



ICPC ABSTRACTS

Sessions in alphabetical order, posters at end

242 (717). Cardiac Rehabilitation (Date: 24th May 2005 – Free Paper Session 3.7 (Oral) – (13.30–15:00 Hours))
Aerobic Training and Insulin Sensitivity Improvement in Post Cardiac Surgery Diabetic Patients

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Acknowledgments: Insulin resistance, is a common landmark of type II diabetes mellitus, obesity, especially with central adipose distribution, hypertriglyceridemia, arterial hypertension and the metabolic syndrome patients. The Insulin Resistance and Atherosclerosis Study, IRAS, had already evaluated the relationship between physical exercise intensity and insulin sensitivity demonstrating that those individuals who did not participate on any physical activities, showed a marked improvement on insulin sensitivity when submitted to 3-4 weekly hours of varying degree of physical activity (such as dancing, walking, bicycle).

Purpose: Evaluate if 6 weeks of an aerobic training program based on treadmill and/or bicycle training coupled with 4 consecutive weeks of kalistenic gymnastics with a progressive time lengthening of up to 40 minutes, improves insulin resistance on diabetic patients admitted in our Rehabilitative Cardiovascular Sub-Intensive Unit in the 6th- 7th day of post cardiac surgery.
Methods: 466 diabetic patients, 242 males (52%) e 224 females(40%), admitted from January 2001 to September 2004, were subjected to serial glicemic controls before breakfast, before lunch and supper, two hours after lunch and supper through the use of Glucocard Memory PC-Menarini, in the first five and in the last three days of recovery. Moreover, at admission and dimission, total cholesterol, HDL and LDL cholesterol, triglycerides, and glycosylated hemoglobin values, insulin and oral hipoglicemic dosages were reported.

Results:

Conclusions: In our experience, independently of weight loss, physical activity immediately after cardiac surgery, even if not particularly intense, improves insulin sensitivity, and represents a key moment in the correction of cardiac risk factors.

259 (728). Cardiac Rehabilitation (Date: 24th May 2005 – Free Paper Session 3.7 (Oral) – (13.30–15:00 Hours))
Factors Associated with Failure of Smoking Cessation in Cardiac Rehabilitation Patients

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Objective of study: To examine the demographics and smoking habits of patients and their household as predictors of smoking cessation in graduates from the Cardiac rehabilitation programme.

Method: Patients who had undergone a comprehensive phase 2 cardiac rehabilitation programme with education on smoking cessation from 1995 to June 2002 were assessed with a telephone survey. Questionnaire of the survey consisted of twelve questions on possible predictors of smoking cessation. A descriptive analysis was performed.

Results: A total of 271 patients were surveyed and 29 refused to answer the questionnaire. There was a male preponderance M/F (212/59). Out of 112 male smokers, 95(85%) quitted, 11 decreased smoking while 6 remained same. The 6 female smokers all stopped smoking. The lighter smokers had a trend of higher quit smoking rate (92%) than heavier smokers (76%). Starting smoking before the age of 10 was associated with a higher fail rate (25%). Only 64% of the first attempt to quit smoking was successful in smoking cessation while the success rate was 88% if there was a previous attempt. 6/18(35%) fail to quit had smoker in the same household; 18/118(15%)in quitters, 24/118(20.3%) in all smokers and overall 39/242(16.1%).

	Admission	dimission	T Student		Admission	dimission	T Student
Fasting Glicemia	181 mg/dl	104 mg/dl	P=0.0001	HDL–Cholesterol mg/dl	38	54	P=0.0001
Pre-lunch glicemia	186 mg/dl	122 mg/dl	P=0.0001	LDL–Cholesterol mg/dl	154	98	P=0.0001
Post-lunch glicemia	244 mg/dl	191 mg/dl	P=0.0001	Triglicerides mg/dl	184	143	P=0.0001
Pre-supper glicemia	209 mg/dl	141 mg/dl	P=0.0001	HbA1c mg/dl	11 l	8	P=0.0001
Post-supper glicemia	217 mg/dl	148 mg/dl	P=0.0001	Insulin	40	28	P=0.0001
Total Cholesterol	220 mg/dl	176 mg/dl	P=0.0001				P=0.0001

