

Journal of Sports Medicine and Allied Health Sciences: Official Journal of the Ohio Athletic Trainers Association

Volume 6
Issue 1 *OATA 2020 Supplemental Issue*

Article 11

May 2020

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Recommended Citation

Zapotosky, Michael (2020) "Partial Avulsion Fracture of the Clavicular Head with Associative Reactive Edema in the Distal Clavicle," *Journal of Sports Medicine and Allied Health Sciences: Official Journal of the Ohio Athletic Trainers Association*: Vol. 6: Iss. 1, Article 11.

DOI: <https://doi.org/10.25035/jsmahs.06.01.11>

Available at: <https://scholarworks.bgsu.edu/jsmahs/vol6/iss1/11>

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Partial Avulsion Fracture of the Clavicular Head with Associative Reactive Edema in the Distal Clavicle

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OBJECTIVE

To show the importance of a differential diagnosis in a clinical evaluation when diagnostic imaging is either inconclusive or ineffective. Also demonstrates the difference between conservative and aggressive treatments in the early stages of rehabilitation.

HISTORY

23 year old male defensive lineman who weighs 270 pounds and has a history of brachial plexus and previous chronic pain on his right side. Symptoms have been controlled over his college football career. The patient was tackled into the ground, contacting the apex of his shoulder first, and then rolled out of the tackle. The patient was removed from activity for the rest of the day. Initial sideline evaluation revealed sharp pain with palpation over the entire clavicle and dull pain over distal 2/3 of clavicle and acromioclavicular area. Secondary evaluation in athletic training facility found that the pain became more focused within 48 hours. There was no visible or palpable deformity and no immediate swelling was present. Patient had decreased strength, decreased range of motion in shoulder flexion, extension, abduction, internal rotation, and external rotation, and pain with all motion.

DIFFERENTIAL DIAGNOSIS

Included clavicular fracture, first rib fracture, A/C separation, G/H dislocation, rotator cuff strain, and deltoid strain. Patient was removed from participation and referred for x-rays in anterior and scapular planes. X-rays showed no major clinically significant findings. Patient was treated conservatively for two weeks with only minor reduction in

symptoms. Patient was then referred for a multiplanar multisequence MRI without contrast. MRI readout showed rotator cuff tendons were in tact but stated a partial avulsion fracture of the clavicular head with associative reactive edema in the distal clavicle, as well as a mild strain of the acromioclavicular joint complex and a mild first degree strain of the posterolateral deltoid.

TREATMENT

Initial injury was treated as a deltoid strain with the goals of reducing pain over the clavicle and within the shoulder girdle, increasing passive and active range of motion, and increasing strength in deltoid, rotator cuff, and upper trapezius. When initial pain did not reduce after two weeks, team doctors tried a cortisone injection into the subacromial space. Injection did not relieve pain. After MRI, rehab goals were to increase range of motion and increase strength in the deltoid. Patient was returned to activity after four more weeks of treatment. Patient can perform normal football activities with pain and is still being treated for pain. Rehabilitation included exercises to stretch and strengthen the musculature in the shoulder and sport specific activities.

UNIQUENESS

Avulsions in general are very uncommon injuries but to avulse the clavicle is even more uncommon.

CONCLUSION

The importance of this case is to educate clinicians on the importance of imaging when a specific injury cannot be identified with standard special tests.

KEY WORDS: *Avulsion, Clavicular Head, Reactive Edema*