

studies suggest that fever may function as a modulator of the QT interval in healthy individuals and an arrhythmogenic trigger in patients with occult congenital QT abnormalities. The objective of this study was to explore whether presence of fever adversely affects the QT interval, and whether medications known to prolong this interval affect any association found. **Methods:** We performed a retrospective, single center study identifying patients (age > 18 years) presenting to the ED with fever (temperature > 38.0 °C) between January 1st, 2012 and December 31st, 2013 via electronic chart review. The subset for analysis were those who had an ECG both at time of fever and while afebrile (within 30 days of initial ECG). Temperature measurement was within 30 minutes of ECG. Actively paced patients were excluded. Univariate and multiple regression analysis were used to determine risk factors for QT derangement in patients with fever. **Results:** 2018 febrile visits occurred during the reviewed period, 181 of these patients went on to be included in the study. 54.1% of study subjects were female, and the average age was 68.9 years old. The etiology of fever was predominately infectious (69.6%), with community acquired pneumonia being the most frequent cause (24.3%). We found the median corrected QT interval to be significantly shorter in febrile as compared to afebrile patients [QTc = 388.7ms, (371.5-407.5) vs 406.7, (386.7-434.4); p < 0.001]. This difference was observed in both sexes. Males were found to be more likely to experience medication induced QTc prolongation [OR 5.35, 95% CI = 1.46 - 19.68; P < 0.05]. Two instances of Torsades de pointes were identified in our study, both occurring in males on QT prolonging medications. **Conclusion:** In an ED patient population, fever generally shortens the QT interval independent of sex. Prolongation of the QT interval during fever should thus increase clinical suspicion of congenital or acquired QT disorders. Additionally, males appear to be more susceptible to medication-induced derangements in the QT interval and may require more vigilant monitoring when treated with multiple QT prolonging medications.

Keywords: arrhythmia, fever, QT interval

P038

How frequently is hypoglycemia found in ambulance calls for “seizure”?

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Introduction: Paramedics often attend seizure patients in the pre-hospital setting. Received wisdom is that hypoglycemia is frequently present during a seizure or is a ‘cause’ of seizures. Recent literature disputes this. The purpose of this study was to determine the frequency of hypoglycemia in patients identified as having “seizure” listed as the primary or final problem code in Ambulance Call Reports from a large regional paramedic base hospital program. **Methods:** Retrospective analysis of a database of ambulance call reports (ACRs) from January 01-December 31, 2014. All 2854 ACRs with paramedic determined primary or final problem codes of “seizure” were identified from a database of all calls performed by 8 municipal paramedic services covering a total urban and rural population of 1.4 million. Municipal paramedic services used iMedic electronic ACRs. A 10% sample generated by a random number table was analyzed. ACRs were manually searched and data extracted onto spreadsheets. Results were described using frequencies and summary statistics. **Results:** A total of 285 call were analyzed. 207 (72.6%) calls were adults and 78 (27.4%) were paediatric (age < 18). Seizures were witnessed by paramedics in 23/285 (8.1%) calls; adults 17/207 (8.2%), paediatric 6/78 (7.7%). A blood sugar was determined in

237/285 (83.2%) of all calls; adults 182/207 (87.9%), paediatric 55/78 (70.5%). In calls where paramedics witnessed a seizure a blood sugar was determined 17/21 (80.9%) of the time; adults 13/17 (76.5%), paediatric 6/6 (100%) Hypoglycemia (BS < 4.0 mm/L) was found in only 1 case - 1/237 (0.4%); adults 0/ 207 (0%), paediatric 1/78 (1.3%). The child was age 1, had a GCS 13, and the blood sugar was 3.9 mm/L. **Conclusion:** Hypoglycemia was rarely found in patients who had a seizure and were attended to by paramedics in the pre-hospital setting. The routine determination of blood sugars in all patients who have had a seizure prior to paramedic arrival should be reconsidered.

Keywords: hypoglycemia, seizure, paramedic

P039

What are the frequencies of interventions performed by paramedics during seizure calls?

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Introduction: Paramedics frequently attend out-of-hospital seizure patients. They administer oxygen, check blood glucose levels and if within scope of practice, start IVs and administer benzodiazepines. Little is known about how frequently these procedures are performed. The objective of this study was to determine the frequency of procedures performed by paramedics (Advanced Care (ACP), Primary Care IV (PCP-IV) and Primary Care non-IV (PCP)) attending seizure patients in a regional paramedic base hospital program. **Methods:** Retrospective analysis of a secondary database of ambulance call reports (ACRs) (January 01-December 31, 2014). All 2854 ACRs with paramedic determined primary / final problem codes of “seizure” were identified from total calls performed by 8 municipal paramedic services (MPSs), covering an urban and rural population of 1.4 million. MPSs used iMedic electronic ACRs. A 10% sample, generated using a random number table, was analyzed. ACRs were manually searched and data extracted onto spreadsheets. Findings were summarized using descriptive statistics. **Results:** 285 calls were analyzed; (adult 72.7%, paediatric (age < 18) 27.3%). Paramedics witnessed seizures in 8.1% of all calls they attended; (paediatric 7.8%). The blood sugar was checked in 87.9% of adult calls; (ACP 88.7%, PCP-IV 89%, PCP 77.8%) and in 70.5% of paediatric calls; (ACP 72.0%, PCP-IV 63.3%, PCP 70.5%). Oxygen was administered in 80.7% of adult calls; (ACP 85.9%, PCP-IV 78.0%, PCP 80.7%) and 83.3% of paediatric calls; (ACP 92.0%, PCP-IV 80.1%, PCP 82.4%). IVs were started by paramedics (if in scope of practice) in 28.0% of adult calls; (ACP 47.9%, PCP-IV 16.1%) and 6.6% of paediatric calls; (ACP 8.0%, PCP-IV 5.6%) Midazolam was administered in 10.4% of ACP attended calls and in 91.0% of the calls where they witnessed seizures. Transport occurred in 93.2% of adult calls and 100% of paediatric calls. **Conclusion:** ACPs were more likely to perform procedures on seizure patients than PCPs or PC-IVs. Children were much less likely to have procedures performed on them - blood sugar checks, and IV starts - but more likely receive oxygen and be transported. These findings have training implications.

Keywords: paramedic, seizure, procedure

P040

Development of a categorization tool for delayed hemothoraces in patients with closed minor thoracic trauma

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Introduction: Thoracic trauma is, depending on severity, a frequent cause of mortality, morbidity, hospitalization and incapacity. Minor