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public health problem, with a notable increase in firearm-related death since 2015. Identifying patients at highest risk for firearm injuries is crucial if providers hope to effectively intervene. This study aims to (1) identify ED patients at high risk for firearm injury and mitigate their risk for injury by modifying access to lethal means using a culturally appropriate, tailored firearm screening and intervention tool, and (2) determine patient acceptability of firearm safety discussions with a range of health care professionals.

Methods: We conducted a prospective randomized control trial using a health care-based firearm perception survey and focused screening tool for an ED population based on lethal means safety counseling and motivational interviewing. Our novel approach leverages multiple educational modalities (auditory, visual, and tactile) to augment patient learning. Patients were recruited from three urban and one rural EDs in Georgia and were eligible if they belonged to a high-risk category and had access to at least one firearm. Participants were randomly assigned to receive tailored counseling (intervention) or standard of care (control) at their index ED visit, and were surveyed at 1-month post-enrollment. Both groups received a firearm safety informational handout. Firearm storage safety practices were quantified using the Firearm Storage Safety Scale (FSSS), a novel 7-point scale (1 = most safe, 7 = least safe). Categorical variables were described using percentages and 95% confidence intervals. Predictors of outcomes were evaluated using binary and ordinal logistic generalized estimating equations to account for clustering within hospitals. Five complete data sets were imputed using fully conditional specification.

Results: A total of 105 patients enrolled in the study (56 in the intervention group and 49 in the control group). Patients were predominantly male (85%) and Black/African American (AA) (59%), and these rates differed between the intervention and control groups (male 89% vs. 71%, p = 0.02; Black/AA 51% vs 66%, p = 0.01). Overall, 32.4% of patients had at least one firearm stored loaded and unlocked (FSSS = 7) at the index visit. At the 1-month follow-up there was no effect of the intervention on the FSSS (OR: 0.91 [0.52-1.59], p = 0.77). A history of depression was predictive of a higher FSSS score (OR: 3.67 [1.91-7.05], p < 0.01), and lower rates of depression were associated with a lower mean FSSS score (OR: 0.81 [0.67-0.97], p = 0.05). A history of depression was also predictive of a lower mean FSSS score (OR: 0.81 [0.68-0.97], p = 0.01, respectively).

Conclusion: In a diverse population with multiple risk categories included, this pilot study is underpowered to determine a true treatment effect. While our novel intervention did not appear to modify patients’ firearm storage practices, there may be subgroups of patients, such as those with depression, that respond differently. Patients felt that it is most appropriate for mental health professionals and physicians to provide firearm safety counseling, suggesting that ED patients are receptive to firearm safety discussions. It is unknown what intervention is most effective for improving safety.

268 Comparing Pediatric Head CT Rules Using Outcomes for Acute Lifesaving Intervention

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Study Objectives: Rates of pediatric head CT for mild blunt head trauma (BHT) have not shown improvement while published clinical prediction rules (CDRs) have been available. Outcomes for these CDRs may be too inclusive and set the threshold to scan unreasonably low. We sought to compare the sensitivity of five published CDRs in detecting outcomes limited to the need for acute lifesaving intervention.

Methods: We conducted a retrospective chart review of patients <18 years old presenting to the ED between the years 2006 through 2013 at a single academic Level 1 Pediatric Trauma Center with diagnoses consistent with intracranial injury and who received head CT as part of their management. Patients meeting criteria for mild non-penetrating BHT (GCS 14-15) were screened for the following outcomes indicating a need for acute lifesaving intervention: neurosurgical procedure, intubation due to head injury, and death. The five following CDRs were then assessed for their ability to detect patients with these outcomes: the Pediatric Emergency Care Applied Research Network (PECARN) CT head rule, the Canadian Assessment of Tomography for Childhood Head injury 2 (CATCH2) rule, the Children’s Head injury ALgorithm for prediction of Clinically Important Events (CHALICE), the Pediatric National Emergency X-Radiography Utilization Study II (NEXUS II) Head CT Decision Instrument, and the decision rule developed by Palchak et al.

