

### **P30: Incidence of atrial fibrillation after cardiac surgery: predictive factors**

Soraia Moreira<sup>1</sup>, Cristina Baeta<sup>2,3</sup>

<sup>1</sup>School of Allied Health Technologies, Polytechnic Institute of Porto, Vila Nova de Gaia, Portugal

<sup>2</sup>Department of Cardiopneumology, School of Allied Health Technologies, Polytechnic Institute of Porto, Vila Nova de Gaia, Portugal

<sup>3</sup>Centro Hospitalar de Vila Nova de Gaia/Espinho, EPE, Vila Nova de Gaia, Portugal

Presenting author: [moreira.g.soraia.c@gmail.com](mailto:moreira.g.soraia.c@gmail.com)

**Introduction:** Atrial fibrillation (AF) has been described as the arrhythmia with higher incidence in postoperative period and follow-up of cardiac surgery.

**Objectives:** To study the incidence of AF after cardiac surgery and explore the relationship between this incidence and the main predictive factors.

**Methods:** Retrospective observational study. The sample was selected among patients undergoing aortic valve replacement surgery (AVRS) and coronary artery bypass grafting (CABG) in a central hospital. Cardiac rhythm/incidence of atrial fibrillation was evaluated in four moments (end of cardiopulmonary bypass (CPB), intensive care unit/hospitalization, pre hospital discharge, follow-up). Main preoperative predictive factors were: age, sex, left and right atria dilation, left ventricular hypertrophy, hypertension, aortic disease. Main perioperative predictive factors were: type of surgery, surgery with/without CPB, use of cardioplegia, CPB and aortic clamping time. Fisher's exact and Chi-square tests were used, the significance level was 0.05. Ethics Committee approved the study.

**Results:** Between January and December 2014, 399 individuals were selected, 74.9% male, mean age 66.8±10.5 years. AVRS showed higher incidence of AF in all evaluation moments compared with CABG (2.27%/0.00%, 28.79%/13.48%, 6.06%/1.50%, 11.43%/0.00%). The preoperative factors associated with AF incidence were age over 65 years ( $p<0.001$ ), hypertension ( $p=0.02$ ), left ventricular hypertrophy ( $p<0.001$ ), chronic renal failure ( $p=0.01$ ) and aortic stenosis ( $p<0.001$ ). The perioperative factors associated with AF incidence were AVRS ( $p<0.001$ ), CABG ( $p<0.001$ ), CPB ( $p<0.001$ ) and use of cardioplegia ( $p<0.001$ ).

**Conclusion:** The incidence of AF was higher in AVRS, and the evaluation moment with higher incidence of AF was intensive care unit/hospitalization in both types of surgery. Preoperative predictive factors associated with AF after cardiac surgery in this sample were age upper 65 years old, left ventricular hypertrophy, hypertension, aortic stenosis and chronic renal failure and perioperative predictive factors were surgery with CPB and the use of cardioplegia.

#### **References**

1. Saxena, A. *et al.* (2013). Postoperative atrial fibrillation after isolated aortic valve replacement: a cause for concern? *Ann Thorac Surg*, 95(1), 133-140.
2. Thorén, E. *et al.* (2012). Prediction of postoperative atrial fibrillation in a large coronary artery bypass grafting cohort. *Interact Cardiovasc Thorac Surg*, 14(5), 588-593.