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Introduction: Les patients ayant un retour de circulation spontanée (RCS) durant la phase préhospitalière de leur réanimation suite à un arrêt cardiaque extrahospitalier (ACEH) ont un meilleur taux de survie que ceux n'en ayant pas. La durée des efforts de réanimation avant l'initiation d'un transport ne varie généralement pas en fonction du rythme initial observé. Cette étude vise à comparer la durée des manœuvres de réanimation nécessaire afin de générer la majorité des RCS préhospitaliers et des RCS préhospitaliers menant à une survie en fonction du rythme initial. **Methods**: La présente étude de cohorte a été réalisée à partir des bases de données collectées de la Corporation d'Urgences-santé dans la région de Montréal entre 2010 et 2015. Les patients avec un ACEH d'origine médicale ont été inclus. Les patients dont l'ACEH était témoigné par les paramédics ont été exclus, tout comme ceux dont le rythme initial était inconnu. Nous avons comparé entre les groupes (rythme défibrillable [RD], activité électrique sans pouls [AESP] et asystolie) les taux de RCS préhospitalier et le temps nécessaires pour obtenir une majorité des RCS préhospitaliers et des RCS préhospitaliers menant à une survie. **Results**: Un total de 6002 patients (3851 hommes et 2151 femmes) d'un âge moyen de 52 ans (±10) ont été inclus dans l'étude, parmi lesquels 563 (9%) ont survécu jusqu'à leur congé hospitalier et 1310 (22%) ont obtenu un RCS préhospitalier. Un total de 1545 (26%) patients avaient un RD, 1654 (28%) une AESP et 2803 (47%) une asystolie. Les patients avec un RD ont obtenu plus fréquemment un RCS préhospitalier et un RCS préhospitalier menant à une survie que les patients avec une AESP qui eux même avaient un meilleur pronostic que ceux avec une asystolie initial (777 patients [55%] vs 385 [23%] vs 148 [5%], p < 0,001; 431 [28%] vs 85 [5%] vs 7 [0,2%], p < 0,001, respectivement). Les RCS survenaient également plus rapidement lorsque le rythme initial était un RD (13 minutes [±12] vs 18 [±13] vs 25 [±12], p < 0,001). Cependant, une période de réanimation plus longue était nécessaire afin d'obtenir 95% des RCS préhospitaliers menant à une survie pour les patients avec un RD (26 minutes vs 21 minutes vs 21 minutes). **Conclusion**: Les patients avec un rythme initial défibrillable suite à leur ACEH sont à meilleur pronostic. Il serait envisageable de transporter plus rapidement vers l'hôpital les patients avec une AESP ou une asystolie que ceux avec un rythme défibrillable si l'arrêt des manœuvres n'est pas envisagé.

Keywords: cardiac rhythm, out-of-hospital cardiac arrest, return of spontaneous circulation

LO10

Associations between ED crowding metrics and 72h-hour ED re-visits: Which crowding metrics are most highly associated with patient-oriented adverse outcomes?

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Introduction: Emergency Department (ED) crowding is a pervasive problem and is associated with adverse patient outcomes. Yet, there are no widely accepted, universal ED crowding metrics. The objective of this study is to identify ED crowding metrics with the strongest association to the risk of ED revisits within 72 hours, which is a patient-oriented adverse outcome. **Methods**: Crowding metrics, patient characteristics and outcomes were obtained from administrative data for all ED encounters from 2011-2014 for three adult EDs in Calgary, AB. The data were randomly divided into three partitions for cross-validation, and further divided by CTAS category 1, 2/3 and 4/5. Twenty unique ED crowding metrics were calculated and assigned to each patient seen on each calendar day or shift, to standardize the exposure. Logistic regression models were fitted with 72h ED revisit as the dependent variable, and an individual crowding metric along with a common list of confounders as independent variables. Adjusted odds ratios (OR) for the 72h return visits were obtained for each crowding metric. The strength of associations between 72h revisits and crowding metrics were compared using Akaike's Information Criterion and Akaike weights. **Results**: This analysis is based on 1,149,939 ED encounters. Across all CTAS groups, INPUT metrics (ED census, ED occupancy, waiting time, EMS offload delay, LWBS%) were only weakly associated with the risk of 72h re-visit. Among THROUGHPUT metrics, ED Length of Stay and MD Care Time had similar adjusted ORs for 72h ED re-visit (range 0.99-1.15). Akaike weights ranging from 0.3/1.00 to 0.4/1.00 indicate that both THROUGHPUT metrics are reasonable predictors of 72h ED re-visits. All OUTPUT metrics (boarding time, # of boarded patients, % of beds occupied by boarded patients, hospital occupancy) had statistically significant ORs for 72h ED re-visits. The median boarding time had the highest adjusted OR for 72h ED re-visit (adjusted OR 1.40, 95% CI 1.33-1.47) and highest Akaike weight (0.97/1.00) compared to all other OUTPUT metrics, indicating that median boarding time had the strongest association with 72h re-visits. **Conclusion**: ED THROUGHPUT and OUTPUT metrics had consistent associations with 72h ED re-visits, while INPUT metrics had little to no association with 72h re-visits. Median boarding time is the strongest predictor of 72h re-visits, indicating that this may be the most meaningful measure of ED crowding.

