

SECOND

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ACROMIOCLAVICULAR JOINT ARTHRITIS

Michael S. Bahk, MD



BASICS

DESCRIPTION

- The AC joint can become a source of pain in the shoulder, often because of degenerative osteoarthritis, posttraumatic arthritis, or distal clavicle osteolysis.
- Diagnosing problems of the AC joint:
- Best diagnosed with pain on palpation, reproduction of pain with cross-body adduction, and diagnostic injections
- Plain radiographs, especially the Zanca view, or bone scans may help image the AC joint.
- Nonoperative management can be successful, but some patients require operative distal clavicle resection.
- The results of arthroscopic or open distal clavicle resection are good.

GENERAL PREVENTION

Limitation of exacerbating activities such as bench-presses, dips, push-ups, and overhead activities

EPIDEMIOLOGY

Patients >50 years old and patients involved in activities that stress the AC joint are at risk.

Incidence

- Degenerative osteoarthritis is more common with advanced age.
- AC joint arthritis is much less common than hip, knee, or glenohumeral arthritis.
- Posttraumatic arthritis is a more common cause than primary osteoarthritis.
- Distal clavicle osteolysis, an even less-common cause, occurs in certain power athletes (e.g., weight-lifters).

RISK FACTORS

Advanced age, previous AC injury, weight-lifting

PATHOPHYSIOLOGY

- The AC joint is a hyaline cartilage joint with a fibrocartilage meniscal disc.
- The disc starts to break down with normal aging and, by early adulthood, is minimal or may be injured with an AC separation or with repetitive activity.

ETIOLOGY

- Osteoarthritis results from the normal aging process.
- Posttraumatic arthritis is associated with AC separations and distal clavicle fractures, especially intra-articular fractures.
- Distal clavicle osteolysis is associated with repetitive trauma, resulting in resorption of fatigued bone, especially in weight-lifters.

ASSOCIATED CONDITIONS

Rotator cuff impingement



DIAGNOSIS

SIGNS AND SYMPTOMS History

- Patients usually report pain in the anterior or superior shoulder.
- Activities that load the joint, including reaching across or behind the body, cause pain.
- Activities such as bench-pressing also stress the joint.
- Patients may have night pain, especially when they roll onto the affected side.
- Patients also may complain of trapezoid or neck pain.

Physical Exam

- Reproduction of pain with palpation is important, and reproduction of pain at the AC joint with cross-body adduction is helpful.
- The arm is elevated to 90° while the arm is adducted across the body by the examiner.
- Relief of pain with a local anesthetic injection also is helpful in diagnosing AC joint arthritis.

TESTS

Imaging

- Radiography:
- Normal shoulder radiographs may not adequately reveal the AC joint.
- A Zanca view best exhibits the AC joint.
- The x-ray beam is aimed cephalad 15° while the voltage is decreased to about 1/2 that of a normal shoulder radiograph.
- Images reveal sclerosis, subchondral cysts, joint space narrowing, and osteophyte formation.
- However, radiographs with distal clavicle osteolysis reveal loss of bone at the end of the distal clavicle.
- Comparison of the affected shoulder with the contralateral AC joint may prove helpful.
- Rone scan
- Useful in identifying the AC joint as the source of pain in a patient with unclear radiographs (increased uptake over the joint)

Diagnostic Procedures/Surgery

Local anesthetic injection into the AC joint with relief of symptoms is a good diagnostic test for AC joint pathology.

Pathological Findings

- · The disc often is degenerated.
- The joint is arthritic with loss of normal hyaline cartilage.

DIFFERENTIAL DIAGNOSIS

- Rotator cuff impingement is the most common problem in the differential.
- These diagnoses often are interconnected because AC arthritis may contribute to cuff impingement.
- Other shoulder problems include calcific tendinitis, frozen shoulder, and glenohumeral arthritis.
- Nonshoulder problems include cervical disc disease or cervical arthritis.

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TREATMENT

INITIAL STABILIZATION

- · Activity modifications, such as temporarily avoiding dips or changing the grip distance for bench presses, may be beneficial.
- NSAIDs and corticosteroid injections can provide

GENERAL MEASURES

- Nonoperative management is the initial treatment
- Activity modification, NSAIDs, and corticosteroid injections may prove helpful.
- After 6 months of nonoperative management with persistent symptoms, surgery can be considered, but the specific treatment plan should be tailored to the patient, the occupation, and the activity level.

Refraining from offending activities may provide relief.

SPECIAL THERAPY Physical Therapy Minimal role in AC joint arthritis

MEDICATION (DRUGS)

Analgesics such as NSAIDs for pain relief

SURGERY

- Can be considered after 6 months of unsuccessful nonoperative interventions
- Distal clavicle resection may produce good results.
- The painful AC joint is removed
- Adequate resection is important to prevent continued bony contact between the clavicle and
- The resection may be performed through an open incision or arthroscopically.



FOLLOW-UP

PROGNOSIS

- Medical management can be useful but can require a protracted course.
- For open surgical distal clavicle resection, 62–100% have good to excellent results (1).
- For arthroscopic procedures, 90% have good to excellent results (2).
- Both techniques have similar long-term results, with arthroscopic resection potentially allowing an earlier return to activity.

COMPLICATIONS

- The most common complication of surgical management is incomplete resection and continued pain after surgery.
- Excessive resection of the distal clavicle, which might include the coracoclavicular ligaments, can lead to distal clavicle instability.

- 1. Novak PJ, Bach BR, Jr, Romeo AA, et al. Surgical resection of the distal clavicle. J Shoulder Elbow Sura 1995;4:35-40.
- 2. Snyder SJ, Banas MP, Karzel RP. The arthroscopic Mumford procedure: an analysis of results. Arthroscopy 1995;11:157-164.

ADDITIONAL READING

- Mazzocca AD, Sellards R, Garretson R, et al. Shoulder. Section A: Functional anatomy and biomechanics of the shoulder. Part 1: Injuries to the acromioclavicular joint in adults and children. In: DeLee JC, Drez D, Jr, Miller MD, eds. DeLee and Drez's Orthopaedic Sports Medicine: Principles and Practice, 2nd ed. Philadelphia: WB Saunders. 2003:912-934.
- · Shaffer BS. Painful conditions of the acromioclavicular joint. J Am Acad Orthop Surg 1999;7:176-188.



MISCELLANEOUS

ACROMIOCLAVICULAR JOINT ARTHRITIS

CODES ICD9-CM

715.1 Acromioclavicular joint arthritis

PATIENT TEACHING

- Patients should understand that the source of pain often is arthritis or degeneration of the joint.
- Patients > 50 years old, patients with distal clavicle fractures, and weight-lifters or power athletes are predisposed.
- Nonoperative management is initially pursued with activity modification, NSAIDs, and corticosteroid injections.
- Surgical management (open or arthroscopic) often is successful.

FAO

- Q: How can one differentiate the shoulder pain of AC joint arthritis from that of rotator cuff
- A: A diagnostic injection of anesthetic into the AC joint will relieve pain associated with AC joint
- · O: What radiographs best visualize AC joint arthritis?
- A: Traditional radiographs of the shoulder are inadequate for visualizing the AC joint. AP and cephalad tilt views of the AC joint are the best for visualizing arthritic changes. Similar views of the contralateral AC joint are helpful for comparison.