Methods: We conducted a web-based assessment of the diagnostic accuracy of potential STEMI ECGs of Canadian EPs and cardiologists. The cardiology department at a Canadian medical school provided 20 ECGs of confirmed STEMI patients. EPs and cardiologists were asked to provide a binary Yes/No answer to the question, “In a patient with ischemic chest pain, does this ECG represent a STEMI?” EPs and cardiologists were blinded to the correct answers while completing the web-based assessment. Descriptive statistics were used to described frequencies and counts. Analysis using Rasch Measurement Theory was used to explore the relationship between correct interpretation of ECGs and predicative variables such as age, years in practice or type of practice. Results: Two hundred and fifty ECGs and 30 cardiologists (n = 280) responded to our survey (total response rate 25%). Average years in practice were 12.5 for EPs (SD 10.6; median 10) and 14.6 for cardiologists (SD 10.6; median 11); 52% of EPs and 93% of cardiologists practiced in an academic setting. Seven of the cardiologists were interventionalists, while 47.6% of EPs and 97% of cardiologists practiced at hospitals with 24-hour catheterization capability. The diagnostic accuracy of EPs for identifying STEMI ECGs was 75% (SD 15%); cardiologists’ accuracy was 76% (SD 15.5%). The ability to correctly interpret the ECGs was independent of age, years in practice, or type of practice (community vs academic). Conclusion: EPs and cardiologists display similar diagnostic accuracy for interpreting STEMI ECGs, regardless of age, years in practice or type of practice. The findings of our study suggest the need for focused ECG education for both EPs and cardiologists.

Keywords: acute myocardial infarction, electrocardiogram (ECG), diagnostic accuracy

MP035
Point-of-care-ultrasound to diagnose appendicitis in a Canadian emergency department

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Introduction: Appendicitis is a common surgical condition that frequently requires patients to undergo diagnostic imaging. Abdominal computed tomography is the gold standard imaging technique for the diagnosis of appendicitis, but exposes patients to radiation. Ultrasound offers an alternate radiation-free imaging modality for appendicitis. However, the availability of ultrasound during off-hours is limited in many Emergency departments (EDs). Clinician performed point-of-care ultrasound (POCUS) is increasingly used by emergency physicians as a bedside tool to evaluate suspected appendicitis. The purpose of this study is to evaluate the test characteristics of emergency physician performed POCUS to diagnose appendicitis in a Canadian ED. Methods: A pragmatic, retrospective chart review was performed on all patients for whom a POCUS was performed to diagnose appendicitis at St. Joseph’s Healthcare Hamilton in Ontario from December 1, 2010 to December 4, 2015. All POCUS scans were performed by physicians with Registered Diagnostic Medical Sonographer (RDMS) credentials or resident physicians undergoing POCUS fellowship training. All scans were over-read by RDMS credentialed faculty and subject to a rigorous quality assurance (QA) process. POCUS findings and patient outcomes were reported. Results: A total of 90 patients were included in the study. 24 patients were diagnosed with appendicitis on POCUS. Ultimately, 18 were diagnosed with appendicitis through formal imaging, laparoscopy, and pathology. The sensitivity and specificity for POCUS to diagnose appendicitis was found to be 69.2% (95% CI, 48.1%-84.9%) and 90.6% (95% CI, 80.0%-96.1%) respectively. Conclusion: Bedside ultrasound is a reliable imaging modality for ruling in acute appendicitis. In cases where POCUS is negative or indeterminate for appendicitis, further imaging should be obtained as clinical suspicion warrants. The use of POCUS has the potential to reduce patient exposure to ionizing radiation and decrease the costs of obtaining CT scans, while hastening the process of achieving definitive management through earlier surgical consultation.

Keywords: appendicitis, point-of-care-ultrasound (PoCUS), diagnostic imaging