

 Arrhythmias and Clinical EP**ASSOCIATION OF ADVERSE CLINICAL OUTCOMES IN PATIENTS WITH ACUTE PULMONARY EMBOLISM AND CORONARY ARTERY CALCIFICATIONS VISUALIZED ON COMPUTED TOMOGRAPHY**

Poster Contributions  
Poster Hall, Hall C  
Friday, March 17, 2017, 3:45 p.m.-4:30 p.m.

---

Session Title: Arrhythmias and Clinical EP: AF Ablation  
Abstract Category: 35. Pulmonary Hypertension and Pulmonary Thrombo-embolic Disease  
Presentation Number: 1150-088

---

Authors: *Brett Carroll, Dominique DaBreo, Benedikt Heidinger, Stephanie Feldman, Donya Mohebal, Ian McCormick, Jason Matos, Warren Manning, Diana Litmanovich, Beth Israel Deaconess Medical Center, Boston, MA, USA*

**Introduction:** Computed tomography (CT) is the most common means of diagnosis of acute pulmonary embolism (APE). RV ischemia has been implicated as one deleterious mechanism in the pathophysiology of RV dysfunction in APE. A history of coronary artery disease has also been found to be a risk factor for poor outcomes in patients with APE. The objective of this study was to evaluate if coronary artery calcification (CAC) visualized on CT at time of APE diagnosis is associated with adverse clinical outcomes.

**Methods:** We retrospectively identified consecutive patients with an International Statistical Classification of Disease inpatient code for pulmonary embolism from May 2007 through December 2014 with verified APE on CT, for whom images were available for assessment of CAC. CAC was visually graded by a cardio-thoracic radiologist into 4 categories: absent, mild, moderate, or severe. Adverse clinical outcomes included thrombolytic therapy, embolectomy, vasopressor support, and/or death related to APE within 30 days of diagnosis. Fisher's exact test and logistic regression analysis were performed using Stata 14.1.

**Results:** Four hundred and thirty-six patients meet the inclusion criteria with mean age of  $63 \pm 16$  years, 55% female, and 53% without prior smoking history. CAC was absent in 207 (47%), mild in 129 (30%), moderate in 79 (18%), and severe in 21 (5%). Fifty-six patients had an adverse clinical outcome. Event rate was 9% in those with absent CAC, 18% with mild CAC, 17% with moderate CAC, and 10% with severe CAC ( $p=0.01$ ). Odds ratio of any adverse outcome was 2.3 (CI 1.1-4.7;  $p=0.02$ ) in patients with CAC when adjusting for age, sex, and prior smoking history.

**Conclusions:** Among patients with APE, CAC was associated with an increased risk of adverse clinical outcome. Evaluation of CAC on CT at the time of diagnosis may be utilized as an additional prognostic parameter to assist in the early risk stratification of patients with APE.