

Keywords: older patients, patient experience, volunteers

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Reliability of patient reported exposure and outcome data in a prospective cohort study of older adults presenting to the emergency department

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Introduction: Participant interviews are often considered the ‘gold standard’ for measuring outcomes in diagnostic and prognostic studies. Participant exposure data are frequently collected during study interviews, but the reliability of this information often remains unknown. The objective of this study was to compare patient-reported medication exposures and outcomes to data extracted from electronic medical records (EMRs) to determine reliability. **Methods:** This was a secondary data analysis from a prospective observational cohort study enrolling older (≥ 65 years) patients who presented to one of three emergency departments after a fall. After patients had consented to participate in the study, they were asked about their use of antiplatelet and anticoagulation medications (exposures of interest). During follow up, participants were asked if a physician had told them they had bleeding in their head (diagnosis of intracranial hemorrhage). Patient-reported responses were compared to data extracted from a structured EMR review. Trained research assistants extracted medication exposure and outcome data from the hospital EMRs in duplicate for all visits to any hospital within 42 days. Inter-rater agreement was estimated using Cohen’s kappa (K) statistics with 95% confidence intervals (CIs). **Results:** 1275 patients completed study interviews. 1163 (91%) responded to questioning about antiplatelet use and 1159 (91%) to anticoagulant use. Exact agreement between patient reported antiplatelet use compared to EMR review was 77%, with $K = 0.50$ (95% CI: 0.44 to 0.55). For anticoagulation use, exact agreement was 87%, with $K = 0.68$ (95% CI: 0.63 to 0.72). 986 (78%) patients had a follow up interview after 42 days. Exact agreement between patient reported intracranial bleeding and EMR review was 95%, with $K = 0.30$ (95% CI: 0.15 to 0.45). Using the EMR review as the reference standard, the sensitivity and specificity of patient reported intracranial bleeding was 34% (95% CI: 20 to 52%) and 97% (95% CI: 96 to 98%), respectively. **Conclusion:** In this population of older adults who presented to the ED after a fall, patient reported use of antiplatelet and anticoagulant medications was not a reliable method to identify medication use. Patients who were diagnosed with intracranial bleeding were particularly poor at reporting this diagnosis.

Keywords: intracranial bleeding, measurement, patient-reported

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Frailty and associated prognosis among older emergency department patients with suspected infection – a prospective, observational cohort study

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Introduction: Prognostication and disposition among older Emergency Department (ED) patients with suspected infection remains challenging. Frailty is increasingly recognized as a predictor of poor prognosis among critically ill patients, however its association with

clinical outcomes among older ED patients with suspected infection is unknown. **Methods:** We conducted a multicentre prospective cohort study at two tertiary care EDs. We included older ED patients (≥ 75 years) presenting with suspected infection. Frailty at baseline (prior to index illness) was explicitly measured for all patients by the treating physicians using the Clinical Frailty Scale (CFS). We defined frailty as a CFS 5-8. The primary outcome was 30-day mortality. We used multivariable logistic regression to adjust for known confounders. We also compared the prognostic accuracy of frailty against the Systemic Inflammatory Response Syndrome (SIRS) and Quick Sequential Organ Failure Assessment (qSOFA) criteria. **Results:** We enrolled 203 patients, of whom 117 (57.6%) were frail. Frail patients were more likely to develop septic shock (adjusted odds ratio [aOR]: 1.83, 95% confidence interval [CI]: 1.08-2.51) and more likely to die within 30 days of ED presentation (aOR 2.05, 95% CI: 1.02-5.24). Sensitivity for mortality was highest among the CFS (73.1%, 95% CI: 52.2-88.4), as compared to SIRS ≥ 2 (65.4%, 95% CI: 44.3-82.8) or qSOFA ≥ 2 (38.4, 95% CI: 20.2-59.4). **Conclusion:** Frailty is a highly prevalent prognostic factor that can be used to risk-stratify older ED patients with suspected infection. ED clinicians should consider screening for frailty in order to optimize disposition in this population.

Keywords: frailty, geriatrics, sepsis

LO61

A modified Delphi study to identify trauma care modifiers for older adults

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Introduction: Older (age ≥ 65 years) trauma patients suffer increased morbidity and mortality. This is due to under-triage of older trauma victims, resulting in lack of transfer to a trauma centre or failure to activate the trauma team. There are currently no Canadian guidelines for the management of older trauma patients. The objective of this study was to identify modifiers to the prehospital and emergency department (ED) phases of major trauma care for older adults based on expert consensus. **Methods:** We conducted a modified Delphi study to assess senior-friendly major trauma care modifiers based on national expert consensus. The panel consisted of 24 trauma care providers across Canada, including medical directors, paramedics, emergency physicians, emergency nurses, trauma surgeons and trauma administrators. Following a literature review, we developed an online Delphi survey consisting of 16 trauma care modifiers. Three online survey rounds were distributed and panelists were asked to score items on a 9-point Likert scale. The following predetermined thresholds were used: appropriate (median score 7-9, without disagreement); inappropriate (median score 1-3; without disagreement), and uncertain (any median score with disagreement). The disagreement index (DI) is a method for measuring consensus within groups. Agreement was defined a priori as a DI score < 1 . **Results:** There was a 100% response rate for all survey rounds. Three new trauma care modifiers were suggested by panelists. Of 19 trauma care modifiers, the expert panel achieved consensus agreement for 17 items. The prehospital modifier with the strongest agreement to transfer to a trauma centre was a respiratory rate < 10 or > 20 breaths/minute or needing ventilatory support (DI = 0.24). The ED modifier with the strongest level

of agreement was obtaining a 12-lead electrocardiogram following the primary and secondary survey for all older adults (DI=0.01). Two trauma care modifiers failed to reach consensus agreement: transporting older patients with ground level falls to a trauma centre and activating the trauma team based solely on an age ≥ 65 years.

