

Title: Incidence of post-operative atrial fibrillation with prophylactic amiodarone use in coronary artery bypass graft patients

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Background/Purpose: Postoperative atrial fibrillation (AF) is the most common dysrhythmia that occurs in patients who undergo coronary artery bypass graft (CABG) surgery. Patients who experience post-operative atrial fibrillation often have longer hospital stays, higher health care costs, are at higher rate for readmission, and have increased mortality. At Wesley Medical Center, prophylactic amiodarone is ordered ala carte in patients undergoing non-emergent coronary artery bypass graft surgery. The purpose of this study is to evaluate the use of pre-operative prophylactic amiodarone for the reduction of post-operative atrial fibrillation in coronary artery bypass graft surgery patients.

Methodology: This is a single-center, retrospective cohort study of adult patients who underwent CABG surgery between July 2019 and June 2020. Patients who were enrolled had documentation of having normal sinus rhythm pre-operatively and were undergoing non-emergent CABG by Society of Thoracic Surgeons (STS) definition. Patients who received prophylactic amiodarone versus those that did not were matched 1:1 in hierarchical fashion based on STS score, ejection fraction range, and number of grafts. Patients were excluded if they had documented AF or atrial flutter prior to CABG, documented history of receiving anti-arrhythmic medications, or if they received non-prophylactic amiodarone prior to CABG. The primary outcome was the incidence of AF after CABG surgery. Secondary outcomes include length of ICU and hospital stay measured in hours and mortality. This study was exempt of IRB approval by the HCA-HealthONE Institutional Review Board.

Results: A total of 318 patients were identified, 308 patients with no amiodarone prophylaxis and 10 patients who received amiodarone prophylaxis. The incidence of post-operative AF after CABG was lower in the subset of patients that received amiodarone prophylaxis versus those that did not in the matched no amiodarone group (30% vs 40%), with a lower occurrence of AF in patients who were ≥ 60 years old in the prophylactic amiodarone group. The prophylactic amiodarone vs matched no amiodarone group had a longer ICU length of stay (100 hours vs 82 hours) and hospital length of stay (256 hours vs 218 hours). One patient in the matched no amiodarone group died.

Conclusion: Patients who received prophylactic amiodarone had a lower incidence of post-operative AF compared to those that did not receive amiodarone. More research needs to be done to validate the utility of prophylactic amiodarone in patient undergoing non-emergent CABG surgery.