AC Separation in a Concert Violinist

A 40-year-old woman who was a right-hand-dominant concert violinist sustained a fall onto her left shoulder. Anteroposterior (A) and scapular Y view (B) radiographs and a T2-weighted coronal magnetic resonance image (C) are shown. What would you do?

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C.T. Moorman III, MD and Patrick N. Siparsky, MD: The challenge of deciding on operative vs nonoperative treatment of type III acromioclavicular joint injuries has become easier over time because we now treat almost all nonoperatively. Currently, whether the patient is a high school–level wide receiver or a collegiate quarterback, we initially treat type III injuries nonoperatively, with reconstruction reserved for late failures (more than 3 months after injury). With this in mind, the case presented is complicated by the patient’s occupation as a concert violinist. The injury to the left shoulder suggests that the violin chinrest will pass over the involved clavicle or acromioclavicular joint area. The clinician’s goal must be to give this patient optimal conditions in which to return to her occupation.

Initial evaluation of this patient requires both clinical and radiographic examination to determine the type of acromioclavicular joint injury and associated pathology. Initial examination should include a neurovascular examination and an attempt at reduction of the acromioclavicular joint. A reducible acromioclavicular joint suggests a type III rather than a type V acromioclavicular separation, in which herniation of the clavicle occurs through the deltotrapezial fascia (which precludes reduction of the joint).

Radiographic examination must include an axillary lateral image to help differentiate between type III and IV acromioclavicular separations because the treatment options differ significantly. At our institution, we do not routinely obtain computed tomography or magnetic resonance imaging for patients with this injury unless concern exists for an occult distal clavicle fracture.

Presuming that the current patient has a type III acro-
mioclavicular separation, she would be given appropriate treatment options. She should be warned that surgery is unlikely to give her an improved outcome compared with non-surgical intervention.¹ Also, if she were to have surgery, she would trade the bump from the raised distal clavicle for a potentially sensitive incision over the area. Regardless, she may feel discomfort when playing the violin that is related to pressure from the chinrest. Similarly, violin playing will likely cause early discomfort related to the load applied to the clavicle from having the arm in an abducted position for extended periods of time.

Hence, I would recommend nonoperative intervention for this patient. The arm should be placed in a sling for 7 to 10 days (with periodic elbow flexion to avoid stiffness from immobilization). She should then begin physical therapy to work on range of motion exercises and strengthening. This includes a progressive return to violin playing. She may require the addition of a pad over the clavicle where the chinrest contacts the body. Conversely, she may elect to discontinue using the chinrest and simply apply a pad directly to the painful area. If she continues to have discomfort, she may need local desensitization with occupational therapy or delayed reconstruction.

Patrick St. Pierre, MD: The case presented brings up 2 debatable aspects of patient care: treatment for the injury presented is already controversial and the patient’s occupation brings up an interesting aspect to consider. How do we decide on treatment when there is no consensus in the literature? How do we tailor our decision to the patient?

In reviewing the literature, cases can be made for both operative and nonoperative treatment, so this is an ideal case to present options to the patient and let her make the decision. Many authors conclude that most patients will do well with nonoperative treatment, but surgery should be considered for manual laborers or patients with high lifting demands.¹,² A prospective analysis of untreated acute grade III separations revealed that at 2 years postoperatively, 16 of 20 patients had acceptable results, although residual deformity was present. Three patients reported that their results were suboptimal, but only 1 went on to operative treatment. Weakness with bench press and military press in the nonoperative cohort was also noted.¹

A recent meta-analysis of 724 citations found only 6 studies meeting eligibility criteria. The findings revealed a better cosmetic outcome with surgery but a greater amount of sick leave taken postoperatively. No differences in strength, pain, throwing ability, or late acromioclavicular arthritis were found. Only 1 patient had a higher constant score for operative management.³

In the current case, 2 outcome parameters need to be considered: function and cosmesis. The pressure medially on the clavicle with the chinrest may be bothersome, but I think posterior instability at the AC joint may be a more significant factor if the clavicle rides over the acromion while holding the violin, or if there is obvious anterior-posterior instability. As with all patients, if nonoperative treatment fails, she could consider surgery in the future. However, if she wears sleeveless dresses and her shoulders are exposed when she plays, appearance may be paramount. If cosmesis is her biggest consideration or if an obvious anteroposterior instability exists, surgical treatment will provide a more acceptable and predictable outcome.

REFERENCES


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