

catheters, or septic shock were excluded. Among others, data related to final diagnosis and investigations were gathered. Sensitivity, specificity, positive (PPV) and negative (NPV) predictive values, positive (LR+) and negative (LR-) likelihood ratios were estimated for each blood biomarkers. **Results:** Out of 1261 charts reviewed, 920 patients were included in this analysis. SBI prevalence was 13.0% (95%CI: 10.9-15.2) among infants of our cohort. The sensitivity, specificity, PPV, NPV, LR+ and LR- of the leucocytes  $<5000$  or  $\geq 15000/\square L$  were 43% (95%CI: 34-53%), 80% (95%CI: 77-83%), 25% (95%CI: 21-30%), 90% (95%CI: 88-91%), 2.1 (95%CI: 1.7-2.8), and 0.72 (95%CI: 0.61-0.84), respectively. The sensitivity, specificity, PPV and NPV of CRP  $\geq 25$  mg/L were 46% (95%CI: 37-56%), 96% (95%CI: 94-97%), 65% (95%CI: 55-73%), and 91% (95%CI: 89-92%), respectively. ROC curves analysis indicates that a CRP  $\geq 25$  mg/L offers the best LR+ (10.4; 95%CI: 6.9-15.6) with a corresponding LR- of 0.56 (95%CI: 0.47-0.67). **Conclusion:** When evaluating febrile infants in the ED, leucocytes appear to have limited added value, while CRP  $\geq 25$  mg/L significantly increases the pre-test probability of SBI. CRP should be considered for inclusion in the workup of FWS for infants of 22 to 60 days of age.

**Keywords:** fever without a source, infants 22 to 60 days old, serious bacterial infection

#### MP49

##### Prehospital oxygen administration to suspected acute myocardial infarction patients: a systematic review and meta-analysis

J. Greene, BSc, M. Welsford, BSc, MD, C. Ainsworth, BSc, MD, L. Lambert, PhD, G. Wong, BSc, MD, W. Cantor, BSc, MD, Dalhousie University, Halifax, NS

**Introduction:** Oxygen is commonly administered to prehospital patients presenting with acute myocardial infarction (AMI). We conducted a systematic review to determine if oxygen administration, in AMI, impacts patient outcomes. **Methods:** We conducted a systematic search using MeSH terms and keywords in Medline, Embase, Cochrane Database of Systematic Reviews, Cochrane Central, clinicaltrials.gov and ISRCTN for relevant randomized controlled trials and observational studies comparing oxygen administration and no oxygen administration. The outcomes of interest were: mortality ( $\leq 30$  days, in-hospital, and intermediate 2-11 months), infarct size, and major adverse cardiac events (MACE). Risk of Bias assessments were performed and GRADE methodology was employed to assess quality and overall confidence in the effect estimate. A meta-analysis was performed using RevMan 5 software. **Results:** Our search yielded 1192 citations of which 48 studies were reviewed as full texts and a total of 8 studies were included in the analysis. All evidence was considered low or very low quality. Five studies reported on mortality finding low quality evidence of no benefit or harm. Low quality evidence demonstrated no benefit or harm from supplemental oxygen administration. Similarly, no benefit or harm was found in MACE or infarct size (very low quality). Normoxia was defined as oxygen saturation measured via pulse oximetry at  $\geq 90\%$  in one recent study and  $\geq 94\%$  in another. **Conclusion:** We found low and very low quality evidence that the administration of supplemental oxygen to normoxic patients experiencing AMI, provides no clear harm nor benefit for mortality or MACE. The evidence on infarct size was inconsistent and warrants further prospective examination.

**Keywords:** acute myocardial infarction, emergency medical services, oxygen

#### MP50

##### National survey of 9-1-1 ambulance communication centers' resources related to prehospital recognition of agonal breathing and cardiac arrest

C. Vaillancourt, MD, MSc, M. Charette, MSc, K. Cyr, BSc, S. Hodges, V. Thiruganasambandamoorthy, MD, MSc, MBBS, K. Dainty, PhD, L. Morrison, MD, MSc, S. Jennesson, MD, J. Tallon, MD, MSc, E. Segal, MDCM, A. Sibley, MD, J. Measham, ACP, B. Thoma, MD, MSc, MA, D. Allain, MD, Ottawa Hospital Research Institute, Ottawa, ON

**Introduction:** 9-1-1 telecommunicators receive minimal education on agonal breathing, often resulting in unrecognized out-of-hospital cardiac arrest (OHCA). We successfully piloted an educational intervention that significantly improved telecommunicators' OHCA recognition and bystander CPR rates in Ottawa. We sought to better understand the operations of Canadian 9-1-1 communications centers (CC) in preparation for a multi-centre study of this intervention.

**Methods:** We conducted a National survey of all Canadian CCs. Survey domains included information on organizational structure, dispatch system used, education curriculum, and performance monitoring. It was peer-reviewed, translated in French, pilot-tested, and distributed electronically using a modified Dillman method. We designated respondents in each CC before distribution and used targeted follow-up and small incentives to increase response rate. Respondents also described functioning of neighboring CCs if known. **Results:** We received information from 51/51 provincial and 1/25 territorial CCs, representing 99.7% of the Canadian population. CCs largely utilize the Medical Dispatch Priority System (MPDS) platform (93%), many are Province/Ministry regulated (50%) and most require a High School diploma as minimum entry level education (78%). Telecommunicators receive initial in-class training (median 1.3 months, IQR 0.3-1.9; range 0.1-2.2), often followed by a preceptorship (84.4%) (median 1.0 months, IQR 0.7-1.7; range 0.4-6.0). Educational curriculum includes information on agonal breathing in 41% of CC, without audio examples in 34%. Among responding CCs, over 39,000 suspected OHCA 9-1-1 calls are received annually. Few CCs maintain local performance statistics on OHCA recognition (25%), bystander CPR rates (25%) or survival rates (50%). Most (97%) expressed interest in future research collaborations. **Conclusion:** Most Canadian telecommunicators receive no or minimal education in recognizing agonal breathing. Further training and improved OHCA monitoring may assist recognition and enhance outcomes.

**Keywords:** agonal breathing, cardiac arrest, telecommunication-assisted cardiopulmonary resuscitation

#### MP51

##### Assessment of predictors of deterioration in mild traumatic brain injury with intracranial hemorrhage at emergency department

É. Fortier, V. Paquet, M. Émond, MD, MSc, J. Chauny, MD, MSc, S. Hegg, PhD, C. Malo, MD, MSc, J. Champagne, MD, C. Gariépy, MD, MSc, P. Carmichael, Laval University, Québec, QC

**Introduction:** Mild traumatic brain injury (mTBI) with intracranial hemorrhage (ICH) is a common cause of Emergency Department (ED) visits. Over the past years, several authors have debated the relevance of radiological and clinical follow-up of these patients, as the main challenge is to identify patients at risk of clinical deterioration.

**Objectives:** To determine whether demographic, clinical or