Results: Of 1,810 patients with diagnosis codes consistent with intracranial injury and that received CT, 1,162 met the criteria for mild non-penetrating BHT and were screened for the outcomes of interest. 21 patients had one or more of the three outcomes, representing 1.8% of those screened. The average age was 4.6 years and the majority (62%) were male. All 21 patients required intubation due to their head injury with 9 receiving a neurosurgical procedure (0.8%) and no deaths. All CDRs displayed 100% sensitivity with each patient meeting at least 1 criterion for each CDR.

Conclusion: All CDRs displayed 100% sensitivity at detecting outcomes indicating a need for acute lifesaving intervention in pediatric mild BHT. Future prospective studies should consider similar outcomes to assess their utility in decreasing unnecessary pediatric head CT.

269 E-Cigarette Use, Attitudes, and Perceptions among Emergency Department Patients

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Study Objectives: Given increasing reports of vaping complications since the summer of 2019, it is of increasing importance to understand the vaping habits among emergency department (ED) patients. This study seeks to describe patients’ e-cigarette i.e., vaping knowledge, perceptions, and usage habits.

Methods: We conducted a non-consecutive survey of adult ED patients from February 16, 2018, to December 5, 2019. The survey contained 35 questions that investigated patient demographics, attitudes, and perceptions toward vaping, legality, and associated health effects. Descriptive statistics are reported.

Results: Of the 1851 surveyed patients in the ED, 1674 (91%) had at least a general idea of e-cigarette use. Among these patients, 17.4% reported previously using e-cigarettes 1-2 times and 15% >2 times. Most learned about vaping from friends (53.4%), television ads (40.4%), and social media (31.8%). While many (85%) were aware that vaping was legal, only 34.4% correctly answered that vaping was not FDA approved. Most respondents thought that e-cigarettes contained harmful chemicals (79.9%). Approximately 7% (n=125) reported using within the last month (recent users (RUs)). Approximately three-fourths of RUs reported vaping 1-2 times/week, while half reported daily use. 61.6% of these patients were male and 49.6% were Caucasian. The two largest age categories among RUs were 18-24 (30%) and 25-34 (30%). Many of the RUs had recently started vaping (68.8% within the last 1 to 3 years), and most (87%) reported using traditional cigarettes prior to vaping. Most RUs purchased their products from vape shops (43.2%), tobacco shops (40.0%), drug stores (23.2%), and the internet (19.2%). Approximately 1 in 10 RUs reported accessing the ED for reasons related to their e-cigarette use, with many reporting coughing (30.4%), changes in appetite (27.2%), nausea (18.4%) or dizziness (18.4%). Among RUs, 32.8% reported vaping marijuana as well as nicotine.

Conclusion: In general, the ED population appears to have a basic knowledge of e-cigarettes and their health effects, which has been obtained through a myriad of sources, including social media. However, there appears to be an incomplete knowledge of the regulations surrounding e-cigarettes. Finally, nearly 1 in 10 RUs reported an ED visit related to their e-cigarette use, with cough, GI symptoms, and dizziness being the most common complaints.

270 Changes in Treatment of Out of Hospital Cardiac Arrest during COVID-19 Outbreak in Japan

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Study Objectives: On December 31, 2019, China has reported about a cluster of pneumonia cases caused by unknown infection which would later be identified as coronavirus disease 2019 (COVID-19). The first case in Japan was diagnosed on January 28, 2020. On March 11, 2020, COVID-19 was qualified as a global pandemic by the World Health Organization (WHO). It was reported that there was possibility of increased risk of out-of-hospital cardiac arrest (OHCA) in patients with SARS-CoV-2. American Heart Association has issued guidelines to help rescuers treat cardiac arrest patients with suspected or confirmed COVID-19. Physicians had to deal with OHCA patients having no detailed history of COVID-19 during pandemic. This may cause the changes in treatment of OHCA patients and their families. However, little we knew about the changes occurred in Japan. Therefore, our purpose was to investigate and clarify the changes in treatment of OHCA patients.
Methods: This was a Web-based questionnaire survey. We developed a questionnaire to evaluate the changes in OHCA patients care. The questionnaire consisted of two sections and 21 questions. In the first section, we collected data about sex, post-graduate-year (PGY) and specialty. Physicians were also asked to indicate preface where they work. In the second part of questionnaire, we asked about the month when they started noticing COVID-19. We also asked them to answer with “Yes” or “No” if they have made changes to “Algorithm”, “Personal Protective Equipment (PPE)” and “Patient’s family support” for OHCA patients with details of particular changes for each question. In addition, we asked to indicate their stress level from these changes [Likert scale: 1 = 10, 1: No Stress, 10: Severe Stress]. We have distributed the questionnaire among Emergency Medicine Alliance (https://www.emalliance.org/) mailing list members (total 3233 physicians registered as of May 23, 2020). The period of responses to questionnaire was from May 22 to June 5 of 2020.

