more than 1 year before the survey). In total 11 Belgian cardiac centers participated and included patients between October and December 2010.

Results We evaluated 525 patients with stable CAD seen by cardiologists in the outpatient clinic (mean age 68 ± 11 years, 23% women, 28% diabetic patients). A history of ACS was present in 45%, PCI in 52% and CABG in 37%. LVEF was > 50% in 73%, between 35% and 50% in 20% and < 35% in 7%. The majority of patients were in NYHA class I or II (64% and 32%) and 5% was in AF. Laboratory results were available in 70%. Pts were treated with antiplatelet drugs in 94%, beta blockers in 74%, lipid-lowering drugs in 90% (87% statins) and ACE or ARB in 64%. Despite this high use of medication, LDL was ≥ 100 mg/dl in 33% and ≥ 80 mg/dl in 67%. Blood pressure was ≥ 140/90 mmHg in 38% and HgBA1c was > 7% in 47% of diabetic subjects. Regarding lifestyle factors, 13% still smoked, 25% had a BMI ≥ 30 kg/m², 46% had a BMI between 25 and 29.9 kg/m² and 50% performed less physical activity than recommended by ESC guidelines. Only 42% had ever participated in a cardiovascular rehabilitation programme. When considering the 4 AHA quality criteria for secondary prevention (not smoking, LDL < 100 mg/dl, RR < 140/90 mmHg and treatment with antiplatelet drugs), only 37% of patients scored optimal (4/4), while 44% scored suboptimal (3/4) and 19% scored poor (≤ 2/4).

Conclusions Based on the results of this real-life multicenter survey, most CV risk factors are still poorly controlled in Belgian patients with stable CAD, despite a high use of medication. Optimal CV prevention as defined by AHA criteria for quality of care is reached in less than 40% of patients.

How to keep coronary artery disease patients active after the acute rehabilitation phase? The value of an internet-based telerehabilitation programme.

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Background Most cardiac patients return to their sedentary lifestyle after the acute rehabilitation phase. The aim of this study was to evaluate whether the addition of a motion sensor with automated feedback by e-mail or SMS to the conventional rehabilitation programme could result in an increase in daily activity among coronary artery disease patients.

Methods 20 coronary artery disease patients were included in this randomised, controlled trial after admission for PCI or CABG (target population of the study n = 80). All patients were included during phase II of the cardiac rehabilitation programme. Patients with a defibrillator, important arrhythmias or severe heart failure (NYHA class III and IV) were excluded from the trial. The patients in the intervention group (n = 14) were asked to wear the motion sensor continuously during the day for 6 weeks. Each week they uploaded their step data on the web and received new step goals for the next week. The feedback programme was designed to gradually increase the patients' activity level. In the control group (n = 6), the patients wore the motion sensor two times for one week for measurement purposes only (week 1 and 6). These sensors were taped, thereby making it impossible for the patients from the control group to monitor their daily activities. All patients performed a maximal cardiopulmonary exercise test at week 1 and 6 to determine their peak oxygen uptake (VO_2 peak). The primary hypothesis of the trial was that the addition of a telerehabilitation programme to the conventional cardiac rehabilitation programme results in a sustained, increased amount of daily activity outside the rehabilitation centre. The secondary hypothesis was that this also would translate into a greater increase in VO_2 peak. The Wilcoxon and Mann-Whitney test were used to test these hypotheses.

Results For the intervention patients, the Wilcoxon test showed a significant increase in daily activity between week 1 and week 6 ($P = 0.0009$) and a significant increase in VO_2 peak ($P = 0.0098$). In the control group, the respective P values were 0.219 and 0.375.

Table 1 Mean (SD) daily steps and VO2 peak. § indicates a significant increase between week 1 and week 6.

	Week 1	Week 6	Week 6-Week 1	Increase from week 1 to week 6
Intervention group				
Daily steps	5341 (5318)	10391 (6076)	5050 (4504)§	94.55%
VO2 peak (ml/min)	2276 (715)	2574 (808)	298 (290)§	13.09%
Control group				
Daily steps	5155 (2546)	5881 (2579)	726 (1133)	14.08%
VO2 peak (ml/min)	2011 (536)	2163 (750)	152 (244)	7.55%

The Mann-Whitney test comparing the increase in walking steps from week 1 to week 6 between the intervention and control group did also show a trend toward larger increase in the intervention group ($P = 0.054$).

Conclusions The addition of an internet-based telerehabilitation programme to conventional cardiac rehabilitation resulted in a significant increase in daily activity level and VO_2 peak after 6 weeks, as compared to conventional rehabilitation alone. This observation was promising, because it has proven difficult to encourage cardiac patients

to stay active or to increase their daily physical activity level. An internet-based telerehabilitation intervention that uses motion sensors might be a valuable instrument to overcome this difficulty.

