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ABSTRACTS

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Methods: 193 asymptomatic patients consecutively referred to a lipid clinic were selected for the study according to the following inclusion criteria: hyperlipemia, defined as total cholesterol ≥ 240 mg/dL and/or triglycerides ≥ 200 mg/dL after at least 3 months of lipid lowering diet; 10-year absolute risk for cardiovascular events estimated with a National algorithm including non-lipid risk factors for atherosclerosis. High-resolution B-mode ultrasonography was used to assess for the presence of carotid plaque, defined as a focal intimal-media thickening ≥ 1.4 mm.

Results: Carotid plaques were found in 73 patients (37.8%). Multivariate regression excluded any association of lipid levels with the extent of carotid atherosclerosis, showing an independent predictive role for age and hypertension (systolic blood pressure). In particular, age over 58 years, and systolic blood pressure over 140 mm Hg were independent predictors of the occurrence of plaque, irrespective of lipid levels.

Conclusions: The prevalence of carotid plaque, as an index of atherosclerotic burden, is substantial in dyslipidemic patients, even if at low risk for cardiovascular events according to risk algorithms widely used in clinical practice. In this context, office-based screening for carotid atherosclerosis could be useful to better select patients for more aggressive intervention

Tu-P9:342 ENDOTHELIAL DYSFUNCTION PRECEDES ARTERIAL WALL STIFFENING IN CHRONIC RENAL INSUFFICIENCY IN CHILDREN

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Objective: Cardiovascular disease (CVD) accounts for most deaths in patients with pediatric onset of End Stage Renal Disease (ESRD). Few data exist on the extent of CVD in children with Chronic Renal Insufficiency (CRI). We aimed to establish vascular wall properties and endothelial function in children with various stages of CRI.

Methods: In 26 CRI children, of which 9 conservatively (CON) treated (GFR 10-60 ml/min/1.73m²), 7 dialysis (Dx), and 10 transplanted patients (Tx), and in 25 healthy age-matched controls, we assessed Intima Media Thickness (IMT), Distensibility Coefficient (DC) and Incremental elasticity (Einc) of both carotid arteries by B- and M-mode ultrasound and Flow Mediated Dilatation (FMD) of the brachial artery.

Results: Compared to controls, both Dx and Tx patients, but not CON patients, had significantly decreased DC (43.52 \pm 11.50 and 47.42 \pm 9.58 vs. 63.67 \pm 15.05*10⁻³/kPa, p=0.004 and p=0.002, respectively) and increased Einc (0.27 \pm 0.08 and 24 \pm 0.052 vs. 0.18 \pm 0.04 kPa/10³; p=0.013 and p=0.002, respectively). Mean FMDs of all patients and of CON patients were significantly decreased as compared to controls (6.39 and 5.21 \pm 2.26 vs. 8.46 \pm 3.27, p=0.045 and p=0.05, respectively). Mean IMT was equal in patients and controls.

Conclusions: Arterial wall stiffening is prominently apparent in children with ESRD, but not in pre-dialysis patients. On the contrary, endothelial function is impaired in young pre-dialysis patients. These results imply that therapy should focus on preservation of endothelial function in children with CRI in order to prevent life threatening cardiovascular disease.

Tu-P9:343 SMOKING HABITS AS DETERMINANT OF CAROTID IMT IN GENDER SPECIFIC MODELS

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Objective: to evaluate the effect of smoking habits on carotid artery intima media thickness (IMT) in gender specific models.

Methods: 936 women and 869 men were recruited for the study. Among men there were 358 never-, 298 former- and 213 current-smokers; corresponding figures for women were 755, 79, 102, respectively. Among the 692 former/current smokers, 299 men and 136 women were light-smokers (packyear<30) and 212 men and 45 women were heavy-smokers (packyear \geq 30).

