

survey of the Massalombarda Project. PA was assessed by using the Minnesota Leisure Time Physical Activity Questionnaire and classified as low (<450 METs.min.wk-1), moderate (450-750 METs.min.wk-1) and high (>750 MET.min.wk-1).

Results. A total of 55.5% of the study population was classified as either moderately or highly physically active. The highest proportion of subjects not adhering to the PA recommendation (60%) was found in the obese group. After adjustment for all studied correlates. The students, subjects living alone, with a BMI below 30 kg/m², and those rating their health from satisfactory to very good, had increased odds of being in the high PA category. Repeating adjusted analysis by gender, education and kind of cohabitants were significantly associated with the PA level in men, while BMI and marital status in women.

Conclusion. BMI, but also sociodemographic factors, are strong determinant of adherence to PA recommendation in large population sample.

THE IMPACT OF LECITHIN: CHOLESTEROL ACYLTRANSFERASE ON ENDOTHELIAL FUNCTION: STUDY ON A GENETICALLY MODIFIED MODEL

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Familial LCAT deficiency (FLD) and Fish eye disease (FED) are two rare diseases due to about 60 different mutations in LCAT gene, with an autosomal recessive transmission. FLD and FED patients are characterized by a severe hypoalphalipoproteinemia. Since an altered vascular contractility and endothelial dysfunction are predisposing factors to cardiovascular diseases and this pathological sight is often associated to hypoalphalipoproteinemia, we investigated the vascular function in an animal model of LCAT deficiency. The study was performed on five wild-type mice as controls, five heterozygous LCAT knock-out mice and five homozygous LCAT knock-out mice. At the age of six months all mice were sacrificed, the thoracic aorta was removed from each mouse and then the vessels were cleaned of fat and connective tissue, cut into 3 mm rings and suspended in organ baths containing Krebs' solution.

The rings were connected to isometric tension transducers coupled with a digital recording system able to record the entity of vascular contraction or dilatation. Increasing doses of different stimuli such as norepinephrine, acetylcholine, L-arginine methyl ester (L-NAME) and sodium nitroprusside were added to the bath, to obtain cumulative concentration-response curves. We observed that the rings of thoracic aortas from homozygous and heterozygous LCAT knock-out mice were less responsive ($p < 0.01$) to the contractile stimulus norepinephrine and to the vasodilating stimulus acetylcholine than those from wild-type mice. No differences were observed among the three groups in their response to sodium nitroprusside, whereas homozygous and heterozygous LCAT knock-out mice showed a lower contraction following L-NAME stimulus vs wild-type mice. In summary LCAT deficiency, in a mouse model, is associated with an altered vascular contractility and endothelial dysfunction. Studies on the expression of genes affecting the vascular tone are ongoing in the three groups, to elucidate the mechanisms behind the observed results.

IN RENAL TRANSPLANT RECIPIENTS BONE MARROW-DERIVED PROGENITOR CELLS ARE RELATED TO ENDOTHELIAL RESPONSE TO HYPEREMIA AND TO PARATHYROID HORMONE LEVELS

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Introduction. Patients undergoing renal transplantation are at high risk for vascular mortality, and endothelial dysfunction, a systemic disorder associated with cardiovascular events, may contribute to modulate cardiovascular complications in these patients.

Methods and Results. We investigated in 120 renal transplant recipients the relationship between bone marrow-derived progenitor cells (CPCs and EPCs) and both endothelial response to hyperemia, evaluated through digital pulse amplitude tonometry (PAT), and clinical, biohumoral and genetic parameters. We observed significantly lower RHI values according to the presence of three or more risk factors ($p = 0.04$). EPCs were significantly correlated with RHI ($p = 0.04$), and PTH ($p = 0.007$). Among biohumoral parameters PTH showed a tendency to increase from the highest to the lowest tertile of RHI. In patients who underwent dialysis for more than five years, lower RHI values and EPCs number, and higher PTH concentrations in comparison to those observed in patients with less than one year dialysis time were observed. As concerns eNOS gene polymorphisms a trend to lower, even if not significantly, RHI value in subjects 4a/4a homozygotes was found.

Conclusions. The present study provides evidence for the relationship between progenitor cells and endothelial function detected by non invasive peripheral arterial tonometry and PTH, a new independent cardiovascular risk factor.

CARDIOVASCULAR RISK STRATIFICATION: THE ROLE OF CAROTI ULTRASONOGRAPHY

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Introduction. The prevention of atherosclerosis is based on the predictive power of risk factors such as age, sex, total cholesterol, HDL-cholesterol, current smoking, hypertension and diabetes mellitus. The predictive power of traditional risk factors is however low in the great majority of population classified as having an intermediate cardiovascular risk. In these patients, non invasive techniques, for instance B-mode ultrasound imaging combined with a Doppler assessment of flow, may identify the presence of atherosclerotic vascular lesions that may suggest a more aggressive approach.

Material and Methods. In a group of 258 subjects (133 women and 125 men) free of cardiovascular disease we evaluated: 1) the probability of having a cardiovascular event in the next 10 years