3.66-19.17), family history of hypertension (OR 4.33, 95% CI 2.21-8.52), low HDLC/LDL ratio (OR 2.82, 95% CI, 1.24-7.22), type 2 diabetes (OR 2.99, 95% CI, 1.19-6.68). Hypercholesterolaemia was marginally associated (OR 2.53, 95% CI 0.92-6.89). The risk factors were also related to target organ damage.

Discussion: An association exists between CHD and the major risk factors for cardiovascular diseases in black peri-urban South Africans. A family history of myocardial infarction was strongly associated with CHD, suggesting that genetic factors may play a significant role in the development of CHD in people of African descent.

152 (656). Risk Prediction Scores – II (Date: 24th May 2005 – Free Paper Session 3.8 (Oral) – (13.30–15:00 Hours))

European Risk Chart for Fatal Cardiovascular Events, Tailored to Germany (Score Deutschland)

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Objective: To provide an easy to use risk scoring system to predict 10 year risk for fatal cardiovascular diseases (CVD) due to age, sex, and the classical risk factors smoking, hypertension and hypercholesterolemia, based on European cohort studies and tailored to Germany.

Methods: The SCORE project assembled a pool of datasets from 12 European prospective cohort studies on CVD endpoints and accumulated 2.7 million person years. SCORE calculated 10 year risks of fatal cardiovascular events for high-risk and low-risk regions of Europe. The HeartScore project combines relative risks from the SCORE project with the country specific official mortality data and the country specific data on the distribution of classical risk factors to produce risk charts for single European countries. For the German risk chart, risk factor prevalence was obtained from a representative national health survey. The risk scoring system is provided as a paper chart and as a freely available computer program.

Results: 10 year risks for fatal CVD in Germany lie between those of the high-risk and low-risk charts from SCORE. For example, the 10 year risk for a male smoker, age 65, with 140 mmHg systolic blood pressure and 5 mmol/L total cholesterol is 15% in the high-risk region (Finland, Norway, Denmark), 12% in Germany, and 8% in the low-risk region (Belgium, Italy, Spain).

Discussion and Conclusions: Risk charts are a valuable tool for decision making and risk communication in a clinical setting. Absolute risks for cardiovascular disease are known to show considerable regional variability. Therefore, regional risk charts are needed.

155 (662). Risk Prediction Scores – II (Date: 24th May 2005 – Free Paper Session 3.8 (Oral) – (13.30–15:00 Hours))

The Score Risk Function Applied on Population Surveys in Norway 2000-2003

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Background: European guidelines on cardiovascular disease (CVD) prevention in clinical practice (De Backer et al. 2004, Atherosclerosis) include a new risk algorithm, the SCORE risk function (Conroy et al. 2003, Eur Heart J). SCORE estimates the probability of cardiovascular death within 10 years based on age, blood pressure, cholesterol and cigarette smoking. An estimated risk of 5% or above qualifies for targeted intervention. SCORE divides the European population into high risk and low risk regions, where Norway is classified as a high risk country. SCORE also allows the estimation of total CVD risk to be projected to age 60 for young individuals.

Objective: To study the distribution of 10-year absolute risk of fatal cardiovascular disease assessed by SCORE in a Norwegian population, and estimate the percentage of the population that qualifies for preventive treatment according to age and gender.

Methods: Data was obtained from large epidemiological surveys conducted by the Norwegian Institute of Public Health in five Norwegian counties in 2000-2003. All inhabitants in selected age groups were invited. The participation rate was 49.1%, and the investigation includes 38 530 men and women from these data sets. There were no exclusion criteria with regard to previous cardiovascular disease or drug use. The SCORE algorithm was applied on this population using the high risk coefficients of the SCORE model.

