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ABSTRACTS
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PO32-534 ENDOTHELIAL FUNCTION AND NOVEL VASCULAR RISK FACTORS IN PSEUDOEXFOLIATION SYNDROME

C. Koz[1], F. Turkucu[2], O. Gurbuz Koz[2], M. Yokusoglu[1], O. Baysan[1], A. Yarangumeli[2], M. Uzun[1], G. Kural[2]. [1]*Gulhane Military Medical School, Department of Cardiology, Ankara, Turkey;* [2]*Ankara Numune Education and Training Hospital 1st Eye Clinic, Ankara, Turkey*

Background and aims: Pseudoexfoliation syndrome (PES) is characterized by ocular and extraocular manifestations. Recent trials suggested a possible role between PES and increased risk of cardiovascular disease. We tried to delineate this association via determination of early cardiovascular cardiovascular risk markers such as brachial artery dilatation and carotis intima-media thickness in patients with PES.

Methods: Twenty-six PES patients diagnosed eith ocular examination and twenty-four healty controls were enrolled in the study. Plasma lipids, Lipoprotein a, apolipoprotein A and B, homocysteine a, urine proteine and albumine were measured. Endothelial dependent and independent brachial artery dilatation and carotis intima-media thickness were also determined.

Results: PES patients had significantly higher levels of lipoprotein a, Apolipoprotein A, homocysteine, urine protein excration than controls. But flow mediated dilatation and trinitroglycerine mediated dilatation were significantly lower in those patients. Only independent predictors of PES were trinitroglycerine mediated dilatation and homocysteine.

Conclusion: We found that PES patients had high non traditional coronary risk factors such as lipoprotein a, apolipoprotein A and homocysteine. Moreover those patients had impaired brachial artery dilatation but increased carotis intima-media thickness. These changes both in carotid and brachial arteries may be a early marker of increased future cardiovascular risk.

PO32-535 BRACHIAL ARTERY INTIMA-MEDIA THICKNESS AND ECHOGENECITY ARE RELATED TO THE ATHEROSCLEROSIS BURDEN AT WHOLE BODY MAGNETIC RESONANCE ANGIOGRAPHY

L. Johansson[1], M. Rönn[2], T. Hansen[1], H. Ahlström[1], L. Lind[2]. [1]*Dept of Radiology, University Hospital, Uppsala,Sweden;* [2]*Dept of Medicine, University Hospital, Uppsala,Sweden*

Background and aim: The brachial artery is seldomly affected by clinically overt atherosclerosis. The value of measurements of brachial artery wall characteristics is therefore unknown. The present study therefore aims to relate brachial arterial wall characteristics to those seen in the carotid artery, as well as to other main arteries.

Material: In the Prospective Study of the Vasculature in Uppsala Seniors (PIVUS) study, a population-based study of 1016 subjects aged 70, intima-media thickness (IMT) and the grey scale median of the intima-media complex (IM-GSM) were assessed by ultrasound in both the brachial and carotid arteries. The degree of stenosis in the aorta, the carotid and renal arteries and in the arteries in the legs was evaluated by whole body magnetic resonance angiography (WBMRA), and a weighted index of the total atherosclerotic burden was calculated.

Results: Brachial artery IMT was related to both carotid artery IMT ($p=0.0012$) and carotid plaque size ($p= 0.0050$) at ultrasound, and to a total atherosclerotic score at WBMRA ($p=0.0005$). Brachial artery IM-GSM was related to both carotid artery IM-GSM ($p<0.0001$) and carotid plaque GSM ($p<0.0001$) at ultrasound, and inversely to the total atherosclerotic score at WBMRA ($p=0.014$).

Conslusion: Although brachial artery plaques were not seen at ultrasound, thickness and echogenecity of the brachial artery wall were related to carotid plaque and echogenecity in the carotid artery, as well as to the total stenosis burden at WBMRA. Thus, evaluation of brachial artery wall characteristics might therefore be of value in the assessment of atherosclerosis.

