56 Impact of cardiac rehabilitation referral at hospital discharge on 1 year outcome of patients with acute myocardial infarction

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Background: Cardiac rehabilitation (CR) after an acute myocardial infarction (AMI) has a class I recommendation in the present guidelines. However, data about the impact on mortality in Switzerland are not available. Therefore, we analyzed 1-year outcome of AMI patients according to CR referral at discharge.

Methods: Data were extracted from the Swiss AMIS Plus registry and included patients with ST-elevation myocardial infarction (STEMI) and non-STEMI (NSTEMI) enrolled from 2005 to 2016 who were asked to give their informed consent to a telephone follow-up 1 year after discharge. We compared AMI patients with CR referrals at discharge to those without. Patients transferred to other hospitals were excluded. The analyses were performed using multivariable logistic regression.

Results: From 10,141 patients, 1956 (19.3%) refused to participate in follow-up (FU) and of the 8,185 patients with informed consent, 302 were lost to FU. There were 4508 (57.2%) patients with CR referrals compared to 3375 (42.8%) without. CR referrals at discharge to those without. Patients transferred to other hospitals were excluded. The analyses were performed using multivariable logistic regression.

Conclusions: Although the detailed data of CR programs and patient participation were not available for this study, our data from 7883 AMI patients showed a better 1-year outcome for patients with CR referrals than for those without.

57 Impact of cardiac rehabilitation programs among myocardial infarction survivors not undergoing revascularization

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Introduction: Cardiac rehabilitation programs (CRP) are pivotal in the management of myocardial infarction (MI). Patients not undergoing revascularization are substantially less referred to these programs. In addition, this group's functional characterization remains lacking. The aim of this work was to assess the impact of a contemporary CRP in MI survivors not undergoing revascularization during hospitalization.

Methods: Retrospective cohort study of patients admitted to the Cardiology Department of a tertiary hospital for an MI, between 09/2013 and 03/2017. Only those who completed a phase II CRP [and performed a symptom-limited cardiopulmonary exercise test (CPET) at the beginning and end of this program] were included.

We analyzed demographic, clinical, analytical and functional data. CPET parameters under study were peak oxygen consumption (pVO2), percentage of pVO2 (pVO2%) and respiratory exchange ratio (RER).

Results: A total of 349 patients were included (age 59.0±10.5 years, 81.2% male sex, 65.9% ST elevation MI). Of these, 44 (12.6%) were not revascularized during hospitalization (NR group). The NR group had significant differences in terms of sex (65.9 vs 82.6% male sex, <0.01), age (62.1±12.1 vs 58.5±10.2 years, p<0.05), prior history of coronary artery disease (36.4 vs 16.0%, p<0.001), presence of arterial hypertension (68.2 vs 52.1%, p=0.046) and smoking status (50 vs 67.5%, p=0.026) when compared to the revascularized group. No significant differences were present concerning the presence of diabetes (38.6 vs 24.9%, p=0.054), dyslipidemia (61.4 vs 60.6%, p=0.928) or body mass index (27.2±4.1 vs 26.6±3.4, p=0.263).

Baseline pVO2 was significant lower in the NR group (19.6±6.0 vs 23.2±5.9 mL/kg/min, p<0.001). After the CRP (21.1±6.7 sessions) the NR group still had a lower pVO2 (20.8±5.9 vs 24.6±6.1 mL/kg/min, p<0.001). There were no differences in the RER.

Both groups, however, had a significant improvement in pVO2 after the CRP [20.8±5.9 vs 19.9±6.0 mL/kg/min (p<0.05) in the NR group; 24.6±6.1 vs 23.2±5.9 mL/kg/min (p<0.001) in the remainder]. There were no differences between the

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102 Obesity, fitness and the risk of incident atrial fibrillation in healthy adults


Background: Data on the association between cardiorespiratory fitness and new-onset atrial fibrillation among middle aged adults is limited.

Purpose: The aim of this analysis was to investigate the association between fitness, obesity and new-onset atrial fibrillation among apparently healthy adults.

Methods: We investigated 20,245 self-referraled men and women who were annually screened in a tertiary medical center. All subjects were free of atrial fibrillation and had completed maximal exercise stress test according to the Bruce protocol at their baseline visit. Fitness was categorized into age- and sex-specific quintiles (Q) according to Bruce protocol treadmill time. Subjects were categorized at baseline into 2 groups: low fitness (Q1-Q2) and high fitness (Q3–5). The primary end point was new-onset AF during follow-up.

Results: Mean age of study patients was 48±10 years, and 72% were men. A total of 302 (1.5%) events occurred during an average follow-up of 7.5±3 years. Multivariable logistic regression analysis with adjustment for body mass index showed that low fitness and obesity were both independently associated with increased AF risk (hazard ratio 1.30 [95% CI 1.06–1.59] for low fitness and 1.76 [95% CI 1.63–1.90] for obesity). In subgroup analysis, the risk of AF was obesity-dependent, such that in the obese group (≥30 kg/m2) low fitness group showed a significantly higher AF event rate compared with high fitness group (Figure 1: right panel) whereas among non-obese subjects the rate of events was similar between both fitness groups (Figure 1: left panel; p for interaction = 0.02).

Conclusions: Our findings suggest that low cardiorespiratory fitness is associated with increased AF risk. This is especially true among obese, apparently healthy adults.