Keywords: emergency department crowding

LO11

Influence of fear of falling on return to emergency department and further falls in community-dwelling elderly presenting for minor trauma

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Introduction: According to WHO, one third of patients aged ≥65 fall every year. Those falls account for 25% of all geriatric emergency department (ED) visits. Fear of falling (FOF) is common in older patients who sustained a fall and is associated with a decline in mobility and health issues for patients. We hypothesized that there is an association between FOF and return to ED (RTED) and future falls. **Objective**: To assess the relation between FOF and RTED and subsequent falls in older ED patients **Methods**: This research was conducted as part of the Canadian Emergency Team Initiative in elderly (CETIe) multicenter prospective cohort study from 2011 to 2016. **Participants**: Patients 65 years or older were assessed and discharged from ED following a minor trauma. They had to be independent in all basic activities of daily living and being able to communicate in English or French. **Measures**: Primary outcome was RTED and secondary outcome was subsequent falls. Both were self-reported at 3 and 6 months. Patients were stratified according

to Short Falls Efficacy Scale International (SFES-I) score, assessing FOF in different situations. A total score is calculated to determine the mild, moderate or severe level of FOF. Previous falls and TUG were used to evaluate patients' mobility. OARS, ISAR and SOF were used to evaluated patient frailty. Descriptive statistical were performed and multiple regression were performed to show the association between SFES-1 score and outcomes. **Results**: FOF was measured in 2899 participants, of which 2214 participated at the 3 months follow-up and 2009 participated at the 6 months follow-up. Odds Ratio (OR) of return to ED at 3 months was 1.10 for moderate FOF and 1.52 for severe FOF (Type 3 test p = 0.11). At 6 months, OR was 1.03 for moderate FOF and 1.25 for severe FOF (Type 3 test p = 0.63). OR of subsequent fall at 3 months was 1.80 for moderate FOF and 2.18 for severe FOF (Type 3 test p < 0.001). At 6 months, OR of subsequent fall was 1.63 for moderate FOF and 2.37 for severe FOF (Type 3 test p < 0.001). **Conclusion**: The multicenter cohort study showed that severe fear of falling is strongly associated with subsequent falls over the next 6 months following ED discharge, but not significantly associated with return to ED episodes. Further research should be done to analyze the association between severe FOF and RTED.

Keywords: community-dwelling elderly, fall, fear of falling

LO12

Efficacy of calcitonin for treating acute pain associated with osteoporotic vertebral compression fracture: an updated systematic review and meta-analysis