PO32-536 ASSOCIATION BETWEEN LIPID PEROXIDATION AND CAROTID ARTERY INTIMA MEDIA THICKNESS (IMT) IN A EUROPEAN POPULATION STUDY (IMPROVE PROJECT)

J. Karppi[1], K. Nyyssönen[1], T. Nurmi[1], T. Kananen[1], D. Baldassarre[2], R. Rauramaa[3], U. de Faire[4], A.J. Smit[5], E. Mannarino[6], P. Giral[7], E. Tremoli[2]. [1]*Research Institute of Public Health, University of Kuopio, Kuopio, Finland;* [2]*Department of Pharmacological Sciences, University of Milan, Milan, Italy;* [3]*Kuopio Research Institute of Exercise Medicine, Kuopio, Finland;* [4]*Division of Cardiovascular Epidemiology, Institute of Environmental Medicine, Department of Medicine, Karolinska Institutet, Stockholm, Sweden;* [5]*Department of Medicien, University Hospital Groningen, Groningen, The Netherlands;* [6]*Internal Medicine Angiology and Atherosclerosis Disease, Department of Internal Medicine and Experimental Medicine, Perugia, Italy;* [7]*Unites de Prevention Cardiovasculaire, Groupe Hopital Pitie-Salpetriere, Paris, France*

The aim of this study was to evaluate the relationship between lipid peroxidation and cross-sectional intima-media thickness (IMT) in a European multicenter study (Carotid IMT and IMT progression as Predictors of Vascular Events in a High Risk European Population project, IMPROVE). Seven clinical centres were included. Two centres were in Italy, two centres in Finland, and one centre in Sweden, in The Netherlands and in France.

Of over 3600 subjects participating in IMPROVE, a randomized subgroup of 560 men and women were included in lipid peroxidation assays at the baseline visit. Serum LDL conjugated dienes were measured spectrophotometrically in 554 subjects, and F2-isoprostanes in 24-hour urine of 544 subjects by gas chromatography-mass spectrometry. IMT was measured by B-mode ultrasound. The readings of the ultrasound scannings were performed in one Central Reading Centre.

Women had significantly higher urinary F2-isoprostane excretion (1.41 ± 0.06 μg/mg creatinine) than men (1.17 ± 0.06 μg/mg creatinine), but there was no gender difference in LDL conjugated dienes. There was a significant decreasing trend ($P<0.0001$) in serum LDL conjugated dienes from Northern to Southern part of Europe. After adjustment for age, gender, center, sonographer and reader, conjugated dienes did not associate with any IMT variable. However, the IMT mean of internal carotid arteries increased significantly ($p=0.0201$) with the increasing content of F2-isoprostanes in urine.

Urinary F2-isoprostanes may be an indicator of increased atherosclerosis. Interestingly, serum LDL conjugated diene content was increased in Northern part of Europe as compared with the Southern part.

PO32-537 INCREASED VASCULAR DIAMETER AND DECREASED PULSE WAVE VELOCITY IN OBESE CHILDREN

F. Dangardt[1], W. Osika[1], L. Gan[1], R. Volkmann[1], S. Mårild[2], P. Friberg[1]. [1]*Dept of Molecular and Clinical Medicine, Sahlgrenska Academy, Sahlgrenska University Hospital, Göteborg, Sweden;* [2]*Dept of Pediatrics, Sahlgrenska Academy, Sahlgrenska University Hospital, Göteborg, Sweden*

Background and Aims: Childhood obesity confers an increased risk of vascular changes and adult cardiovascular disease. We wanted to test if obese adolescents had an increased arterial diameter in peripheral arteries and, as a consequence, a lower pulse wave velocity (PWV) as a commonly used marker for arterial stiffness, a view which partly contrast the existing opinion.

Methods: 31 obese children (13.9 ± 1.6 years) and in 18 matched lean controls (14.3 ± 2.2), were investigated with a new very high resolution ultrasound device (55MHz, Visualsonics, Toronto, Canada). Images from the right radial artery (RA) and the right dorsal pedal artery (DPA) were collected and analyzed off line. PWV was measured by tonometer (SphygmoCor®).

Results: Both RA and DPA diameters were larger in the obese group than in the lean group. PWV was lower in the obese group than in the lean

	Obese (n=31)	Lean (n=18)	*P*-value
BMI z-score	4.46 ± 1.92 (1.28-6.17)	0.10±0.65 (-1.32-1.30)	<0.0001
SBP (mmHg)	114 ± 9 (99-136)	107 ± 9 (90-120)	0.01
DBP (mmHg)	58 ± 9 (42-75)	66 ± 6 (59-78)	0.0012
Diameter of radial artery (mm)	1.819 ± 0.348	1.522 ± 0.355	0.006
Diameter of dorsal pedal artery (mm)	1.461 ± 0.500	0.984 ± 0.258	0.0006
Pulse wave velocity (m/s)	6.2 ± 0.8	7.0 ± 0.9	0.001