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“Clinical and Demographic Factors Among Patients Suffering Cardiac Arrest with Field Termination During the COVID Pandemic”

Since the start of the COVID-19 pandemic, modified protocols for termination of resuscitation by EMS workers has impacted factors that affect out-of-hospital cardiac arrest (OHCA) patient survival. Demographics and clinical presentation of these patients around the country is variable. Emergency department visits have also decreased in the United States since the pandemic began, while in-home deaths have increased. There is limited data in the state of Louisiana regarding the number of OHCA deaths of patients at home and the underlying comorbidities, demographic factors, and clinical presentations of these patients.

This study aims to determine if there has been an increase in the number of cardiac arrests with field termination in New Orleans since the start of the COVID-19 pandemic, if there are any associations between clinical and demographic factors and field termination due to OHCA, and the frequency of comorbidities among patients in New Orleans who have experienced OHCA.

A retrospective analysis of patients ≥ 18 years of age who experienced a cardiac arrest with field termination eliciting EMS activation prior to (January 1, 2019 – June 30, 2019) and during the COVID-19 pandemic (January 1, 2020 – June 30, 2020) was performed. We queried the NOLA EMS medical records for patients meeting study criteria and collected basic demographics, comorbidities, and information related to the code. Data was extrapolated to Redcap and analyzed using SAS 9.4. Correlations between variables were assessed utilizing Fisher’s exact test. We also compared the number of DNR calls prior to and during the first six months of the COVID pandemic.

Data showed that from the cases analyzed in the 2019 time period, a statistically significant relationship exists between the disposition of the event (either field termination or patient transportation) and whether sustained return of spontaneous circulation (ROSC) was achieved by first responders. In the 2020 time period, statistical significance was found for disposition and ROSC before and after EMS arrival. Of greatest interest, statistical significance was also found between disposition of the patient and the etiology of the arrest.

Given the results of this preliminary data analysis, it can be concluded that achieving return of spontaneous circulation in the field had a strong impact on whether or not a cardiac arrest case was terminated in the field. Moving forward, we plan to determine if there are additional relationships between the demographics of the terminated cases, as well as postal code of the incident, hospital destinations, and health insurance of the patients.