Results: The results are presented in the Table

Conclusions: A considerable percentage of young men reached the level where preventive treatment is recommended, not based on the risk they have today, but based on a risk they will attain in the future. Moreover, for men at age 59 and older, the majority qualified for preventive treatment. Few women can be considered at high risk evaluated by SCORE, also after projection to age 60, with an exception for the oldest women, where almost all qualify for prevention.

194 (685). Risk Prediction Scores – II (Date: 24th May 2005 – Free Paper Session 3.8 (Oral) – (13.30–15:00 Hours))

Contribution of Sociodemographic Factors to Cardiovascular Risk Prediction in 100,776 Participants in the Vorarlberg Health Monitoring & Promotion Programme (VHM&PP)

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Objective: In a recent study we showed that the cardiovascular risk function developed by the European SCORE group proved an appropriate tool for cardiovascular risk estimation in Austrian clinical practice. The SCORE risk function predicts the individuals' 10-year absolute risk for fatal events based on age, smoking, systolic blood pressure, and either total cholesterol or the

Proportions (%) with a 10 year risk of $\geq 5\%$ now or if projected to age 60 for developing a fatal CVD event.

	Age groups							
	30-31		40-41		45-46		59-61	75-77
	Now	Projected	Now	Projected	Now	Projected	Now	Now
Men (n=17393)	0	48.2	0	60.7	1.4	66.8	77.9	100
Women (n=21137)	0	0.4	0	1.9	0	4.1	14.2	99.3

cholesterol/HDL ratio. However, there were additional variables showing a significant effect on cardiovascular risk in addition to the SCORE. The aim of this paper was to assess the specific contribution of sociodemographic factors to cardiovascular risk, in addition to the risk explained by established risk factors.

Methods: The Vorarlberg Health Monitoring and Promotion Programme (VHM&PP) in Austria is an ongoing prospective, longitudinal health programme consisting of repeated examinations performed by general practitioners and internists. Data recording started in 1985 and mortality information was linked to the database by 2001. Participants are free-living citizens across the adult age spectrum (20–95 years), and both sexes are represented. In the current study, risk profiles and mortality outcomes of 100,776 individuals (44,179 men and 56,597 women) who were followed up for at least 10 years were analysed.

Results: A total of 1837 deaths (1.8%) from cardiovascular disease within 10 years of follow-up was observed, 981 (2.2%) in men and 856 (1.5%) in women. The SCORE function correctly estimated CVD mortality revealing an Area-Under-the-Curve value of 0.92 (95%CI 0.91–0.92) in Receiver-Operating-Characteristic analyses. However, multivariate analyses showed that obesity in men only, and for both sexes increased levels of glucose, triglycerides, gamma-glutamyl-transferase, job and marital status significantly contribute to the SCORE as additional independent risk factors. The SCORE underestimated the risk of male blue collar worker by 0.4%, the risk of female blue collar worker by 0.3%. The actual mortality of widowed men was 1.1% higher, the risk of widowed women 0.7% higher than predicted by the SCORE.

Discussion and Conclusion: The high performance of the SCORE confirms the role of the well established risk factors blood pressure, cholesterol, and smoking. However, our analyses showed that social risk factors also contribute independently to risk, not mediated through the classical risk pathways. The fact that blue collar respondents had a worse prognosis may be explained through psycho-social mechanisms which are strongly class related. Second, there is higher compliance with treatment regimens among the more affluent, which we have also demonstrated with VHM&PP.

246 (667). Risk Prediction Scores – II (Date: 24th May 2005 – Free Paper Session 3.8 (Oral) – (13.30–15:00 Hours))
Comparison of Risk Estimates in Metabolic Syndrome Using the Framingham, Procarn and Score Methods

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Objective: Risk estimation methods have been developed over the years to calculate risk of coronary heart disease (CHD) and current recommendations base intervention on such total burden of risk. We applied three methods derived from major projects (Framingham Risk Score [FRS], PROCAM and SCORE) to a nondiabetic population with metabolic syndrome (MS) components.