Results: During the study period, 110 physicians (3.4% out of total 3233 registered) with a median PGY of 12 (IQR 7-19) have submitted questionnaires, including 90 male (81.8%), 86 emergency physicians (78.2%), 16 internists (14.5%), 3 intensivists (2.7%) and 5 others (4.5%). Physicians were from the 30 prefectures of Japan (total 48 prefectures in Japan). The rate of answers about changes made to “Algorithm” was 78.2%, “PPE” - 96.4%, “Family support” - 94.9%. The stress level due to the changes to “Algorithm” was 7 [IQR 5 - 8], “PPE” - 8 [IQR 6 - 9], “Family support” - 7 [5 - 8].

Conclusion: We will conclude that the way of treatment of OHCA patients might not be changed and physicians might feel stress. We will report our survey results with more details.

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Advancing Emergency Department Chest Pain Risk Stratification With Monocyte Chemoattractant Protein-1 and High-Sensitivity Troponin

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Study Objectives: The History, Electrocardiogram, Age, Risk factor, and Troponin Pathway (HEART Pathway) risk stratifies 50-55% of emergency department (ED) chest pain patients as non-low-risk and recommends that they receive observation and stress testing. The objective of this study was to determine if two novel biomarkers, MCP-1 and hs-cTnT, alone or in combination, can achieve ≥99% sensitivity and negative predictive value for 90-day MACE among non-low-risk HEART Pathway patients.

Methods: A case-control study was nested within a multicenter, prospective study (STOP-CP). ED patients ≥ 21 years old who presented to the ED with symptoms concerning for acute coronary syndrome who had a History, Electrocardiogram (ECG), Age, and Risk factor (HEART) score > 4 or coronary artery disease (CAD), a non-ischemic ECG, and non-elevated contemporary troponins at 0- and 3-hours were eligible for inclusion. Cases (N=40) were patients with 90-day MACE events (all-cause mortality, myocardial infarction, or revascularization). Controls (N=179) were patients without MACE who were selected based on frequency matching using age, sex, race, and numeric HEART score or the presence of known CAD. MCP-1 was assessed at various cut-points, including unspecified 200 pg/mL and 238 pg/mL as well as 194 pg/mL and 281 pg/mL, which were determined with receiver operator curves and the Youden Index. Logistic regression controlling for age, sex, race, hs-cTnT (cut-point <11 ng/mL > 21 ng/mL), and HEART score or the presence of CAD was used to determine the association between MCP-1 and 90-day MACE.

Results: Among the 40 cases and 179 controls, there was no significant difference in age (p=0.90), sex (p=1.00), race (p=0.91), or HEART score/presence of CAD (p=0.89). MCP-1 was similar in the cases (median 191.9 pg/mL, IQR 161.8-260.1 pg/mL) and controls (median 196.6 pg/mL, IQR 163.0-261.1 pg/mL) (p=0.48). Logistic regression revealed that MCP-1 was not independently associated with 90-day MACE at any cut-point [194 pg/mL, OR 0.77 (95% CI 0.37-1.60); 200 pg/mL, OR 0.65 (95% CI 0.30-1.35); 238 pg/mL, OR 0.82 (0.35-1.79); 281 pg/mL, OR 0.83 (95% CI 0.33-1.95)].

Conclusion: MCP-1 was not independently associated with 90-MACE in non-low-risk ED chest pain patients.