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## A PRELIMINARY ANALYSIS OF NON-STROKE-RELATED SHOULDER SUBLUXATIONS IN THE CRITICAL CARE SETTING

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**Learning Objectives:** Shoulder subluxations in the Intensive Care Unit (ICU) are uncommon, most of the research surrounding them demonstrates, when they do occur, they are a frequent complication in patients post cerebral vascular accident (CVA). However, there is little information surrounding shoulder subluxations in patients with other critical conditions. We sought to determine if underlying conditions would increase the risk of shoulder subluxation.

**Methods:** Occupational therapists identified critical care patients with shoulder subluxations during their evaluation of the shoulder by inspection and palpation. Forty-five patients met shoulder subluxation criteria and a chart review was subsequently performed.

**Results:** Of the 45 total patients, 24 of the patients had a CVA in the acute setting while nine patients had history of CVA. Twenty of the patients, 15 non-CVA and 5 CVA, required ventilator support due to respiratory compromise. Of these 15 non-CVA patients, 13 required continuous sedation and six required paralytics to maintain ventilation. Other comorbidities identified in this patient population include: 33 patients had hypertension; 17 patients had type 2 diabetes; 10 had chronic kidney disease, and nine had congestive heart failure.

**Conclusions:** After analysis of 45 patients with shoulder subluxations, it was found that the common factor for a majority of the patients was either an acute or a past CVA. Because 15 of the patients with shoulder subluxations had acute respiratory failure without acute CVA, respiratory failure could be an independent risk factor for developing shoulder subluxation. Within the non-stroke ventilated patients, 13 of them had continuous sedation and in addition, six had paralytic use. Because critical care patients often require mechanical ventilation with sedatives and paralytics, this correlation could indicate shoulder subluxation as complication to mechanical ventilation and the medications used. Protocols may need to be developed and implemented to help identify at risk patients and prevent the complication of sustaining shoulder subluxations in the critical care setting.

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## INPATIENT OBSERVATION FOLLOWING A NORMAL BRAIN CT IN PATIENTS WITH MINOR HEAD INJURY ON WARFARIN

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**Learning Objectives:** The current protocol at our hospital for a patient suffering mild or minor traumatic head injury (GCS 13-15) requires a preliminary CT scan, admission to a step down unit or a monitored surgery floor for at least 24 hours and a repeat CT scans in 6-8 hours. Our objective was to determine the rate of delayed intracerebral hemorrhage in patients who sustained a mild head injury that had an initial head CT that was negative for bleeding.

**Methods:** We conducted a retrospective chart review study involving anticoagulated (warfarin) patients who had sustained minor head injury and a negative initial head CT scan at a level 2 regional trauma center from October 2013 to December 2017. Our inclusion criteria included patients above 18 years of age; only blunt mechanism; Minor head injury with a GCS on admission 13-15; ISS <15; Injury sustained within the previous 48 hours of admission; Patients with no focal neurodeficit and/or no evidence of cranial fracture; All patients admitted for at least 24 hours observation with a repeat CT scan performed before discharge; Pre-injury use of anticoagulation (only warfarin and use for at least 1 week) Initial CT scan on admission were negative for any intracranial bleed.

**Results:** All 61 patients were on Coumadin and (9/61) took aspirin as an additional anticoagulant. The first CT scan was negative in all 61 patients. The second CT scan, performed at  $\geq 6$  hours, was positive in 3/61 of the patients. Ninety-eight percent of the patients (60/61) had no neurological deterioration during their hospital stay. The one patient (1.6%) who had neurological deterioration later died of cardiac arrest. 92% of patients did not have a CT scan at time 3 or time 4 and 8% of patients (5/61) did have a scan during this period. Of the 5 patients undergoing a CT scan, 3 patients had a positive scan, showing some abnormality. Fifty-four percent of the patients (33/61) had a hospital stay of greater than 3 days; 19.7% of patients (12/61) had a hospital stay of 2-3 days and 26.2% of patients (16/61) had a hospital stay between 0 – 1 days.

**Conclusions:** A mean 4 day hospital stay as was evident from our study comprising of elderly patient population would amount to \$16,304USD. This excludes the ancillary costs of labs and transport etc. Patients with a mild head injury, a therapeutic INR, and negative initial CT brain can be safely discharged home with close family monitoring, proper education and detailed instructions on when to return.

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