Methods: We prospectively screened 9,137 participants in Western Switzerland from 2001–2004 (60% women, aged 20–69y) for cardiovascular risk factors (RF) using standardized methods (BMI, waist, blood pressure, lipids, glucose, lifestyle, current drug history) with a mobile unit. Metabolic syndrome was defined according to ATPIII (JAMA 1999;285:486). Ten-year CHD risk was calculated with FRS (JAMA 1998;279:1837) and PROCAM (Circulation 2002;105:310), and the 10-year total cardiovascular risk with SCORE (Eur Heart J 2003;24:987). Analyses were stratified by 10-y age categories and gender. Threshold for intensified RF intervention was 20% (FRS, PROCAM) and 5% (SCORE).

Results: Risk estimates greatly varied among methods and men had greater risk than women (FRS $8.7 \pm 7.2\%$ [men] vs. $3.4 \pm 3.4\%$ [women]; PROCAM $4.4 \pm 7.1\%$ vs. $1.0 \pm 2.0\%$; SCORE $1.6 \pm 2.6\%$ vs. $0.9 \pm 2.3\%$). Furthermore, participants with MS (n=805 men [8.6%], n=317 women [14.8%]) presented greater risk than non-MS individuals with any of the three methods. The number participants requiring intensified RF intervention also varied (FRS n=345, PROCAM n=56 and SCORE n=263).

Conclusions: Large discrepancies existed in risk estimates and number of participants needing intensified RF intervention across the three methods. With the worldwide epidemic of MS, there is an urgent need for CHD prevention to develop a risk estimate method applicable in clinical practice to individuals with MS or MS components with the corresponding recommendations for intensified RF intervention.

212 (695). Risk Prediction Scores – II (Date: 24th May 2005 – Free Paper Session 3.8 (Oral) – (13.30–15:00 Hours))

Prevalence of Cardiovascular Risk Factors in Coronary Heart Disease Patients with Different Low-Density Lipoprotein Phenotypes

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Low-density lipoprotein (LDL) heterogeneity is now well recognized as an important factor reflecting differences in lipoprotein composition, size, metabolism and genetic influences. There is an abundant evidence of data supporting the clinical importance of small, dense LDL in the development of coronary heart disease.

Objective: To assess the prevalence of cardiovascular risk factors in coronary heart disease patients with LDL subclass patterns A and B

Study population: 1220 coronary patients (63,7% male and 36,3% female, mean age 61.3 ± 11) with a diagnosis of coronary artery disease (CAD).

Methods: Demographic, anamnestic and clinical data as well as complete lipid profile – total cholesterol (TC), low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C) and triglycerides (TG) have been obtained. Triglyceride/high-density lipoprotein cholesterol (T/HDL-C) ratio has been calculated. T/HDL-C ratio >3.8 identified patients with LDL phenotype B while ratio <3.8 identified LDL phenotype A patients.

Results and discussion: Using a TG/HDL cholesterol cutpoint of 3.8, LDL profile in 60,5% of patients has been qualified as phenotype A and in 39,5% - as phenotype B. The incidence of CHD risk factors was higher in phenotype B patients as compared to phenotype A subjects (hypertension – 85.1% vs. 72.2%, $p<0.001$, diabetes mellitus – 13.9% vs. 5.5%, $p<0.001$, obesity – 46,7% vs. 28.0%, $p<0.001$, reduced physical activity – 64.5% vs. 57.0%, $p<0.001$). Metabolic syndrome has been established in 85.1% of phenotype B patients, while this cluster of metabolic disorders have been detected only in 36.8% phenotype A subjects. The incidence of myocardial infarction, presence of multiple high-grade coronary lesions were also higher in phenotype B patients as compared to their counterparts with phenotype A (22.2% vs. 17.2%, $p<0.05$ and 13,7% vs. 8.7%, $p<0.05$).

Conclusion: LDL phenotype B was established in 39.5% of coronary heart disease patients. Atherogenic LDL subclass pattern B correlated with higher incidence of major CHD risk factors.