Arrhythmias and Clinical EP

ASSOCIATION OF ACADEMIC YEAR-END CHANGEOVER WITH SURVIVAL RATES AFTER IN-HOSPITAL CARDIAC ARREST: AN EXAMINATION OF THE "JULY EFFECT"

Poster Contributions
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Background: Each year, teaching hospitals in the United States (U.S.) experience a large turnover of resident physicians in July, resulting in an abrupt decline in the average experience of the hospital's workforce. Some studies have found this transition to be associated with worse patient outcomes during the month of July, particularly among patients admitted with high-risk conditions such as acute myocardial infarction, femoral fractures, and trauma. Resident physicians are often the first responders during an in-hospital cardiac arrest (IHCA) event and survival after IHCA can be affected by quality of cardiopulmonary resuscitation (CPR) delivered by the hospital "code teams." Limited data exist on whether survival rates after IHCA are vulnerable to the so called "July effect."

Methods: We analyzed the 2003-2013 National Inpatient Sample databases to identify all patients aged ≥18 years who underwent CPR for IHCA in U.S. teaching hospitals (n=473,510). Multivariable regression models were constructed using generalized estimating equations to analyze differences in survival to hospital discharge between patients admitted in the months of July vs. May.

Results: Of patients hospitalized in U.S. teaching hospitals during May and July 2003 to 2013, there were 36,248 and 35,183 patients with IHCA, respectively. There were no meaningful differences in baseline demographics, hospital characteristics, comorbid conditions, and cardiac arrest rhythm between IHCA patients hospitalized in July vs. May. Survival to discharge was 27.2% among patients hospitalized in July vs. 27.5% among those hospitalized in May (unadjusted OR 0.99; 95% CI 0.96-1.02; *P*=0.42). Even after adjustment for demographics, hospital characteristics, comorbid conditions, and cardiac arrest rhythm, there was no difference in risk-adjusted survival to discharge after IHCA among patients hospitalized in July vs. May (adjusted OR 0.99; 95% CI 0.96-1.03; *P*=0.68).

Conclusions: In this nationally representative cohort of IHCA patients in U.S. teaching hospitals, we did not observe a "July effect" in survival to hospital discharge.