KEY PROCEDURES

ARTHROSCOPIC RECONSTRUCTION AFTER ACUTE ACROMIOCLAVICULAR SEPARATION INJURIES

Marvin Minkus, Natascha Kraus, MD, Carmen Hann, Markus Scheibel, MD

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Abstract

Acute acromioclavicular (AC)-joint dislocations are common injuries of the shoulder girdle. Surgical repair is indicated for acute high-grade (Rockwood types IV, V, and VI) AC-joint injuries. The best treatment for type III is still controversial, but young and active patients with this type of injury might benefit from a surgical AC-joint stabilization. Surgery should be performed within the first 3 weeks after the injury since the biological healing potential decreases with time. Acute AC-joint separation is diagnosed by clinical examination and radiography. Vertical translation anteroposterior stress views with a 10-kg load are used to grade the injuries. Bilateral lateral stress (Alexander) views are used to evaluate dynamic horizontal translation qualitatively.

Arthroscopic techniques for AC reconstruction have become more popular in recent years because they are minimally invasive; they allow treatment of concomitant glenohumeral lesions; and they can be performed in one step, with insertion of implants that do not have to be removed later. The arthroscopically assisted double-button technique with an additional AC cerclage was developed to stabilize the AC joint by internal bracing of the torn ligaments.

The procedure consists of the following steps. Step 1: With the patient in the beach-chair position, a 2-cm incision is made on top of the clavicle and posterior and lateral viewing portals as well as an anteroinferior working portal are created. Step 2: With the arthroscope in the lateral portal, the subcoracoid bursa and the base of the coracoid are dissected with a radiofrequency ablation device through the anteroinferior portal. Step 3: Coracoclavicular drilling is done with use of a drill guide and under arthroscopic and image-intensifier control. After overdrilling of the Kirschner wires, Nitinol suture passers are introduced and retrieved via the anteroinferior portal. Step 4: Transclavicular and transacromial drill-holes are established for the AC cerclage. Step 5: The 2 double-button devices are attached to the Nitinol suture passers, and the inferior buttons are shuttled through the clavicle and coracoid

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and then placed parallel to the coracoid base. Step 6: The sutures are tightened, and an anatomical vertical reduction of the AC joint is achieved. Step 7: A triangular acromioclavicular nonabsorbable cerclage tape is used for horizontal stabilization. Step 8: The clavicular incision is closed in 2 layers, including the repair of the deltoid fascia and the arthroscopic portals, in a standard fashion.

The combined arthroscopically-assisted and image-intensifier-controlled double-button technique with an additional AC cerclage is a safe procedure that enables an anatomical reduction of the AC joint and yields good to excellent clinical results.

Marvin Minkus¹

Natascha Kraus, MD¹

Carmen Hann¹

Markus Scheibel, MD¹

¹Department of Shoulder and Elbow Surgery, Center for Musculoskeletal Surgery, Charité-Universitätsmedizin, Berlin, Germany

E-mail address for M. Scheibel: markus.scheibel@charite.de

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