P055

Canadian emergency physician attitudes toward endotracheal intubation for aspiration prophylaxis

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Introduction: Emergency patients with decreased level of consciousness often undergo intubation purely for airway protection from aspiration. However, the true risk of aspiration is unclear and intubation poses risks. Anecdotally, experienced emergency physicians often defer intubation in these patients while others intubate to decrease the perceived clinical and medico-legal consequences. No literature exists on the intubation practices of emergency physicians in these cases. **Methods:** An online questionnaire was circulated to members of the Canadian Association of Emergency Physicians. Participants were asked questions regarding two common clinical cases with decreased level of consciousness : (1) acute, uncomplicated alcohol intoxication and (2) acute, uncomplicated seizure. For each case, providers' perceptions of aspiration risk, the standard of care, and the need for intubation were assessed. **Results:** 128 of the 1546 Canadian physicians contacted (8.3%) provided responses. Respondents had a median of 15 years of experience, 88% had CCFP-EM or FRCPC certification, and most worked in urban centers. When intubating, 98% agreed they were competent and 90% agreed they were well supported. A minority (17.4%) considered GCS < 8 an independent indication for intubation. For the alcohol intoxication case, 88% agreed that aspiration risk was present but only 11% agreed they commonly intubate. Only 17% agreed intubation was standard care, and only 0.8% felt their colleagues always intubate such patients. For the seizure case, 65% agreed aspiration risk existed but only 3% agreed they commonly intubate, 1% felt colleagues always intubated, and 5% agreed intubation was standard of care. Additional factors felt to compel intubation (394 total) and support non-intubation (366 total) were compiled and categorized; the most common themes emerging were objective evidence of emesis or aspiration, other standard indications for intubation, head trauma, co-ingestions, co-morbidities and clinical instability. **Conclusion:** It is acceptable and standard practice to avoid intubating a select subset of intoxicated and post-seizure emergency department patients despite aspiration risk. Most physicians do not view the dogma of "GCS 8, intubate" as an absolute indication for intubation in these patients. Future research is aimed at identifying key factors and evidence supporting intubation for the prevention of aspiration, as well as the development of a validated clinical decision rule for common emergency presentations.

Keywords: aspiration, endotracheal intubation, intoxication

P056

Gastric ultrasound in stable patients with decreased level of consciousness and recreational substance use -- are presumed full stomachs full?

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Introduction: Intoxicated patients with decreased Glasgow Coma Scale (GCS) are common presentations to emergency departments. These patients are often intubated due to presumed full stomachs and perceived aspiration risk. Gastric ultrasound (GUS) -- a simple, non-invasive and objective option -- could be applied to this problem. This pilot study uses GUS alongside usual care at a music festival; a bounded, intoxication-dense environment where airways are often managed using non-invasive airway strategies. We aim to (1) clarify the gastric contents of any intubated patients, and (2) assess if patients managed without intubation go on to have a lack of aspiration sequelae because of empty stomachs or in spite of full stomachs. **Methods:** A prospective cohort study was conducted at a multi-day music festival. Patients presenting to on-site medical services with GCS ≤ 13 and known or suspected substance use were included. Patients with trauma, instability, metabolic derangements or additional aspiration risk factors (eg morbid obesity, pregnancy) were excluded. Standard GUS was performed by a trained provider and results were categorized according to convention as FS (full stomach, ie solids or liquids >1.5mL/kg) or ES (empty stomach, ie empty or liquids <1.5mL/kg). Additional patient data were extracted from linked medical records post event. **Results:** 33 patients met inclusion criteria and 27 remained after exclusions were applied and consent obtained. 25 patients reported substance use and 19 polysubstance use. The FS group had 15 patients (7 solid & 8 liquid > 1.5), and the ES group had 12 patients (5 empty & 12 liquid < 1.5). The median low GCS documented for FS and ES was 7 and 11 respectively, and 10 patients total had a GCS of 8 or less (6 FS & 4 ES). No patients were intubated and all were managed conservatively according to usual care. 3 patients (2 FS, 1 ES) were transferred to hospital. No patients re-registered at medical for clinically significant aspiration. **Conclusion:** This pilot study demonstrates the potential utility of GUS in stratifying aspiration risk in intoxicated patients with decreased GCS. "Empty" stomachs might avoid intubation, while the implications and true risks of "full" stomachs for aspiration sequelae in the absence of intubation remain unclear. Due to the small numbers in this pilot study and the quoted GUS sensitivity (only 95%), further research is needed to evaluate the safe application of this modality to clinical decision-making in intoxicated patients.

