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Mutli-dimensional prevention program after acute coronary syndrome (ELIPS)

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Background: Guidelines recommend pharmacologic and lifestyle interventions to reduce recurrence of events in patients with coronary and other atherosclerotic vascular disease. Based on our systematic review of tested interventions, we developed the ELIPS program, a multidimensional secondary prevention program targeting multiple cardiovascular risk factors for patients after an acute coronary syndrome (ACS). This programme targets an increase in prescription rates by physicians and/or long term medication adherence by patients.

Objectives: To demonstrate the effectiveness of the ELIPS programme (Multi-dimensional prevention Program after Acute coronary Syndrome), which aims at improving quality of care of patients admitted to hospital with ACS in the Swiss setting.

Methods: A total of 2400 patients will be prospectively included in a multicenter study before and after the implementation of the ELIPS program with a follow-up of 12 months. The primary outcome is a composite of death from any cause, myocardial infarction, documented unstable angina requiring rehospitalization, revascularization (performed at least 30 days after randomization), and stroke. The secondary endpoints are the isolated endpoints of the primary endpoint as well as cardiovascular mortality, and surrogate outcomes such as cardiovascular risk factor control at follow-up.

Expected results: To demonstrate the benefits of the ELIPS program on recurrence rate of cardiovascular events. These results will certainly lead to a generalization of such programs in the field of atherosclerosis.

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A simple prediction score for significant renal artery stenosis in patients with coronary artery disease

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Background: Renal artery stenosis (RAS) is a strong independent predictor of mortality in patients (pts) with coronary artery disease (CAD).

Aim of study: to develop and validate a score predicting RAS in patients with CAD.

Methods: Three hundred consecutive pts (50 females) with significant CAD underwent abdominal aortography following coronary angiography to screen for significant RAS defined as luminal narrowing of > 50%. Univariate and multivariate analyses were performed comparing pts with and without RAS. Significant factors associated with RAS were included in constructing a score that predicts RAS.

The score was internally validated in pts randomly selected from the entire study group (validation group; n = 103), using ROC curves and the Hosmer-Lemeshow goodness-of-fit test.

Results: Twenty-seven pts (9%) had a significant RAS. Univariate predictors of significant RAS were: age > 65 years (OR = 4.5, p < 0.0001), hypertension (OR = 3.6, p = 0.001), and female gender (OR = 3.6, p = 0.015). We found a tendency of more prevalent renal insufficiency (37.1% vs. 21.5%; p = 0.05) and the presence of 2 or more significant CAD lesions (70.4% vs. 50.9%; p = 0.05) in pts with RAS.

Multivariate analysis showed that age > 65 years (OR = 4.1%, 95% CI = 1.6-10.3, p = 0.003) and hypertension (OR = 3.1, 95% CI = 1.2-7.7, p = 0.015) were independent predictors of RAS. The ranged from 0 to 7: 2 points for age > 65 years and hypertension 1 point for female gender, renal insufficiency, and > 3-vessel disease). Internal validation showed a good performance (ROC curve = 0.79 and Chi2 Lemeshow = 3.45). For a score < 2, the negative predictive value is 98%. Applying this criteria, 48.3% of our population would not require systematic abdominal angiography.

Conclusion: The performance of our predictive score was good, and significant reduction in the need to perform systematic abdominal aortography could be expected with the use of this score.

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Effect of Cyclosporine on Left Ventricle Remodeling after Reperfused Myocardial Infarction

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Objective: This study examined the effect of cyclosporine A used at the time of reperfusion, on LV remodeling and function by cardiac magnetic resonance (CMR) in the early days and several months after AMI.

Background: In a human study, administration of cyclosporine A at the time of acute myocardial infarction (AMI) reperfusion was associated with a smaller infarct size. However, experimental data suggest that cyclosporine A has a detrimental effect on left ventricular remodeling.

Methods: 28 patients of the original cyclosporine A study had an acute (day 5) and a follow-up (6 months) CMR study. Cine imaging was used to determine LV volumes, mass, ejection fraction and myocardial wall thickness in infarcted and remote non-infarcted myocardium, and late gadolinium imaging was used to determine infarct size.

Results: There was a persistent reduction of the absolute infarct size at 6 months in the cyclosporine A group compared with the control group of patients (29±15 grams VS 38±14 grams; P=0.04). There was a significant reduction of LV end-systolic volume (and a trend for LV end-diastolic volume; P=0.07) in the cyclosporine A group, compared with the control group, both at day 5 and at 6 months after infarction. There was no significant difference between the two groups in either global LV mass or regional wall thickness of the remote non-infarcted myocardium at day 5 or at 6 months. Attenuation of LV dilatation and improvement of LV ejection fraction by cyclosporine A at 6 months were correlated with infarct size reduction.

Conclusion: Cyclosporine A used at the moment of AMI reperfusion persistently reduces infarct size and does not have a detrimental effect on LV remodeling