Since the start of the novel coronavirus outbreak in the U.S., the Centers for Disease Control and Prevention (CDC) and the American Heart Association (AHA) have introduced new cardiopulmonary resuscitation (CPR) guidelines involving increased precautions for protecting healthcare providers from infection. These precautions have been widely adopted for both known and potential COVID+ patients despite debate over increased strain on CPR providers and potentially inferior outcomes. In order to bridge the knowledge gap surrounding over increased strain on CPR providers and potentially inferior outcomes. These precautions have been widely adopted for both known and potential COVID+ patients despite debate over increased strain on CPR providers and potentially inferior outcomes. In order to bridge the knowledge gap surrounding over increased strain on CPR providers and potentially inferior outcomes. These precautions have been widely adopted for both known and potential COVID+ patients despite debate over increased strain on CPR providers and potentially inferior outcomes.

Methods

All analyses were conducted using SYSTAT, version 13. Continuous variables – age, BMI, code duration, arrest-to-treat and arrest-to-intubate times – were tested for normality within groups using a Komolgorov-Smirnov test with the Lilliefors correction. Code duration, arrest-to-treat, and arrest-to-intubate were found to be non-normal. Code duration was log-transformed prior to analysis; arrest-to-treat and arrest-to-intubate could not be restored to normality through transformation. Age, BMI, and code duration were tested for significant differences in means between groups using ANOVA; for variables showing an overall significant effect, pairwise comparisons were done using Tukey’s HSD test. Arrest-to-treat and arrest-to-intubate were tested for significance using Kruskal-Wallis non-parametric ANOVA. Discrete variables – gender, comorbidity status, location, code-after-hours, survived-code status, discharged-alive status, RESQPOD device usage, Lucas device usage, and rhythm type – were tested for significant differences between groups using chi-square tests of association.

Results

Groups well matched on patient characteristics. There were no significant differences in age or the incidence of hypertension, hyperlipidemia, diabetes, cancer, tobacco use, CHF, CAD, COPD, or CVD between groups. COVID+ patients did have a significantly higher BMI than did non-COVID patients (50%) survived the code event, while 54 of 84 (64%) COVID+ patients did so ($x^2 = 9.48, df = 2, p = 0.009$).

Conclusions

Patient outcomes between 2019 and 2020 were comparable, indicating that extra precautions taken by healthcare personnel during the COVID-19 outbreak are not degrading the quality of CPR administered. However, COVID+ patients had significantly longer code durations than non-COVID patients in both years, suggesting a greater difficulty in restoring spontaneous circulation within individuals in the virus group.