone defects. The aim of this procedure is to extend the congruent arc of the glenoid by fixing the coracoid process to the anteroinferior glenoid rim. Obtaining good compression, which is important for avoiding pseudarthrosis, relies on 2 bicortical screws directed from anteroinferior to posterosuperior. Complications were well described by Young and Rockwood and include recurrent anterior and posterior instability, arthrosis, osseous nonunion, implant failure or loosening, and neurovascular injury¹⁶. There are also short term complications including infection, frozen shoulder, and humeral fracture (after manipulation), hematoma formation, loose implants, and fibrous union of the bone graft, chronic pain, SSC muscle deficiency, axillary nerve injury and malposition of the graft & screws^{17,18}. The most common complication reported after repair for anterior instability is the recurrence of instability, which ranges from 3 % to 50 % in soft tissue procedures (open and arthroscopic), whereas in Latarjetit is less than 8 %¹⁹. Another complication is the injury of the Suprascapular Nerve: its proximity to the posterior glenoid rim represents a danger during insertion of the screws used for the Latarjet procedure. Placement of the screws within 10° of the face of the glenoid in the axial plane is safe and will avoid the potential suprascapular nerve injury²⁰. The purpose of our report is to point out all complications following the modification of Latarjet procedures up to 16 week postoperatively. We attempted to determine the incidence of each complication and propose the treatment solution for each one. Our intention was to identify groups of people at risk for this procedure.

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In our study group we used the modified open (Congruent-Arc) technique (Figures 1-6). We treated 122 patients (123 shoulders): 106 males and 16 females average age of 29.5 years for anterior glenohumeral instability between January 2004 and January 2013. All shoulders had some osseous deficiency of the anterior glenoid rim or had at the same time relaxation after previous arthroscopic surgery. To all the patients we per-

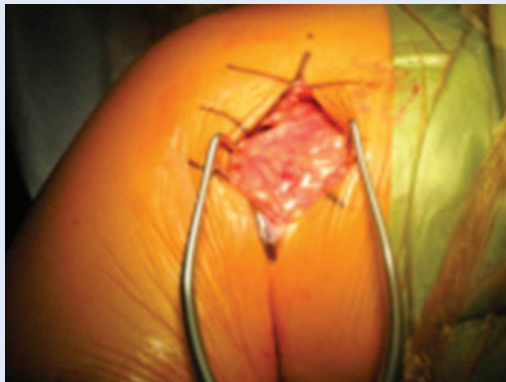


Figure 1. Deltoideo-pectoral approach



Figure 2. Coracoid resection at the base with curved saw



Figure 3. Drilling two parallel holes



Figure 4. Final fixation of the coracoid with the two screws and the washer



Figure 5. Postoperative X-ray in AP view



Figure 6. Postoperative X-ray in Y view

formed preoperatively CT scan to exclude possible coracoid fracture. All patients were examined and subjectively graded with poor, good and excellent outcome. The reason of dissatisfaction was analyzed. For evaluation of the functional result in the post-operative period we used a Rowe score. Patients were followed 16 week postoperatively, as this period was determined as short term follow up.

The results of all hundred-twenty-three shoulders were reviewed. Redislocation as main complication of this procedure were observed in six shoulders (4.8 %) due to repeated trauma: epileptic seizures (two patients) (Figure 7), hypoglycemia (two patients) and repeated sports trauma (two patients).

Other complication we divided into four groups: intraoperative complication, infection, recurrent instability and neurologic injury. Intraoperatively there was a fracture of the coracoid process during fixation in one shoulder (0.8 %). Additional resorbable anchors were used to stabilize coracoid fixation. A superficial (above deltopectoral split) infection developed in one shoulder (0.8 %). The infection was successfully treated with debridement and antibiotics. Two shoulders (1.6 %) developed recurrent glenohumeral subluxation. These shoulders were treated with arthroscopic capsuloplasty and/or remplissage. We observed resulted in transient motor neurapraxia of musculocutaneous nerve which persisted for two months in one patient (0.8 %).

112 shoulders (91 %) were subjectively graded as excellent or good. Dissatisfaction was associated with persistent subluxations, persistent pain and inability to compete in sports at the pre-injury level was present in two patients (1.6 %). The mean Rowe score was 91.7 (range 25-100).

The current study revealed 4.8 % of recurrent luxation which is in accordance with previously reported results. Other complication during treatment of 123 shoulders with transfer of coracoids process on the anteroinferior part of the glenoid cavity was observed in 5 (4 %) patients. Concerning infection as one of most devastating complication, to our knowledge only Allain et al.¹⁸ and Shah et al.²¹ reported the rate of infection associated with Latarjet procedure. While Shah et al.²¹

reported that surgical treatment as treatment of infection was performed in 6 % of patients (3 out of 44), in our series we treated surgically only 1 patient with infection (0.8 %). This was 7.5 time less than in mentioned study. In our series we observed recurrent glenohumeral subluxation in two patients (1.6 %) while Shah et al.²¹ reported in 4 patients (9 %). This huge differences considering this complication can be explained by type of screws which was used. We prefer cortical

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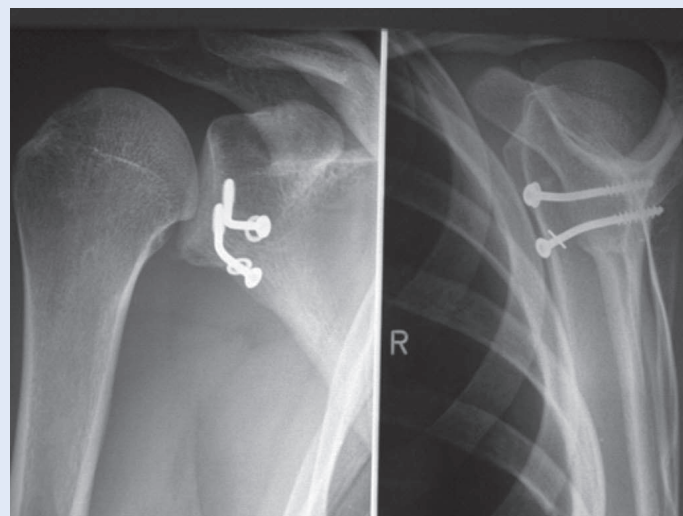


Figure 7. Traumatic redislocation in epileptic patient

screw which are much more stronger than cannulated which were used in other studies. While other authors stress out hard works and athletes as risk group for relaxation. Our study pointed out the group of patient with unregulated diabetes mellitus and epilepsy resisted to drug therapy as risk group for Latarjet procedure as all of them had relaxation and needed other another operation.

Modified open Latarjet procedure is safe and effective surgical technique for restoring glenohumeral stability. Care should be taken for the screws type and positioning because suprascapu-

lar nerve is at risk during this maneuver. Arthroscopy before open surgery is mandatory to exclude and treat concomitant GH pathology. Indication for surgery should be limited in drug-resistant epilepsy or unregulated diabetes due to high redislocation rate and subsequent coracoid fracture.

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