Abstract: P2822

Seasonal variation in in-hospital cardiac arrest and associated mortality

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Topic(s):
Arrhythmias, General – Epidemiology, Prognosis, Outcome

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Background: Previous reports have documented seasonal variation in out-of-hospital cardiac arrest (OHCA), with peak incidence in winter months, regardless of geographical region. However, seasonal variation in in-hospital cardiac arrest (IHCA) has not been well studied.

Purpose: To assess seasonal variation in incidence of in-hospital cardiac arrest, as well as gender and mortality differences.

Methods: We queried the 2014 National Inpatient Service (NIS) database for the total numbers of inpatient hospitalizations and in-hospital cardiac arrests for each month, as identified by ICD-9 codes (99.60 and 99.63). The trend for each month was plotted to assess seasonal variations in hospitalizations, IHCA, and mortality.

Results: The mean age of the study population was 57.3 ± 0.2 years and 58.9% were female. Out of 29,717,872 total inpatient hospitalizations in 2014, the overall IHCA event for the year was 0.38%. Females were more likely to be hospitalized; however, males were more likely to have IHCA. These gender differences persisted throughout the year. Overall, more hospitalizations and IHCA were seen in the winter compared to the summer, and this trend was seen in both men and women. The highest incidence of in-hospital cardiac events occurred in January and the lowest incidence occurred in June. There was no seasonal variation in mortality in both male and female patients who suffered IHCA. Conclusion(s): In this observational study, seasonal variation is present in in-hospital cardiac arrest. Cardiac events are highest in the winter months as compared to the summer months; however, the mechanism of this variation is unknown and warrants further study.
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