using a single troponin result. **Conclusion:** Using a single high-sensitivity troponin result collected at ED presentation, the HEART score can rapidly and effectively identify more than half of ED chest pain patients as low risk for 30-day AMI, but is less sensitive for 30-day MACE.
Keywords: troponin, chest pain, myocardial infarction

LO98

Optimal length of observation for emergency department patients with syncope: a time to event analysis

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Introduction: Concern for occult serious conditions leads to variations in ED syncope management [hospitalization, duration of ED/inpatient monitoring including Syncope Observation Units (SOU) for prolonged monitoring]. We sought to develop evidence-based recommendations for duration of ED/post-ED ECG monitoring using the Canadian Syncope Risk Score (CSRS) by assessing the time to serious adverse event (SAE) occurrence. **Methods:** We enrolled adults with syncope at 6 EDs and collected demographics, time of syncope and ED arrival, CSRS predictors and time of SAE. We stratified patients as per the CSRS (low, medium and high risk as ≤0, 1-3 and ≥4 respectively). 30-day adjudicated SAEs included death, myocardial infarction, arrhythmia, structural heart disease, pulmonary embolism or serious hemorrhage. We categorized arrhythmias, interventions for arrhythmias and death from unknown cause as arrhythmic SAE and the rest as non-arrhythmic SAE. We performed Kaplan-Meier analysis using time of ED registration for primary and time of syncope for secondary analyses. **Results:** 5,372 patients (mean age 54.3 years, 54% females, and 13.7% hospitalized) were enrolled with 538 (10%) patients suffering SAE (0.3% died due to an unknown cause and 0.5% suffered ventricular arrhythmia). 64.8% of SAEs occurred within 6 hours of ED arrival. The probability for any SAE or arrhythmia was highest within 2-hours of ED arrival for low-risk patients (0.65% and 0.31%; dropped to 0.54% and 0.06% after 2-hours) and within 6-hours for the medium and high-risk patients (any SAE 6.9% and 17.4%; arrhythmia 6.5% and 18.9% respectively) which also dropped after 6-hours (any SAE 0.99% and 2.92%; arrhythmia 0.78% and 3.07% respectively). For any CSRS threshold, the risk of arrhythmia was highest within the first 15-days (for CSRS ≥2 patients 15.6% vs. 0.006%). ED monitoring for 2-hours (low-risk) and 6-hours (medium and high-risk) and using a CSRS ≥2 cut-off for outpatient 15-day ECG monitoring will lead to 52% increase in arrhythmia detection. The majority (82.2%) arrived to the ED within 2-hours (median time 1.1 hours) and secondary analysis yielded similar results. **Conclusion:** Our study found 2 and 6 hours of ED monitoring for low-risk and medium/high-risk CSRS patients respectively, with 15-day outpatient ECG monitoring for CSRS ≥2 patients will improve arrhythmia detection without the need for hospitalization or observation units.
Keywords: syncope, risk stratification, electrocardiographic monitoring

Grizzly Den Presentations

GD01

Age-adjusted D-dimer and two-site compression point-of-care ultrasonography to rule out acute deep vein thrombosis

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Introduction: Undiagnosed deep vein thrombosis (DVT) can lead to significant morbidity and mortality, including death from DVT-associated massive pulmonary embolism (PE). While several validated clinical prediction rules, blood test and imaging modalities exist to investigate a potential DVT, there is currently a lack of rapid, accessible and reliable methods to exclude the possibility of DVT without resorting to formal venous duplex scanning. Currently, the use in the ED of a validated clinical prediction rule combined to either a high-sensitivity D-dimer test or ultrasonography of the lower extremities has a poor predictive value, as 75-90% of patients suspected of DVT have a negative formal venous duplex scan. Compression bedside ultrasound has however recently been shown to be a safe, rapid and accurate method for the diagnosis of proximal DVT in the emergency department with a high sensitivity and specificity (combined sensitivity and specificity of 96.1% and 96.8%, respectively[1]). **Research question:** In the present study, we will primarily assess whether two-site compression POCUS combined with a negative age-adjusted D-dimer test can accurately rule out DVT in ED patients regardless of the Wells criteria. **Methods:** This is a single-center, prospective, observational study carried out over one year in the Emergency Department of the Jewish General Hospital in Montreal, Quebec. We aim to enroll a convenience sample of 475 patients aged 18 years and older presenting to the ED with symptoms suggestive of a DVT. All enrolled patients will receive the standard of care required for a lower leg DVT presentation. After calculating Patients DVT risk using modified wells criteria, all patients will undergo POCUS for DVT followed by a D-dimer test. Based on their results, patients will either undergo formal duplex scanning, or will be discharged without further testing and receive a three-month phone follow-up. A true negative lower leg DVT will be defined as follows: (1) Negative follow-up phone questionnaire for patients who were sent home with no formal duplex venous scanning. (2) Negative formal duplex venous scanning for patients who were deemed likely to have lower leg DVT using the Wells score, with a negative D-dimer and POCUS. Age adjusted DVT was added to account for below knee DVT and avoid the need for patients to return for fellow up duplex study in 1 week. To estimate our technique's sensitivity with a 4% margin of error with 95% confidence intervals, 92 confirmed DVT patients are needed. We expect to recruit a total 475 patients within one-year period at the JGH (95 DVT-positive patients and 380 DVT-negative patients). **Impact:** The use of compression bedside ultrasound with a negative age-adjusted D-dimer test to rule out DVT in the ED may accelerate the decision regarding patient disposition and significantly decrease the length of patient stay in the ED. In addition, it may help avoid unnecessary medical interventions and diagnostic tests, thus representing potential quality of care and cost-saving improvements as well.

[1]Pomero F, Dentali F, Borretta V, et al. Accuracy of emergency physician-performed ultrasonography in the diagnosis of deep-vein thrombosis: a systematic review and meta-analysis. Thromb Haemost 2013;109:137–45.

GD02

An international consensus study to identify quality indicators for ambulatory emergency care

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Introduction: Redirecting low acuity patients from emergency departments to primary care walk-in clinics has been identified as a priority by many health authorities. Promoting family physicians for the

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