

## **The influence of preoperative pharmacotherapy on the appearance of postoperative atrial fibrillation in patients undergoing isolated coronary artery bypass grafting**

Short title: **Post-CABG atrial fibrillation**

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**Introduction:** Postoperative atrial fibrillation (POAF) is the most common arrhythmia post coronary artery bypass grafting (CABG). It is associated with an increased morbidity and mortality. Published studies have yielded conflicting results considering the association of preoperative pharmacotherapy with POAF. We assessed the relationship of preoperative medication with POAF in patients undergoing isolated CABG.

**Methods:** We retrospectively studied 226 consecutive patients without history of prior AF, undergoing CABG from September to December 2014. All patients underwent continuous telemetry for  $\geq 5$  postoperative days, and POAF was documented using 12-channel electrocardiography. We used univariate and multivariable Logistic regression analyses (adjusted for demographics, cardiovascular risk factors, and the CABG procedure type) to analyse the relationship of preoperative pharmacotherapy with the occurrence of POAF.

**Results:** Of 226 patients (mean age:  $63.9 \pm 7.9$  years, female  $n=54$ , 23.9%), 53 (23.5%) experienced  $\geq 1$  POAF episode until discharge. They were older ( $65.8 \pm 7.3$  vs.  $63.4 \pm 8.0$ ;  $p=0.049$ ) and less often were taking statins preoperatively compared to non-POAF patients ( $n=39$ , 73.6% vs.  $n=137$ , 87.2%;  $p=0.030$ ). There were no significant differences between the groups considering concomitant preoperative comorbidities (e.g., arterial hypertension, diabetes mellitus, chronic obstructive pulmonary disease, etc.), smoking or preoperative medication including amiodarone, beta-blockers, digoxin, diuretics, spironolactone, angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers and Ca-antagonists. In a multivariable analysis, preoperative statin use was associated with a 60% risk reduction in POAF incidence (Odds Ratio 0.41; 95% CI 0.19-0.87;  $p=0.020$ ).

**Conclusion:** We found that preoperative use of statins may reduce the incidence of POAF in patients undergoing isolated CABG.

**Key Words:** postoperative atrial fibrillation, CABG, preoperative pharmacotherapy, statins.