Lack of changes in healthy lifestyle in patients at high cardiovascular risk. Δ — Laurence Gabriel, Jacques Jamart, Nemat Ahadi, Philippe Boyazis, Patrick Chenu, Vincent Dangoisse, H. Hammoudé, Emmanuel Morandini, Antoine Guédès, Michel Jeanjean, Baudouin Marchandise, Kamal Mitri, Jean-Louis Paquay, Erwin Schroeder *(CHU Mont-Godinne, Yvoir, Belgium).*

Background Physicians are prescribing increasingly recommended medications in high risk patients. Healthy lifestyle changes are more difficult to obtain. Our aim was to assess the changes over an 11-year period in routine practice on the prescription of cardioprotective drugs and in lifestyle, such as BMI and tobacco, before the occurrence of an acute myocardial infarction.

Methods A consecutive series of 737 patients (149 F, 588 M) undergoing PCI during the period 1998-2008 in our centre for recent myocardial infarction (MI) (less 1 month) were analysed. The selection criteria were similar to the ongoing MONICA-BELLUX registry: documented MI, age 35-74 y, Belgian residents of the province of Luxembourg. Mean age for men was 61.8 y and for women 66.7 y. The proportion of patients with PCI within 1 week after MI increased from 45.2 to 80.5% ($P < 0.001$).

Results

CV risk factors	1998 N = 30	2003 N = 77	2008 N = 37	Comparison Temporal Changes
BMI	26.91	26.9	26.6	NS
History of smoking (%)	57.1	69.9	72.3	NS
Active smoker (%)	35.7	39.8	38.3	NS
Diabetes (%)	23.8	10.8	19.1	NS
Anti HT drugs (%)	40.5	39.8	53.2	*
Hypolipemic drugs (%)	26.2	18.3	51.1	***
CT (mg %)	217	202	175	**
HDL (mg %)	36	37	39	NS
LDL (mg %)	140	122	98	*

Temporal changes were assessed by log regression for % and Spearman's test for continuous variables
* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

Conclusions During the 11-year period marked changes occurred on preventive drug therapy for hypertension and dyslipemia as well as on lipid parameters. We speculate that these changes will improve long-term outcome. However, no changes on BMI or on smoking habits were observed. The high percentage of active smokers remains a matter of concern. These observations are in line with recent data from the Belgian Health Interview Survey (2008) performed in the general population. Lifestyle changes appear to encounter heavy resistance in our population in contrast to the prescription/intake of cardioprotective drugs. Health promotion policies have to be reinforced.

Prognostic value of myocardial viability by delayed-enhanced MR in patients with coronary artery disease and low ejection fraction. Impact of revascularization therapy. Δ — Bernhard Gerber, Michel Rousseau, Sylvie Ahn, Jean-Benoit le Polain de Waroux, Anne-Catherine Pouleur, David Vancraeynest, Agnès Pasquet, Jean-Louis Vanoverschelde (*Cliniques St. Luc, Université Catholique de Louvain, Brussels, Belgium).*

Background Prior work showed that delayed-enhanced cardiac magnetic resonance (DE-cMR) can accurately predict recovery of left ventricular dysfunction in patients with coronary artery disease (CAD). Yet the impact of viability assessment by DE-cMR on prognosis remains incompletely understood. Hence, the aim of the present work was to evaluate the impact of myocardial viability assessment by DE-cMR and of revascularization therapy on survival in patients with low ejection fraction.

Methods and results Survival of 144 consecutive patients (130 men, 65 ±11 y) with CAD and LV dysfunction (EF 24 ± 7%) undergoing DE-cMR for viability was evaluated over a median of 3 years. 86 patients underwent complete revascularization of dysfunctional myocardium (79 CABG, 7 PTCA), while 58 patients remained under medical treatment. 49 patients died. 3-year survival was significantly worse in patients with viable myocardium remaining under medical treatment (48%) than in medically treated patients with non-viable myocardium (77%, $P = 0.02$ by log-rank test) or than in patients with viable or non-viable myocardium undergoing revascularization (88 and 71% survival, respectively, $P =$ ns). Hazard of death of viable myocardium remaining under medical treatment was 4.56 [95% CI 1.93-10.8]. Cox multivariate analysis indicated that interaction of revascularization and viability provided significant additional value ($X2 = 13.1$, $P = 0.004$) to baseline predictors of survival (NYHA class, wall motion score and peripheral arterial disease). Also in 43 pairs of propensity score matched patients, hazard of death (2.5 [95% CI 1.1-6.1, $P = 0.02$]) remained significantly higher for viable myocardium under medical treatment.

Conclusions Without revascularization, presence of viable myocardium by DE-cMR is an independent predictor of mortality in patients with ischemic LV dysfunction. This observation may be useful for preoperative selection of patients for revascularization.