



MIDWEST SURGICAL ASSOCIATION

# 2020 Annual Meeting

August 2 - 4, 2020 | Mackinac Island, MI  
Grand Hotel

## 18. BLUNT CEREBRAL VASCULAR INJURY DOES TREATMENT MATTER?

Presenter: Jonathan M Saxe MD, MAR, MBA | St. Vincent Hospital

*JM Saxe, J Williams, TJ Kovanda, ZA Freeman, AP Melillo, LE Jacobson, TJ Leipzig, DH Sahlein, RB Rodgers*

**Background:** Blunt cerebrovascular injury (BCVI) is an increasing and problematic conundrum for surgeons caring for the multiply injured patient. The increasing use of CT arteriography as a screening tool and the increased number of elderly patients with significant pre-existing degenerative spine concerns. Current treatment recommendations appear to be arbitrary and not protocol driven. The purpose of this study is to evaluate the current treatment recommendations and outcomes for BCVI at a busy level one trauma center.

**Methods:** An IRB approved retrospective review of all patients who sustained BCVI performed between 2013-2016. Data obtained included Age, Sex, ISS, AIS, Stroke Rate, treatment type and outcomes.

**Results:** 58 Patients with 62 BCVI's were identified. The average age was 54, with more males (37) than females (22). The average ISS was 23 indicating a multi-focal injury pattern. Although head was the most severely injured body area (AIS 3), chest (AIS 1.86) and extremity injuries (1.33) were also prevalent. carotid injuries outnumbered Vertebral artery injuries 32 (55%) to 26 (45%). Aspirin was most common treatment modality 38 (54%), Aspirin and Plavix were used in 9 (13%), and anti-coagulation was recommended in 8 (11%). Mortality for the entire group was 12 patients (17%) and 9 patients suffered a stroke (13%) as a result of their injuries. Most of the stroke patients were in the carotid artery injury group (99%). Only one patient with a vertebral artery injury demonstrated stroke signs on CT scanning.

**Conclusion:** Treatment modality did not seem to influence stroke rate or mortality. Aspirin would appear to be effective as the singular agent without the need for other anticoagulation strategies. A protocol driven study may provide a more consistent approach to BCVI injuries.