Keywords: aspiration, endotracheal intubation, gastric ultrasound

P057

Impact of a clinical pathway for the treatment of acute asthma in the emergency department

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Introduction: In Canada, acute asthma is a common cause of emergency department (ED) attendance and its treatment is affected by ED overcrowding and increasing wait times. Literature suggests that a clinical pathway (CP) for the treatment of acute asthma can increase the use of medical therapy, reduce hospital admission rates and decrease associated costs. However, only few have looked at the effect on ED length of stay (ED LOS) when such a CP is initiated by triage nurse/respiratory therapist among adults. In this optic, an asthma CP was launched on Feb. 2016 at Centre Hospitalier Universitaire de Sherbrooke (QC) and included medical directives allowing triage nurse and respiratory therapist initiation of treatment. **Methods:** The objectives are to determine the effect of an ED nurse/respiratory therapist-initiated asthma CP on (1) ED LOS, (2) time-to-treatment (beta-agonist, corticosteroids), time-to-MD and other secondary outcomes. This was a retrospective before-after study. Adults presenting to the ED before and after CP implementation with a final diagnosis of asthma or asthma exacerbation were eligible. The groups A (before implementation) and B (after implementation) were compared for ED LOS. Three subgroups of 50 patients were generated and compared for outcomes: A1 (before implementation), B1 (after implementation

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without CP) and B2 (after implementation with CP). All five groups were controlled for triage level and sex. **Results:** In total, 1086 patients were included; 543 before implementation (Mar. 2011 – Feb. 2016) and 543 after (Feb. 2016 – Jun. 2019), of whom 14% (N = 77) were treated by CP. The average ED LOS was similar (10.36h vs 10.65h; (p = 0,31)) in group A and in group B. In groups A1, B1 and B2, the median ED LOS were respectively 6.00, 6.84, 4.80; these differences were not statistically significant. The average time-to-treatment for beta-agonist in A1, B1 and B2 was respectively 148, 180 and 50 mins; the differences between B2 and A1 and between B2 and B1 were both statistically significant (p < 0,05). **Conclusion:** Although this study indicates a low compliance to the CP, it shows that time-to-treatment can be reduced. It didn't demonstrate any statistically significant decrease in ED LOS, most likely due to low number of patients and non-normal distribution, but the 1.2h shorter could be a major advantage if it proves true. Further studies are essential to understand facilitators and alleviate the barriers in anticipation of a multi-centric implementation.

Keywords: asthma, clinical pathway, emergency department

P058

Accuracy of the trauma triage protocol Échelle québécoise de triage préhospitalier en traumatologie (EQTPT) in selecting patients requiring specialized trauma care