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Introduction: Acutely painful osteoporotic vertebral compression fractures (OVCFs) are common in elderly individuals. Most OVCFs result from falls or routine activities, such as lifting objects or bending. OVCFs are associated with increased hospitalization, mortality and reduced quality of life. Calcitonin has been studied as an alternative or adjunct to opioid or non-opioid analgesia for treating acute pain associated with OVCFs. This review evaluates current evidence on the benefits and harms of calcitonin related to OVCFs. **Methods**: We registered our review protocol on PROSPERO (CRD42018084850) and conducted our study in compliance with PRISMA guidelines. We searched MEDLINE, EMBASE, The Cochrane Database of Systematic Reviews, clinical trials registries, conference papers and reference lists of included studies. Eligible studies evaluated the effect of calcitonin on pain scores in adults ≥60 years-old with a recent OVCF (<45 days prior). Two reviewers independently screened studies, extracted data and allocated bias in duplicate. Data were pooled for meta-analysis using standard mean difference (SMD) and a random-effects model. Heterogeneity was evaluated with I2 and sensitivity analyses were performed. The certainty of evidence was assessed with GRADE criteria. Our primary outcome was pain; secondary outcomes include mobility and adverse events. **Results**: 1180 articles were screened, 11 eligible studies were identified and 9 (627 participants) were pooled for meta-analysis. Pain at rest was lower in the calcitonin group than the control group at week 1 (SMD -1.11, 95% confidence interval (CI) -1.95 to -0.26, I2 = 92%). Sensitivity analysis showed that the route of administration influenced this effect: the SMD for calcitonin nasal spray was -1.88 (95% CI -2.31 to -1.44, I2 = 53%) compared to -0.35 (95% CI -0.86 to 0.17, I2 = 60%) for intramuscular injection. Improvements in mobility were observed at week 4 (SMD -0.48, 95% CI -0.79 to -0.17,

I2 = 45%). The risk of adverse events was increased with calcitonin (Risk Ratio 2.72, 95% CI 0.90 to 8.17, I2 = 41%) and consisted of flushing, headache, dizziness and gastrointestinal effects. The overall certainty of evidence was downgraded to low due to concerns over risk of bias and inconsistency between studies. **Conclusion**: Calcitonin, particularly as a nasal spray, is beneficial and safe for treating acute pain associated with OVCFs. Further studies are needed to improve the certainty of evidence.

Keywords: back pain, elderly, vertebral fracture

LO13

Characteristics of emergency department visits by community-dwelling older adults who screened positive for elder abuse during home care assessments

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Introduction: Elder abuse is infrequently detected in the emergency department (ED) and less than 2% are reported to proper law authorities by ED physicians. This study aims to examine the characteristics of community-dwelling older adults who screened positive for elder abuse during home care assessments and the epidemiology of ED visits by these patients relative to other home care patients. **Methods**: This study utilized a population-based retrospective cohort study of home care patients in Canada between April 1, 2007 and March 31, 2015. Standardized, comprehensive home care assessments were extracted from the Home Care Reporting System. A positive screen for elder abuse was defined as at least one these criteria: fearful of a caregiver; unusually poor hygiene; unexplained injuries; or neglected, abused, or mistreated. Home care assessments were linked to the National Ambulatory Care Reporting System in the regions and time periods in which population-based estimates could be obtained to identify all ED visits within 6 months of the home care assessment. **Results**: A total of 30,413 from the 2,401,492 patients (1.3%) screened positive for elder abuse during a home care assessment. They were more likely to be male (40.5% versus 35.3%, p < 0.001), to have a cognitive impairment (82.9% versus 65.3%, p < 0.001), a higher frailty index (0.27 versus 0.22, p < 0.001) and to exhibit more depressive symptoms (depression rating scale 1 or more: 68.7% versus 42.7%, p < 0.001). Patient who screened positive for elder abuse were less likely to be independent in activities of daily living (41.9% versus 52.7%, p < 0.001) and reported having fallen more frequently (44.2% versus 35.5%, p < 0.001). Caregiver expressing distress was associated with elder abuse (35.3% versus 18.3%, p < 0.001) but not a higher number of hours caring for the patient. Victims of elder abuse were more likely to attend the ED for low acuity conditions (Canadian triage and acuity scale (CTAS) 4 or 5). Diagnosis at discharge from ED were similar with the exception of acute intoxication that was more frequent in patients who are victims of abuse. **Conclusion**: Elder abuse is infrequently detected during home care assessments in community-dwelling older adults. Higher frailty index, cognitive impairment, depressive symptoms were associated with elder abuse during homecare assessments. Patients who are victims of elder abuse are attending EDs more frequently for low acuity conditions but ED diagnosis at discharge, except for acute intoxication, are similar.

Keywords: elder abuse, epidemiology, neglect