P003

Door-to-antibiotics and mortality for emergency department patients presenting with septic shock

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Introduction: We examined our local sepsis patient population, and specifically our most vulnerable patients - those presenting to the emergency department (ED) in septic shock - for variables predictive of survival to hospital discharge. We applied the familiar ED paradigm of, "Door to," to calculate the impact of time to antibiotics against patient survival to hospital discharge. **Methods**: Retrospective chart review of patients aged > = 18 years, presenting to tertiary care ED between 01 Nov 2014 and 31 Oct 2015. Patients determined to have sepsis if A) > = 2 SIRS criteria and ED suspicion of infection (ED acquisition of blood/urine cultures or antibiotic administration) and/or B) received ED or Hospital discharge diagnosis of sepsis (ICD-10 diagnostic codes A4xx and R65). Patients sub-classified with septic shock if A) triage SBP < = 90mmHg, B) triage MAP < = 65mmHg or C) serum lactate > = 4mmol/L. "Door Time" was defined as the earliest time recorded for the patient encounter, either the time the patient registered in the Emergency Department, or the triage time. A generalized linear model was performed with a binomial distribution using survival to discharge as the response variable. Age, sex, ED arrival method, time to antibiotics, ED serum lactate and ED serum glucose level were the predictor variables. **Results**: 13506 patient encounters met inclusion criteria (10980 unique patients). Linear regression of time to antibiotics against survival to hospital discharge failed to achieve statistical significance. Linear regression of the secondary outcome variables achieved statistical significance for age and serum lactate level. Per the model, as age increased by 1 year, the odds of dying prior to hospital discharge increased by 3.8% and as serum lactate increased by 1 mmol/L, odds of dying prior to hospital discharge increased by 11.1%. **Conclusion**: We found no association between time to antibiotic treatment and mortality. Causal relationships require randomized controlled trials, and this analysis contributes to clinical equipoise.

Keywords: antibiotic, emergency department, sepsis

P004

Effect of telephone triage (811) calls on a regional poison centre

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Introduction: Telephone Triage Services (TTS) manage phone calls from the public regarding general medical problems and provide telephone advice. This telephone based care can overlap with care provided by Poison Centres. Our objective was to examine the impact of a provincial 811 TTS on the IWK Regional Poison Centre (RPC). **Methods**: This is a retrospective descriptive study using interrupted time series methodology. We compared monthly IWK RPC call volume in the pre-811 era (January 2007-July 2009) and the post-811 era (September 2009-December 2017). We summarized the characteristics of callers who accessed the IWK RPC in terms of client age, sex, intentionality, time of day, call disposition and outcome. Caller characteristics were compared between the pre- and post-811 eras using chi-square test for categorical variables. We used segmented regression analysis to evaluate changes in slope of call volume in the pre- and post 811 eras. The Durbin-Watson statistic was performed to test for serial correlation and the Dickey-Fuller test to investigate seasonality. **Results**: The dataset included 82683 calls to the IWK RPC – 27028 pre-811 and 55655 post-811. Overall, 55% of calls were for female clients and the largest age group was children aged 0-5 years (37%). Most calls originated from home (47%), followed by a health care facility (23%). Most calls were managed at home (65%). Less than 3% of calls resulted in major effect or death. The Durbin Watson statistic was not statistically significant (p = 0.94). The Dickey-Fuller test indicated series stationarity (p = 0.001). There was no statistically significant change in call volume to the IWK RPC due to the introduction of 811 (p = 0.39). There was no significant variation by time of day, day of week or month, with most calls occurring in the evening. There were significantly more calls regarding intentional ingestions in the post-811 era (23% vs. 19% pre-811, p < .001). Outcomes in the pre and post 811 eras were as follows: minor/no effect/non-toxic/minimal 80% vs. 78%; moderate 7% vs. 10%; and, major/death 1.7% vs. 2.0%. **Conclusion**: The introduction of a TTS did not change call volumes at our RPC. The increase in the percentage of calls about intentional ingestions may reflect an increase in call acuity as the 811-TTS likely manages calls about minor/non-toxic ingestions without consulting with the RPC. Our future research will examine the nature of poison related calls to the 811-TTS.

Keywords: nurse triage, poison centre, telephone triage

P005

An opportunity to reduce morbidity in delayed postpartum hemorrhage: Multicentre analysis of tranexamic utilization in the emergency department

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Introduction: Postpartum hemorrhage (PPH) is a leading cause of maternal mortality and morbidity worldwide. Tranexamic acid (TXA) has been shown to be efficacious and safe in reducing mortality and morbidity if given within 3 hours of bleeding onset. Delayed PPH of more than 24 hours after delivery is a rare but high-risk ED presentation that requires timely management with TXA. This study aims to evaluate the patterns of TXA administration to treat delayed PPH in the ED using a retrospective review of medical reviews from 4 centres across a major urban Canadian city. **Methods**: We conducted a retrospective medical record review of patients presenting with PPH to 4 large urban EDs from 2013 to 2017; from 1.5 million ED visits, using a search for ICD-10 diagnostic codes of interest. Of these, the study cohort included only patients that were admitted to the hospital. Univariate analyses using Chi-squared tests and t-tests for non-continuous and continuous variables, respectively, were used to determine patient demographics and clinical characteristics significantly associated with TXA administration. **Results**: A total of 238 patients were included in the study cohort. Of these patients, 72.7% presented to the ED with mild hypovolemic shock, defined by a shock index score greater than 0.6. A total of 12.6% (95% CI 0.09-0.17) of patients were given TXA for PPH management in the ED. 67% (95% CI 0.47-0.82) of patients received the TXA within 3 hours of triage, whereas 33% (95% CI 0.18-0.53) received it after 3 hours, with the total mean time at 3.43 hours. 4.2% of patients required a blood transfusion and 2.9% required surgery. Univariate analyses indicated that greater maternal age (p = 0.028), lower hemoglobin levels (p = 0.014), higher shock index scores (p = 0.001), greater heart rate (p = < 0.001)), and use of oxytocin (p = <0.001) or blood products (p = < 0.001) in the ED were all significantly associated

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with TXA administration. **Conclusion**: The results from this study demonstrate that only 13% of delayed PPH patients presenting to the ED received TXA, and among those treated, 66% received TXA within 3 hours of presentation. The use of TXA was correlated with variables associated with an increased risk of morbidity. Given the rarity of delayed PPH presentation to the ED, the development of a treatment algorithm is recommended to ensure higher levels of timely TXA administration.