Conclusion: Using a modified Delphi process, an expert panel agreed upon 17 trauma care modifiers for older adults in the prehospital and ED phases of care. These modifiers may improve the delivery of senior-friendly trauma care and should be considered when developing local and national trauma guidelines.

Keywords: delphi, geriatrics, trauma

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Cannabis-induced psychotic disorder at a Canadian tertiary care emergency department

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Introduction: Acute psychosis is a disruptive change in mental state that requires the mobilization of significant resources for its immediate treatment and ongoing management in the emergency department (ED). Cannabis-induced psychotic disorder (CIP) is one potential cause; however, the diagnosis may be overlooked due to limited understanding of the etiology of CIP. **Methods:** This study employed a retrospective cohort analysis of all CIP cases admitted from a tertiary care ED in Edmonton, Alberta between 10/2016 and 10/2018 – the month cannabis was legalized in Canada. Charts were identified based on a most responsible diagnosis of CIP, as defined by ICD-10 code F12.5. Two reviewers abstracted data using a standardized form, which was entered into a database; 10% of charts were analyzed by both reviewers to examine inter-rater reliability. Patients were excluded if there was any documentation of methamphetamine use within the week prior to presentation. Outcomes included management, symptom profile, and length of stay. **Results:** In total there were 44 cases of CIP identified in 40 unique patients during the two-year period. The largest age group of patients ($n=14$, 35%) were between 15-20 years old and the median length of admission was 6 days. A minority of patients ($n=13$, 32.5%) had a previous psychiatric diagnosis. A distinct clinical picture evolved during the summation of patient symptoms in the ED with 65% of patients ($n=26$) exhibiting persecutory delusions and 52.5% endorsing auditory hallucinations ($n=21$). Only four patients were found to have visual hallucinations, three of which also had auditory hallucinations. Most patients ($n=34$, 85%) were treated with an antipsychotic medication in the ED and during their time as inpatients, but only 70% of patients were prescribed an antipsychotic medication at the time of discharge ($n=28$). **Conclusion:** This study is the first of its kind describing a cohort of patients with CIP in a Canadian ED setting. The patients presenting to the ED who would later be diagnosed CIP were more likely to be 15-20 years old, experiencing persecutory delusions, and unlikely to be experiencing isolated visual hallucinations. With the recent legalization of cannabis in Canada, further prospective research is required to determine any changes in the characteristics, incidence, and prevalence of CIP, as well as data from other centers to look for any regional differences in the presentation and management of CIP.

Keywords: cannabis, psychosis, substance-induced psychosis

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Evaluation of epinephrine secondary effects in a Canadian emergency department anaphylaxis adult cohort

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Introduction: There are few large-scale studies assessing the true risk of epinephrine use during anaphylaxis in adults. We aimed to assess the demographics, clinical characteristics, and secondary effects of epinephrine treatment and to determine factors associated with major and minor secondary effects associated with epinephrine use among adults with anaphylaxis. **Methods:** From May 2012 to February 2018, adults presenting to the Hôpital du Sacré-Coeur de Montréal (HSCM) emergency department (ED) with anaphylaxis were recruited prospectively as part of the Cross-Canada Anaphylaxis Registry (C-CARE). Missed cases were identified through a previously validated algorithm. Data were collected on demographics, clinical characteristics, and management of anaphylaxis using a structured chart review. Multivariate logistic regression models were compared to estimate factors associated with side effects of epinephrine administration. **Results:** Over a 6-year period, 402 adult patients presented to the ED at HSCM with anaphylaxis. The median age was 38 years (Interquartile Range [IQR]: 27, 52) and 40.4% were males. The main trigger for anaphylaxis was food (53.0%). A total of 286 patients (71.1%) received epinephrine treatment, of which 23.9% were treated in the pre-hospital setting, 47.0% received treatment in the ED, and 5.0% received epinephrine in both settings. Among patients treated with epinephrine, major secondary effects were rare (1.4% of patients), including new changes to electrocardiogram, arrhythmia, and neurological symptoms. Minor secondary effects due to epinephrine were reported in 50.0% of patients, mainly inappropriate sinus tachycardia (defined as a rate over 100 beats/minute in 30.1%). Major cardiovascular secondary effects were associated with regular use of beta-blockers (aOR 1.10 [95% CI, 1.02, 1.18]), regular use of ACE-inhibitors (aOR 1.16 [95% CI, 1.07, 1.27]), and receiving more than two doses of epinephrine (aOR 1.09 [95% CI, 1.00, 1.18]). The model was adjusted for age, history of ischemic heart disease, trigger of anaphylaxis, presence of asthma, sex, and reaction severity. Inappropriate sinus tachycardia was more likely in females (aOR 1.18 [95% CI, 1.04, 1.33]) and palpitations, tremors, and psychomotor agitation were more likely in females (aOR 1.09 [95% CI, 1.00, 1.19]) and among those receiving more than two doses of epinephrine (aOR 1.49 [95% CI, 1.14, 1.96]). The models were adjusted for age, regular use of medications, history of ischemic heart disease, triggers of anaphylaxis, presence of asthma, reaction severity, and IV administration of epinephrine. **Conclusion:** The low rate of occurrence of major secondary effects of epinephrine in the treatment of anaphylaxis in our study demonstrates the overall safety of epinephrine use.

Keywords: anaphylaxis, epinephrine, secondary effects

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A systematic review of interventions to influence opioid prescribing from the emergency department

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Introduction: The opioid crisis has reached epidemic levels in Canada, driven in large part by prescription drug use. Emergency