MP59
Exploring adverse events in boarded psychiatric patients in Calgary zone adult emergency departments
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Introduction: Adult Emergency Departments (EDs) in Calgary are facing a crisis of boarded patients admitted to psychiatric in-patient units. In psychiatric emergency care, “boarding” describes the holding of patients in the ED after the decision to admit has been made by a staff psychiatrist and a bed request has been submitted. Literature review suggests psychiatric patients face exorbitantly higher boarding times than any other service in the hospital however little is published on the nature of these adverse events. Examples of adverse patient events from a psychiatric perspective could include: the need to initiate mechanical and/or chemical restraints after admission and while still in the ED, attempts to self-harm, and verbal and physical assault on ED staff. Methods: This study quantifies the incidence of adverse events experienced by psychiatric patients while boarded in the ED. It uses a retrospective chart review of all adult psychiatric patients, age 18 - 55yo, who presented to one of four adult EDs and who were admitted to a psychiatric in-patient unit in the Calgary Zone between January 1, 2019 and May 15, 2019. A randomly generated convenience sample identified 200 patients, 50 from each site, for in-depth review. Results: During the study time period, 1862 adult patients were admitted from emergency departments to the psychiatry service across all four sites. Of the 200 charts reviewed, patients ranged in age from 26-41 (average 34). 52.5% were male with the majority being admitted to a non-high observation bed (high observation versus normal versus short stay) (p < 0.05). Significant adverse events were associated with the specific hospital site and the type of admission bed needed (high observation versus normal versus short stay) (p < 0.05). Conclusion: Psychiatric patients in Calgary EDs experience a number of significant adverse events. The importance of understanding the reality of the conditions that psychiatric ED patients face while waiting for in-patient placement cannot be overstated. This study is important to emergency medicine as it will allow for deeper understanding of the patient experience while in the ED and identifies areas that may require further advocacy amongst ED staff and our psychiatry colleagues.

Keywords: adverse event, boarding, psychiatric emergency

Poster Presentations

P001
Proof-of-principle in a large animal pilot: cardiac arrest may be associated with acute, transient coagulopathy that may drive post-cardiac arrest syndrome
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Introduction: Many cardiac arrest survivors die later due to hemorrhage or thromboembolism, thought to be caused by acquired coagulopathy in post-cardiac arrest syndrome (PCAS) from shock and reperfusion injury. Understanding PCAS is a priority identified by the AHA for the prevention of complications in cardiac arrest survivors. Shock dysregulates both coagulation and fibrinolysis. The key effector enzyme thrombin (Th), is responsible for both up- and down-regulating coagulation and fibrinolysis. Measuring early Th activity may allow for predicting PCAS coagulopathy, and early medical intervention in the ED. Therefore, we aimed to characterize the time-course profile of early coagulation using an established pig model of cardiac arrest. Methods: Yorkshire pigs were anaesthetised and intubated, had VF-arrest induced by pacing, and were resuscitated per ACLS. Rotational thromboelastometry (ROTEM) was performed on whole blood at four times: baseline, intra-arrest, post-arrest, and death, using the fibrin-based test with tissue factor to initiate clotting in the presence of a platelet inhibitor cytochalasin D (FIBTEM). Clot time (CT), clot formation time (CFT), alpha-angle during clot formation (Alpha), clot amplitude at 10 min (A10), maximum clot firmness (MCF), and maximum lysis as total percentage (ML%) were quantified. The primary outcome is the overall coagulation initiation measured by CFT, while secondary outcomes include ROTEM parameters reflecting Th activity. Parameters are compared over time in SPSS using repeated measures ANOVA and Bonferroni correction. Results: Pilot data from one experiment show that cardiac arrest causes immediate early changes to coagulation that subsequently normalized with ROSC (Figure 1). CFT was impaired immediately involving the risk of subsequent complications.
upon cardiac arrest (2.3-fold increase), normalized with ROSC, and impaired again at death when compared with baseline. Consistent with clotting impairment, A10, Alpha, and MCF were all reduced with cardiac arrest, normalized with ROSC, and impaired again at death. **Conclusion:** Higher initial indices of coagulopathy in patients with cardiac arrest appear to correlate with death and thromboembolism. In this pilot, CFT is acutely modified by cardiac arrest. Since CFT is affected by overall Th activity, early Th dysregulation may be a critical driver of coagulopathy. Th may therefore be a lead target that is modifiable in the emergency post-arrest setting to decrease morbidity and mortality from PCAS in cardiac arrest survivors.

**Keywords:** cardiac arrest, coagulopathy, thrombin

**P002**

Minimum archiving requirements for emergency medicine point-of-care ultrasound: a modified Delphi-derived national consensus

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**Introduction:** Point-of-care ultrasound (POCUS) has become standard practice in emergency departments ranging from remote rural hospitals to well-resourced academic centres. To facilitate quality assurance, the Canadian Association of Emergency Physicians (CAEP) recommends image archiving. Due to part in poor infrastructure and lack of a national standard, however, archiving remains uncommon. Our objective was to establish a minimum standard archiving protocol for the core emergency department POCUS indications. **Methods:** Itemization of potential archiving standards was created through an extensive literature review. An online, three-round, modified Delphi survey was conducted with the thirteen POCUS experts on the national CAEP Emergency Ultrasound Committee tasked with representing diverse practice locations and experiences. Participants were surveyed to determine the images or clips, measurements, mode, and number of views that should comprise the minimum standard for archiving. Consensus was pre-defined as 80%. **Results:** All thirteen experts participated fully in the three rounds. In establishing minimum image archiving standards for emergency department POCUS, complete consensus was achieved for first trimester pregnancy, hydronephrosis, cardiac activity versus standstill, lower extremity deep venous thrombosis, and ultrasound-guided central line placement. Consensus was achieved for the majority of statements regarding abdominal aortic aneurysm, extended focused assessment with sonography in trauma, pericardial effusion, left and right ventricular function, thoracic B-line assessment, cholecystitis and cholecystitis scans. In total, consensus was reached for 58 of 69 statements (84.1%). This included agreement on 41 of 43 statements (95.3%) describing mandatory images for archiving in the above indications. **Conclusion:** Our modified Delphi-derived consensus represents the first national standard archiving requirements for emergency department POCUS. Depending on the clinical context, additional images may be required beyond this minimum standard to support a diagnosis.

**Keywords:** archiving, delphi, point-of-care ultrasound

**P004**

The impact of transfusion guideline on emergency physician transfusing orders

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**Introduction:** Blood transfusions continue to be a critical intervention in patients presenting to emergency departments (ED). Improved understanding of the adverse events associated with transfusions has led to new research to inform and delineate transfusion guidelines. The Nova Scotia Guideline for Blood Component Utilization in Adults and Pediatrics was implemented in June 2017 to reflect current best practice in transfusion medicine. The guideline includes a lowering of the hemoglobin threshold from 80 g/L to 70 g/L for transfusion initiation, to be used in conjunction with the patient’s hemodynamic assessment before and after transfusions. Our study aims to augment understanding of transfusion guideline adherence and ED physician transfusing practices at the Halifax Infirmary Emergency Department in Nova Scotia. **Methods:** A retrospective chart review was conducted on one third of all ED visits involving red-cell transfusions for one year prior to and one year following the guideline implementation.

**Conclusions:**