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Figure-8-Reconstruction of Posterior Sternoclavicular Joint Dislocation 18 Days Post Initial Injury

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Athletic Trainers in Physician Practice Society Free Communications Abstract Presentations

The following abstracts were accepted and presented at the 6th Athletic Trainers in the Physician Practice Society Annual Conference in 2023.

Figure-8-Reconstruction of Posterior Sternoclavicular Joint Dislocation 18 Days Post Initial Injury

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Introduction: Traumatic sternoclavicular joint injuries account for less than 3% of all traumatic joint injuries¹. Although rare, posterior dislocation of the sternoclavicular joint has the potential to be life-threatening due to the proximity of vital structures posterior to the manubrium. This injury typically requires a high-energy force applied through the joint². SC dislocations become increasingly difficult to reduce after 24 hours, so timely diagnosis and treatment are important. Glass et al. found mediastinal compression occurred 30% of the time with posterior dislocations. If left untreated, prolonged pressure on the superior mediastinum can cause erosion of the great vessels, tracheoesophageal fistula, brachial plexopathy and thoracic outlet syndrome¹. An open reduction is indicated once a closed reduction has failed. **Case Presentation:** 74-year-old, Caucasian male, who had a possible syncopal episode and fell onto a metal table from ground level sustaining a left posterior sternoclavicular dislocation. He was initially seen at the ER at the region's level 1 trauma center on 8/5/2022. His chief complaint was left clavicle pain with 10/10 pain on VAS. Xray were negative for left clavicle fracture and patient was released with a sling. He was referred from his primary care provider to a local Orthopedist, who ordered a CT scan which showed a posterior sternoclavicular joint dislocation with the sternal end of clavicle imbedded in mediastinum. Thirteen days post-injury closed reduction was attempted by an Orthopedic trauma team at a local trauma hospital. Follow up imaging showed persistent posterior dislocation. Due to failed closed reduction. Subsequently, an open reduction of the sternoclavicular joint was indicated. Eighteen days post-injury, the patient underwent an open reduction of the left sternoclavicular joint with figure-of-8 reconstruction utilizing a semitendinosus allograft. A cardiovascular consult was obtained to assist with retro-manubrium dissection. A successful reconstruction of the sternoclavicular joint was achieved without adverse incident. **Discussion:** This case illustrates the importance of accurate diagnosis and prompt treatment. Posterior dislocations accompanied with symptoms of mediastinal compression can achieve satisfactory results with both closed and open procedures if the dislocation is reduced as close to the time of injury as possible. **Clinical Practice Recommendations:** Symptoms of mediastinal compression accompanied posterior dislocations 30% of the time although patients still achieve excellent to good results regardless in the choice of treatment. For patients treated by open reduction, the failure of an initial closed reduction resulted in the in functional outcomes no worse than for patients treated without an attempted closed reduction. Based on the low number of reported open reduction cases in the literature, tenodesis, suture fixation and ORIF have the largest proportion of excellent/good results without frequently associated high-risk complications. K wire and pin fixation is associated with dangerous complications including wire and pin migration or breakage.