

ATRIAL FIBRILLATION AFTER CORONARY ARTERY BYPASS
GRAFTING: RISK FACTORS AND PREVENTIVE STRATEGIES

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Purpose: Atrial fibrillation (AF) is a most common complication after coronary artery bypass grafting (CABG). It increases morbidity, hospital stay and costs. To improve the care of patients undergoing open heart operations, effective prophylactic strategies should be adopted. Our aim was to establish predictors of first diagnosed AF following CABG, to discover patients at high risk and to decrease the incidence of postoperative AF and its complications.

Methods: 174 patients without previously registered AF (age 32-81, median 59.6±0.72 years, 25 women) undergoing CABG and/or valve surgery were included into the study. The patient underwent on-pump CABG by standard surgical technique. Heart rate and rhythm were continuously monitored with automated arrhythmia detector during first 72 hours after surgery. Such parameters as number of the damaged vessels, artificial circulation time, aorta cross-clamping time, concomitant mitral, aortic valve surgery, left ventricle plastics were analyzed. For realization of our tasks selected patients with coronary artery disease were divided into two groups based on appearance of POAF.

Results: It was established that POAF was a most common complication of coronary artery bypass grafting (CABG). The risk of POAF was 33% in patients after isolated CABG and 49.1% after CABG combined with valvular prothesing. The main predictors of POAF were multivessel coronary artery disease, mitral regurgitation of the 2nd and higher degree, aneurysm and reduced ($\leq 45\%$) ejection fraction of the left ventricle, diabetes mellitus, lack of background preventive usage of beta-blockers, angiotensin-converting enzyme inhibitors and statins. Intraoperative factors that affected the occurrence POAF were the duration of cardiopulmonary bypass and aortic clamping time. Postoperative factors were increase of C-reactive protein more than 5 g/l and leukocytes more than $10 \cdot 10^9$ U/l, decrease of glomerular filtration rate less than 60 ml/min and hemoglobin less than 100 g/l.

Conclusions: Based on evaluation of the course of POAF, approaches for prevention of complications were grounded. Late emergence of POAF after cardiac surgery and duration of the episode more than 11 hours determined the need for use of amiodarone, antithrombotic drugs within 6 months after bypass surgery to prevent recurrence of AF and late postoperative complications.