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Introduction: This study aims to evaluate the accuracy of the Échelle québécoise de triage préhospitalier en traumatologie (EQTPT) to identify patients who will need urgent and specialized trauma care in the La Capitale-Nationale region, province of Quebec. **Methods:** A detailed review of prehospital and in-hospital medical charts was conducted for a sample of patients transported following a trauma by ambulance to one of the five CHU de Quebec's emergency departments (ED) between November 2016 and March 2017. Data related to the trauma mechanism, population, injuries sustained, diagnosis, intervention and patient outcomes were extracted. The study primary outcome was the use of at least one urgent and specialized trauma care defined as: admission to the intensive care unit (ICU), urgent surgery within less than 24 hours after arrival (excluding orthopedic surgery for one limb only), intubation in ED, angioembolization within 24 hours after ED arrival, activation of a massive transfusion protocol in the ED. Also, patients who died secondary to their trauma were also considered as requiring urgent care. **Results:** 902 patients were included. The mean age (SD) was 59 (28.5) years old, 494 (54.8%) were female. The main trauma mechanisms were falls (592 (65.6%)) followed by motor vehicle accident (201 (22%)). 367 (40.7%) patients were transported directly to the tertiary trauma centre from the field. 231 (25.6%) patients had at least one criteria included in the steps 1, 2 or 3 of the EQTPT. Subsequently, most patients (649 (71.9%) were discharged home from the ED while 177 (19.6%) patients were admitted to the hospital. 82 (9.1%) patients required urgent and specialized trauma care. Of these 82 patients, 27 patients (32%) were identified in step 1 of the protocol, 12 patients (14.6%) in step 2, 5 patients (6.1%) in step 3, 13 patients (15.9%) in step 4 and 2 patients (2.4%) in step 5 while 23 (28.0%) patients were not identified by any steps of the EQTPT protocol. Therefore, 44 (53.6%) of the patients requiring urgent and specialized trauma care were identified by the criteria proposed in the steps 1, 2 or 3. **Conclusion:** In this retrospective cohort study, the EQTPT was insensitive to identify trauma patients who will need prompt and complex trauma management. Studies are required to determine the factors that could help improve its accuracy.

Keywords: trauma care, triage

P059

Characteristics of older adults attending the emergency department for suicidal thoughts or voluntary intoxication: a multicenter retrospective cohort study

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Introduction: Suicidal thoughts and self-harm are disproportionately prevalent among older adults but are frequently overlooked by emergency physicians. Objective: This study aims to explore the characteristics of older adults visiting the ED for suicidal thoughts or voluntary intoxications. **Methods:** All older adults (□ 65 years old) who visited one of the five CHU de Quebec' EDs in 2016 were eligible. The medical charts of patients who reported suicidal thoughts or intoxication in triage or received a relevant discharge diagnosis were reviewed. Involuntary intoxications were excluded. Descriptive statistics were used to present the results. **Results:** Results: A total of 478 ED visits were identified, of which 332 ED visits (n= 279 patients) were included. The mean age of the ED cohort was 72.6 (standard deviation 6.8) years old and 41.6% were female. Mood disorders (41.2%) and alcoholism (40.5%) were common. Most included patients had a diagnosis of voluntary intoxication (73.2%), including two suicides (0.6%). Following 109 ED visits (30.0%), patients were referred for a mental health assessment. Half of all ED visits resulted in a discharge by the emergency physician (50.0%), while 27.4% were admitted for in-patient care. In the subsequent year (2017), 38.4% returned to the ED for suicidal ideations or self-harm of which 7.9% attended the ED □ 5 times. **Conclusion:** ED visits for suicidal thoughts and voluntary intoxication in older adults are more common among men with known mood disorders or alcoholism. Referral for a mental health assessment is inconsistent. ED-initiated interventions designed for this population are needed.

Keywords: intoxication, older adults, suicidal thoughts

P060

Bridging the gap: Using a tele-resuscitation network to improve pediatric outcomes in a community hospital setting

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Background: Telemedicine has been defined as the use of technology to provide healthcare when the provider and patient are geographically separated. Use of telemedicine to meet the needs of specific populations has become increasingly common across Canada. The current study employs the Ontario Telemedicine Network (OTN) to connect the emergency departments of a community hospital system and a pediatric tertiary care hospital. OTN functions through a two-way video conferencing system, allowing physicians at the tertiary site to see and hear the patient being treated in the community hospitals. **Aim Statement:** The aim of this project is to ensure essential care is provided to CTAS 1 and 2 pediatric patients who present to Niagara Health emergency departments, to increase the number of appropriate patient transfers. **Measures & Design:** Data for this project include a) description of common diagnoses, b) time of call, c)

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