81 adult patients admitted to the ICU of a Level I trauma center for ≥48 hours. Subjects were screened for posttraumatic stress symptoms during hospitalization, and 3, 6, and 12 months later. BU was converted to lorazepam equivalents and dosage subgroups were created. Patient characteristics were compared using t-tests, Wilcoxon rank sum tests, or chi-square tests, as appropriate. Patient outcomes were evaluated using multiple regression analysis. **Results:** Forty-six patients (56.8%) received benzodiazepines in the ICU. These patients were significantly more likely to endorse pre-morbid PTSD, have higher injury severity score (ISS), be on the ventilator longer, and have positive toxicology screen. There was no significant difference between dosage subgroups in rates of PTSD for any BU, intermittent administration, or higher overall benzodiazepine exposure. However, of the 19 patients who received continuous benzodiazepines, 5 (26.3%) screened positive for PTSD at 3 months (p=0.048), after controlling for ISS. Those patients also had significantly higher pre-injury BU (p=0.006). **Conclusions:** This study did not show a correlation between BU in the trauma ICU and later PTSD, a finding inconsistent with current literature suggesting a relationship in this population. A small subset of patients who received continuous benzodiazepines had PTSD at 3 months, though not on subsequent evaluations. Concurrent opiate use in the majority of our trauma ICU patients may have confounded our ability to detect a causal relationship between BU and PTSD. Further investigation is warranted.

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MORTALITY FOLLOWING HIGH BLOOD PRODUCT TRANSFUSION AMONG SEVERELY INJURED TRAUMA PATIENTS

Christopher Wybourn, April Mendoza, Mitchell Cohen, Rachael Callcut

Learning Objectives: Balanced resuscitation strategies have decreased overall mortality from severe trauma, but a subset of patients requires massive blood volume quantities in an effort to achieve survival. As resuscitation practices continue to improve mortality from lethal injuries, we our confronted by new challenges of resource allocation especially in the setting of unsurvivable hemorrhagic shock. We describe our experience with patients receiving an ultra-massive transfusion (U-MT). **Methods:** All patients receiving >=20 units of PRBCs in the first 24 hours of care who were enrolled into an ongoing prospective cohort study of highest level trauma activations were selected. Mortality was compared across PRBC groups using ANOVA and medians with Mann-Whitney. **Results:** Fifty-five patients received >=20 units of PRBCs within 24h of ED arrival. Forty-two were male (76%). Median (IQR) age was 39 (26–57), ISS 40 (25–51), and GCS 11 (4–14). Blunt injury occurred in 56% and GSW in 35%. The median worst ED vital signs included SBP 69mmHg (60–78), HR 137 bpm (107–158), and temperature 35.3 Celsius (34.2–35.8 C). Median PRBCs transfused was 29 units (IQR 24–40) and FFP 25 units (IQR 16–29). Amongst those surviving>24 hours, 41% (16/39) also received PRBCs in hours 25–48 (median 2 units). Median ICU LOS was 6 days (1–23). Overall mortality was 29% at 24h and 64% at discharge. Median time to death was 28 h (4–111). 24 hour mortality increased proportionately as PRBC units increased (p=0.017). Those receiving greater than 60 units had a 71% mortality in 24hrs and 86% mortality at discharge. **Conclusions:** Although mortality is high with U-MT, over 1/3 of patients survive to hospital discharge. However, survivability declines substantially once >=60 units of PRBCs in 24 hours are exceeded.

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REPETITION, REPETITION! RADIOGRAPHIC RE-READ PROTOCOL IDENTIFIES CLINICALLY RELEVANT ERRORS

Daniel Wu, Brian Gross, Cole Rinehart, Caitlin Lynch, Chet Morrison, Eric Bradburn, Frederick Rogers

