Arrhythmias and Clinical EP

SMOKING STATUS AND SURVIVAL AFTER CARDIOPULMONARY RESUSCITATION FOR IN-HOSPITAL CARDIAC ARREST: ANALYSIS OF THE 2003-2011 NATIONWIDE INPATIENT SAMPLE DATABASES

Poster Contributions
Hall C
Saturday, March 29, 2014, 10:00 a.m.-10:45 a.m.

Session Title: Arrhythmias and Clinical EP: VT
Abstract Category: 7. Arrhythmias and Clinical EP: VT
Presentation Number: 1107-91

Authors: Sahil Khera, Dhaval Kolte, Wilbert Aronow, Marjan Mujib, Chandrasekar Palaniswamy, Ali Ahmed, Diwakar Jain, Sachin Sule, Gregg Fonarow, Sei Iwai, Paul Eugenio, Seth Lessner, Julio Panza, New York Medical College, Valhalla, NY, USA

Background: In-hospital cardiac arrest (IHCA) is associated with poor prognosis. Data on the effect of smoking and survival after IHCA are lacking.

Methods: Nationwide Inpatient Sample databases from 2003-2011 were analyzed for all patients ≥18 years of age who underwent cardiopulmonary resuscitation (ICD-9-CM codes 99.60 and 99.63) for IHCA to study the baseline demographic and clinical characteristics of smokers (current and former) versus non-smokers. Survival to hospital discharge (overall and gender-stratified) was compared between smokers and non-smokers using multivariate logistic regression (adjusted for baseline clinical and demographic variables including primary diagnosis of acute myocardial infarction and cardiac arrest rhythm).

Results: Of the 838,464 patients with cardiopulmonary resuscitation for IHCA, 116,569 (13.9%) were smokers. Smokers were more likely to be younger, Caucasian and male. They were also more likely to have dyslipidemia, coronary artery disease, hypertension, chronic pulmonary disease, obesity and peripheral vascular disease. Atrial fibrillation, congestive heart failure and diabetes were less prevalent in smokers. Smokers were more likely to have a primary diagnosis of acute myocardial infarction (14.8% versus 9.1%, p<0.001) and ventricular tachycardia/fibrillation (VT/VF) as cardiac arrest rhythm (24.3% versus 20.5%, p<0.001). Survival to hospital discharge was better in smokers (adjusted OR 1.06, 95% CI 1.05-1.08) in the overall cohort. After gender stratification, compared to non-smokers, survival to hospital discharge in male smokers was better (adjusted OR 1.08, 95% CI 1.06-1.11), but non-significant in female smokers (adjusted OR 1.02, 95% CI 0.99-1.05;p interaction <0.001).

Conclusion: In this retrospective observational analysis of a large nationwide inpatient sample database comparing survival to discharge after IHCA in smokers versus non-smokers, we observed an 8% relative survival benefit in the male cohort - consistent with a smoker's paradox in males, but not in females. Based on our observations, the apparent paradox may be explained by younger age and higher probability of VT/VF rhythm at the time of the cardiac arrest.