Posterior Sternoclavicular Dislocation: Do We Need "Cardiothoracic Backup"? Insights From a National Sample

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Purpose: Posterior sternoclavicular dislocation (P-SCD) is an uncommon injury without evidence-based guidelines for management. Case reports warn of its association with catastrophic vascular injury but the true incidence is unknown. Many authors advise closed or open reduction with "Cardiothoracic Backup," which is vaguely defined and costly. Here we use the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample (HCUP-NIS) to determine risk factors for vascular injury associated with P-SCD and guide resource utilization.

Methods: We used data from the HCUP-NIS from 2015-2016 and defined a cohort of patients with SCD using ICD-10-CM diagnosis codes. We then further isolated a subset with P-SCD. We describe the incidence of thoracic vascular injury, demographics, and ISS in this cohort.

Results: Of an estimated 550 patients who had a sternoclavicular dislocation, 140 (25%) were identified as having a P-SCD. No vascular injuries occurred in the P-SCD cohort. Among all patients with SCD <2% of patients had a vascular injury, all of whom had an ISS >16, independent of the SCD or the vascular injury itself (Fig. 1). Among patients with an isolated P-SCD injury (55), overall length of stay was 1.8 days and total charges averaged $29,724.45. There was no mortality among patients with isolated P-SCD.

Conclusion: Here we report no vascular injuries in the largest known series of P-SCD. Among all patients with SCD, vascular injury was rare, occurring only in severely polytraumatized patients. The recommendation for routine involvement of cardiothoracic surgeons in all cases of P-SCD should be re-examined.

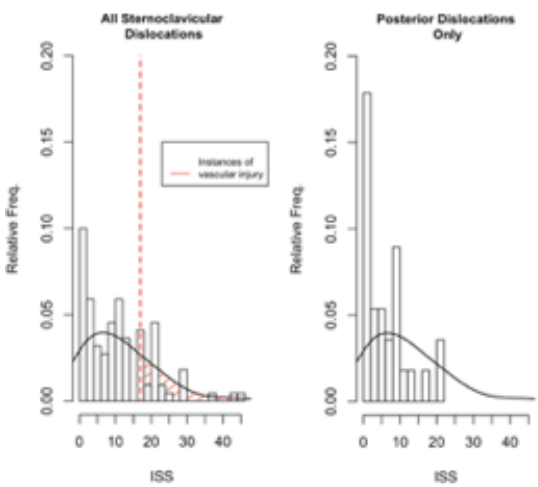

Figure 1. ISS was calculated for all injuries excluding the sternoclavicular dislocation or the thoracic vascular injury if it was present