Keywords: postpartum hemorrhage, tranexamic acid

P006

Management of first trimester bleeding in the emergency department

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Introduction: Bleeding in the first trimester of pregnancy is a common presentation to the Emergency Department (ED) with half going on to miscarry. Currently there is no local consensus on key quality markers of care for such cases. Point of Care Ultrasound (PoCUS) is increasingly utilized in the ED to detect life threating pathology such as an ectopic pregnancy or fetal viability. PoCUS leads to improved patient satisfaction, quicker diagnosis and treatment. The purpose for this study was to examine the rates of formal ultrasound and PoCUS when compared to reported and recommended rates, and also to understand the use of other diagnostic tests. **Methods**: A retrospective cohort study of pregnant females presenting to the ED with first trimester bleeding over one year (June 2016 – June2017) was completed. A sample size of 108 patients was required to detect a moderate departure from baseline reported rates (67.8 – 77.6%). The primary outcome was the PoCUS rate in the ED. The main secondary outcome was the formal ultrasound rate. The literature recommends PoCUS in all early pregnancy bleeding in the ED, with a target of 100% of patients receiving PoCUS. Additional data recorded included the live birth rate, pelvic and speculum examination rate and lab tests. There is no clearly defined ideal practice for the additional data so these rates will be recorded without comparison. **Results**: Records of 168 patients were screened for inclusion. 65 cases were excluded because they were not pregnant or had confirmed miscarriage or other, leaving a total of 103 patients included in the analysis. The PoCUS rate was 51.5% (95% CI 42%-61%), lower than previously reported PoCUS rates of 73% (67.8 – 77.6%). The formal ultrasound rate was 67% (57%-75%). Both approaches were significantly lower than the recommended rate of 100% (95.7 – 100%). Rates for other key markers of care will also be presented. **Conclusion**: Fewer PoCUS exams were performed at our centre compared with reported and recommended rates for ultrasound. Further results will explore our current practice in the management of first trimester pregnancy complications. We plan to use this information to suggest improvements in the management of this patient population.

Keywords: first trimester bleeding, point of care ultrasound, pregnancy

P007

Development of provincial recommendations for domestic violence screening in emergency departments and urgent care settings in Alberta

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Introduction: Alberta has one of the highest rates of domestic violence (DV) in the country. Emergency departments (EDs) and urgent care centres (UCCs) are significant points of opportunity to screen for DV and intervene. In Alberta, the Calgary Zone began a universal education and direct inquiry program for DV in EDs and UCCs for patients > = 14 years in 2003. The Calgary model is unique in that (a) it provides universal education in addition to screening and (b) screening is truly universal as it includes all age groups and genders. While considering expanding this model provincially, we engaged in the GRADE Adolopment process, to achieve multi-stakeholder consensus on a provincial approach to DV screening, as herewith described. **Methods**: Using GRADE, we synthesized and rated the quality of evidence on DV screening and presented it to an expert panel of stakeholders from the community, EDs, and Alberta Health Services. There was moderate certainty evidence that screening improved DV identification in antenatal clinics, maternal health services and EDs. There was no evidence of harm and low certainty evidence of improvement in patient-important outcomes. As per Adolopment, the expert panel reviewed the evidence in the context of: a) values and preferences b) benefits and harms, and c) acceptability, feasibility, and resource implications. **Results**: The panel came to a unanimous decision to conditionally recommend universal screening, i.e., screening all adults above 14 years of age in EDs and UCCs. By conditional, the panel noted that EDs and UCCs must have support resources in place for patients who screen positive to realize the full benefit of screening and avoid harm. The panel deemed universal screening to be a logistically easier recommendation, compared to training healthcare professionals to screen certain subpopulations or assess for specific symptoms associated with DV. The panel noted that despite absence of evidence that screening would impact patient-important outcomes, there was evidence that effective interventions following a positive screen could positively impact these outcomes. The panel stressed the importance of evidence creation in the context of absence of evidence. **Conclusion**: A GRADE Adolopment process achieved consensus on provincial expansion of an ED-based DV screening program. Moving forward, we plan to gather evidence on patient-important outcomes and understudied subpopulations (i.e. men and the elderly).

Keywords: domestic violence, GRADE adolopment, screening

P008

Evaluation of outcomes after implementation of a provincial prehospital bypass standard for trauma patients – an Eastern Ontario experience

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Introduction: Trauma and injury play a significant role in the population's burden of disease. Limited research exists evaluating the role of trauma bypass protocols. The objective of this study was to assess the impact and effectiveness of a newly introduced prehospital field trauma triage (FTT) standard, allowing paramedics to bypass a closer hospital and directly transport to a trauma centre (TC) provided transport times were within 30 minutes. **Methods**: We conducted a 12-month multi-centred health record review of paramedic call reports and emergency department health records following the implementation of the 4 step FTT standard (step 1: vital signs and level of consciousness, step 2: anatomical injury, step 3: mechanism

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