



E278

JACC March 12, 2013

Volume 61, Issue 10

Arrhythmias

ASSOCIATION BETWEEN OBESITY AND POSTOPERATIVE ATRIAL FIBRILLATION IN PATIENTS UNDERGOING CARDIAC SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS

Poster Contributions

Poster Sessions, Expo North

Saturday, March 09, 2013, 10:00 a.m.-10:45 a.m.

Session Title: Arrhythmias: AF/SVT II

Abstract Category: 4. Arrhythmias: AF/SVT

Presentation Number: 1107-54

Authors: *Adrian V. Hernandez, Roop Kaw, Vinay Pasupuleti, Pouya Bina, John P.A. Ioannidis, Hector Bueno, Eric Boersma, Cleveland Clinic, Cleveland, OH, USA, Universidad Peruana de Ciencias Aplicadas (UPC), Lima, Peru*

Background: The strongest evidence linking obesity and atrial fibrillation (AF) in adults comes from the Framingham study. Up to 40% of patients undergoing cardiac surgery are obese (BMI > 30). We systematically evaluated whether obesity is associated with postoperative atrial fibrillation (POAF) in patients undergoing cardiac surgery.

Methods: A literature search was conducted by three authors in Pubmed-MEDLINE, the Web of Science and Scopus until December 2011. Our search was restricted to observational studies in adult (>18 years-old) patients, with information available on POAF in patients with and without obesity (subset with categorical BMI) or on BMI distribution in patients with or without POAF (subset with continuous BMI), published in any language. Only studies that excluded the presence of preoperative AF were included in the analysis. Secondary analyses evaluated whether POAF was associated with postoperative complications (stroke, respiratory failure and operative mortality). Meta-analysis used random effects models, and associations are shown as Odds Ratios (OR) and 95% Confidence Intervals (CI). Subgroup analyses by type of cardiac surgery (CABG vs. CABG + valve surgery), by study design, and by year of publication were performed.

Results: Eighteen studies were included in the analysis (n=36,147). Obese patients had a modest higher risk of POAF in comparison to non-obese (OR 1.12, 95%CI 1.04-1.21, p=0.002). POAF was associated with higher risk of stroke (OR 1.77, 95%CI 1.36-2.31, p<0.0001), respiratory failure (OR 2.11, 95%CI 1.29-3.45, p=0.003), and operative mortality (OR 2.76, CI 1.77- 4.32, p<0.0001). The association between obesity and POAF did not vary substantially by type of cardiac surgery, study design or year of publication.

Conclusions: In patients without known history of atrial fibrillation undergoing cardiac surgery, presence of obesity is associated with a modest increase in POAF risk. POAF is strongly associated with other postoperative complications like stroke, respiratory failure and postoperative mortality.