Abstract

Impact of patients' follow-up method after Acute Coronary Syndrome on the control of cardiovascular risk factors and on adverse cardiovascular events.

Purpose: Although use of cardiovascular drugs and life-style modification in patients who suffered an acute coronary syndrome (ACS) are firmly established by clinical trials and international guidelines, less is known about the importance of patients' follow-up methods. The aim of this study was to evaluate the impact of a structured, intensive follow-up program (SIFUP) on the control of modifiable cardiovascular risk factors, use of important medications and prognosis after ACS.

Methods: Were enrolled in this randomized controlled study 237 patients admitted for ACS; 2 patients withdrew their consent after randomization, remaining 235 patients for data analysis. After obtaining informed consent, patients were randomly assigned at discharge to SIFUP or to standard care (SC) in cardiology outpatient department (129 patients were assigned to the SIFUP group and 108 to the SC group). All patients were also referred to their general practitioners. SIFUP consisted in 6 previously defined hospital visits during first year and scheduled exercise stress test and echocardiogram at 3 and 12 months. Blood pressure (BP), fasting glucose and lipid levels were measured 9 to 18 months after discharge from hospital, and symptoms of angina pectoris and heart failure were assessed at the same time. Occurrence of adverse events was assessed by telephonic interview and medical records review. Kaplan-Meier and log-rank test were used to perform survival analysis and Cox's proportional hazard models to perform multivariate analysis.

Results: In the 9 to 18 months assessment, less patients in the SIFUP group reported angina pectoris symptoms (6.7% vs. 15.9% of patients of the SC group, p=0.06), but no difference was found in heart failure symptoms. Patients in the SIFUP group had significantly lower fasting glucose levels than patients in SC group [94.0 mg/dl, interquartile range (IQR) 84.5-113.5 mg/dl vs.107.5, IQR 88.7-150.0 mg/dl, p=0.02]; analysing only the diabetic patients, a trend towards lower glucose levels was observed (127.5, IQR 103.5-172.3 mg/dl vs.155, IQR 130.5-199.7 mg/dl, p=0.07). Hypertensive patients in the SIFUP group had significantly lower systolic blood pressure (139.0±21.0

vs. 148.9±23.9 mmHg, p=0.04). No differences were found in cholesterol levels between groups. Patients in the SIFUP group were more frequently prescribed beta blockers (93.9% vs. 79.2%, p=0.002) and angiotensin converting enzyme inhibitors (ACEi) or angiotensin receptor blockers (ARB) (80.6% vs. 67.5%, p=0.048). After a median follow-up of 2.6 years, the composite endpoint of death or hospitalisation for ACS, heart failure, stroke or myocardial revascularization occurred in 45 patients. Actuarial event free survival was 85% in SIFUP and 74% in SC group (p=0.04). Adjusting for age, ejection fraction and previous cardiovascular events, risk of composite endpoint was significantly higher in SC group (hazard ratio 1.99, 95%CI 1.08-3.68).

Conclusion: The SIFUP allowed a better control of BP and glucose levels after ACS. Patients in the SIFUP group reported higher use of beta blockers and renin-angiotensin system modifying medications. These findings in the 9 to 18 months evaluation may have played an important role in the prognosis after ACS, leading to improved event free survival in long-term follow-up.