Results: In never smokers gender was a determinant of carotid IMT (0.92 \pm 0.27 vs 0.95 \pm 0.26; p=0.029). The inclusion into the analysis of former/current smokers strongly reduced the between sexes differences in IMT (p=ns, after data adjustment for confounding variables). In men, IMT was higher in current-smokers, lower in former- and lowest in never-smokers (p=0.018). In women, although a similar trend was observed, the differences

between current-, former- and never-smokers did not reach the statistical significance (p=0.26). Similar results were obtained when the population studied was stratified in never-, light- or heavy smokers.

Conclusions: Smoking habits reduce the between sexes differences in IMT usually observed when only never-smokers are considered.

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Tu-P9:344 THE METABOLIC SYNDROME AND PRECLINICAL ATHEROSCLEROSIS IN MIDDLE-AGED JAPANESE MEN

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Background: The metabolic syndrome (MetSx) is predisposed to atherosclerosis. We investigated the association between MetSx and preclinical atherosclerosis by ultrasonic evaluation of intima-media thickness (IMT).

Methods Participants: were 250 randomly selected community-based Japanese men aged 40 to 49 without a prior history of cardiovascular disease. Average IMT (AV-IMT) was calculated from the mean of both the right and left carotid arteries of the 1-cm lengths at 8 locations. MetSx was defined as waist circumference (WC) ≥ 85 cm and the co-occurrence of any 2 or more of the following 3 abnormalities: fasting blood glucose ≥ 110 mg/dl; blood pressure 130/85 mmHg or use of antihypertensive therapy; triglycerides ≥ 150 mg/dl or HDL ≤ 40 mg/dl.

Results: There were 54 participants with MetSx (22%). Except for HDL, the components of the criteria were higher among the participants with MetSx (e.g. WC: 83.2 \pm 7.5 vs 92.7 \pm 6.8 cm, P<0.0001, triglycerides: 142 \pm 72 vs 197 \pm 79 mg/dl, <0.0001), and alcohol consumption was higher among those with MetSx (24.4 \pm 27.0 vs 33.0 \pm 32.0 g of ethanol/day, P=0.047). Age and smoking history were not different among the two groups (age: 45.0 \pm 2.9 vs 45.8 \pm 2.7 years, P=0.08; smoking: 21 \pm 17 vs 19 \pm 19 pack-years, P=0.65). AV-IMT was significantly thicker among those with MetSx than those without (0.61 \pm 0.06 vs 0.64 \pm 0.07 mm, P=0.0003). Multiple regression analysis showed that age (P=0.0005) and MetSx (P=0.0009) were the significant determinants of AV-IMT.

Conclusion: MetSx has a significant effect on development of preclinical atherosclerosis in middle-aged Japanese men.

Tu-P9:345 DETERMINANTS OF AN INCREASED INTIMA MEDIA THICKNESS IN PATIENTS WITH FAMILIAL COMBINED HYPERLIPIDEMIA (FCH)

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Objectives: In this study, we aimed to investigate which of the clinical and biochemical characteristics of FCH patients contributes most to their increased risk of cardiovascular disease, by determining the associations of a broad variety cardiovascular risk factors with the intima media thickness (IMT) of the common carotid artery (CCA) in 94 FCH patients and 216 non-affected relatives.

Methods: All subjects filled out a questionnaire about their smoking- and drinking habits, medical history and medication use, and venous blood was drawn in the fasting state after discontinuation of lipid lowering medication (if used). IMT of the far wall and near wall of both CCAs was measured by high-resolution B-mode ultrasonography.

Results: FCH patients had a more atherogenic lipoprotein profile, were more obese, and were more insulin resistant when compared to their non-affected relatives. In addition, their mean IMT (adjusted for age and gender) was 0.033 mm thicker (p=0.006). In multivariate analysis, the waist-to-hip ratio, the apoB-concentration, the pulse pressure and the ratio of very low density lipoprotein-cholesterol to triglycerides were significant and independent predictors of IMT in FCH patients, explaining 51% of the variation in age- and gender-adjusted IMT.

Conclusion: Abdominal obesity, a higher blood pressure and dyslipidemia characterised by both an increased number of atherogenic particles and the presence of highly atherogenic remnant lipoproteins play an important etiological role in the development of cardiovascular disease in FCH-patients.