Conclusion: The prevalence of IPV reported by ED patients was higher among LGBTQ than heterosexuals and females than males. This study has several limitations that include sampling from a single hospital, thereby limiting generalizability, and including only patients without visitors, which could undercount IPV. This study is among the first to estimate the prevalence of IPV by sexual orientation and shows that orientation should be considered when screening.

55   Temporal Profile of Microtubule Associated Protein (MAP-2): A Novel Indicator of Brain Injury Severity After Trauma

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Objective: To assess microtubule associated protein (MAP-2) as a potential biomarker for traumatic brain injury (TBI) in adult patients with severe TBI by comparing levels in uninjured controls and examining the relationship between MAP-2 levels over ten days and acute and long-term measures of injury severity.

Methods: This prospective study, conducted at two Level 1 Trauma Centers, enrolled adults with severe TBI defined by Glasgow Coma Scale (GCS) score ≤8 requiring a ventriculostomy. Ventricular cerebrospinal fluid (CSF) was sampled from each patient at 6, 12, 24, 48, 72, 96, 120, 144, 168, 192, 216 and 240 hours following TBI and analyzed via ELISA for MAP-2 (ng/ml). Control subjects required CSF drainage for other medical conditions such as routine anesthesia. Injury severity was assessed by the GCS score, Marshall Classification on CT, Rotterdam score and the Glasgow Outcome Scale (GOS) Score 6 months post-injury. Biomarker performance was assessed using Mann Whitney U, AUC with 95%CI's.

Results: There were 151 patients enrolled, 130 TBI patients and 21 control patients. Mean age was 38 (SD15) and 81% male. MAP-2 was detectable in CSF within 6 hours of injury and was significantly elevated compared to controls (p < 0.001) at each time-point. MAP-2 was highest within 72 hours of injury and decreased gradually over 10 days. The AUC for deciphering TBI versus controls at the earliest time-point CSF was obtained was 0.96 (95%CI 0.93-0.99)(p < 0.001). The AUC for the maximal level within 24 hours was 0.99 (95%CI 0.97-1.00). Levels were significantly higher in non-survivors and those with a post-resuscitation GCS score of 3-5. The highest concentrations of MAP-2 were in those who died within 48 hours. Levels were highest among patients with diffuse injury compared to those with mass lesions. Among the diffuse injury group, those with Diffuse Injury III-IV had much higher initial (p=0.028) and maximal (p=0.002) MAP-2 levels than those with Diffuse Injury I-II. The initial and maximal concentrations of MAP-2 in each of the GOS score categories measured at 6 months, decreased in a graduated fashion as the severity of the outcome decreases with p-values of 0.092 and 0.037 respectively.

Conclusions: These data suggest that early levels of MAP-2 have the potential to determine injury severity in TBI patients. Further studies are needed to validate these findings in a larger sample.

56   External Validation of the UC Davis Clinical Decision Instrument to Identify Adults in a Community Setting With Mild Traumatic Intracranial Hemorrhage at Low Risk for Requiring Intensive Care Unit Admission

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Background: Patients with mild traumatic intracranial hemorrhage (tICH)—defined as Glasgow Coma Scale (GCS) score ≥ 13—are often admitted to the intensive care unit (ICU) but may not require critical care interventions. A clinical decision instrument (CDI) was derived at an academic, Level 1 trauma center that identifies patients at low risk for critical care interventions based on the absence of the following criteria: age ≥ 65, admission GCS score < 15, non-isolated head injury, and swelling or shift on cranial CT.

Objective: We sought to validate this CDI in a community setting within an integrated healthcare delivery system.

Methods: This retrospective cohort study included adults not taking anticoagulants with mild tICH across 21 community EDs from January 2012 to April 2013. The primary outcome was any critical care intervention within 48 hours of admission: intubation, neurosurgical intervention, blood product transfusion (excluding platelets), vasopressor or inotrope use, invasive monitoring, cardiopulmonary resuscitation, or therapeutic angiography. We report descriptive and performance statistics.

Results: The 668 validation patients were older than the derivation cohort (n=600) (mean age 73±17 vs 55±22 years) and more commonly female (50% vs 29%). Ground-level falls were more common (82% vs 33%) and motor vehicle collisions less common (3% vs 20%). The distribution of predictor variables also differed: ≥ 65 years (77% vs 31%), admission GCS score < 15 (19% vs 34%), non-isolated head injury (6% vs 30%), and swelling or shift on cranial CT (28% vs 9%) (all P < 0.001). The presence of any one predictor was more common in the validation cohort (85% vs 68%) while need for interventions was similar (16% vs 19%). Sensitivities for critical care intervention were comparable (99% [95% CI 97%-100%] vs 98% [95% CI 94%-100%]), whereas specificity was markedly lower (18% [95% CI 15%-21%] vs 40% [95% CI 35%-44%]) in validation vs derivation cohorts, respectively.

Conclusion: Demographics, injury patterns and CT findings differed significantly between validation and derivation cohorts. Although sensitive for critical care interventions, the UC Davis CDI had low specificity in our population, limiting its use as a tool to safely reduce ICU admissions. Further work is needed to develop a modified tICH CDI for use in the community setting.

57   Scapular Fractures in the Pan-scan Era

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Background: Scapular fractures have been traditionally taught to be associated with significant injuries and major morbidity. Increased CT usage in blunt trauma evaluation, however, may diagnose minor, clinically irrelevant scapular fractures, possibly rendering previous teachings obsolete.

Objectives: To determine the 1) percentage of scapular fractures seen on chest CT only (SOCTO) versus on both chest x-ray (CXR) and CT, 2) admission rates, mortality, length of stay, and injury severity score associated with scapular fractures, and 3) injuries commonly associated with scapular fractures.