Learning Objectives: Patients managed at level I-II trauma centers expect to receive optimal treatment. Radiographic reading errors, however, can lead to missed diagnoses and adverse outcomes, compromising patient care. In 2015, our level II trauma center implemented a protocol mandating re-reads of all radiographic studies completed on our highest level trauma activations (Code T) within 24 hours. We sought to determine the efficacy of this radiographic re-read protocol in identifying missed diagnoses in Code T patients. We hypothesized that few, but clincally-relevant errors, would be identified upon radiographic re-read. **Methods:** All radiographic study findings (initial read, re-read) for Code T admissions from July 2015 to May 2016 were queried. The reviewed radiographic readings were given one of three designations: agree with interpretation, minor (non-life threatening) clinically relevant error(s) – addendum/correction required and trauma surgeon notified, or minor (non-life threatening) and not clinically relevant error(s) – addendum/correction required. The results were compiled, and the number of each type of error was calculated. **Results:** Of the 752 radiographic readings reviewed during the study period, 3 (0.40%) contained a clinically relevant error, 11 (1.46%) contained errors that were not clinically relevant, and 738 (98.1%) agreed with the original interpretation. The three clinically relevant errors included a right mandibular fracture, a temporal bone fracture that crossed the clivus, and bilateral rib fractures. **Conclusions:** Clinically relevant errors, although a marginal amount, were discovered during radiographic re-reads for Code T trauma patients. Therefore, to eliminate potential missed diagnoses and adverse outcomes, we propose there is value in re-reading radiographic findings for patients meeting highest trauma level activation criteria.

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IF THE INITIAL HEAD CT OF A TRAUMA PATIENT ON ANTITHROMBOTICS IS NEGATIVE, IS A SECOND CT NECESSARY?

Lillianne Stanitsas, Gregory Huang, Eric Emerick, Elisha Chance, Barbara Hileman

Learning Objectives: Studies have indicated delayed intracranial bleeding in patients on chronic oral antithrombotic agents. However, there is a lack of literature addressing aspirin. Few studies have addressed the need for a repeat head computed tomography (CT) after an initial negative head CT in patients on antithrombotics. We hypothesized that patients taking antithrombotics with an initial negative head CT would not have a delayed ICH on a repeated head CT. **Methods:** Data were retrospectively collected from the trauma registry and electronic medical records at a level 1 trauma center. Patients were included if: seen by Trauma Services 7/1/14-12/31/14, had a blunt mechanism of injury, were taking antithrombotics, and had evidence of cranial/facial injury with a negative initial head CT. Patients were excluded if they were <18 years old or had penetrating head trauma. **Results:** Seventy-one patients were included. The average age was 77.4 years, ISS 6.7, and GCS 14.6. Mechanism of injury was falls, 80.3%, vehicular 18.3%, and 1.4% other. Twenty-one patients were on warfarin, 10 clopidogrel, 30 aspirin, 3 apixaban, 1 dabigatran, and 6 dual therapy. Seven patients died (1 apixaban, 3 warfarin, 2 aspirin, 1 dual) from other injuries/co-morbidities. Older patients were more likely to die compared to younger (p=0.009). No patients demonstrated a delayed bleed on a repeat head CT. **Conclusions:** Patients prescribed antithrombotic agents with evidence of cranial/facial injury and an initial negative head CT did not demonstrate a delayed bleed on repeated head CT. Discussion will consider implications of this study, but a repeat head CT may not be necessary.

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ANALYSIS OF PEDIATRIC TRAUMA IN A COMBAT ZONE TO INFORM HIGH-FIDELITY SIMULATION TRAINING

Patrick Reeves, Elizabeth Mann-Salinas, Jennifer Gurney, Zsolt Stockinger, Tuan Le, Matthew Borgman

Learning Objectives: The military uses 'just in time' training for medical personnel to refresh skills to prior to deployments. Pre-deployment training for pediatric care has been extremely limited. Pediatric patients have been shown to account for over 10% of bed-days in Role 3 facilities. The goal of this study is to utilize both Role 3 and Role 2 patient records to enable the data-driven development of high-fidelity simulation training for the management of pediatric patients in the combat zone. **Methods:** Retrospective reviews were performed on the Department of Defense Joint Trauma Registry for Role 3 patients and the Role 2 Registry of pediatric patients (<18 years) from 2001–2014. Three sub cohorts were determined using commercially available models: Group 1: <1 year, Group 2: 1–8 years, Group 3: >8 years. The groups were analyzed according to demographic data and were further sub-stratified based on management. Comparative analyses included: T-Test for continuous data; Chi Squared for dichotomous data. **Results:** 6045 patients were analyzed: 8.9 years±4.58, 76% male, Glasgow