P.053: PROGNOSTIC SIGNIFICANCE OF FLOW MEDIATED DILATATION OF THE BRACHIAL ARTERY IN HYPERTENSIVE PATIENTS.

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in the levels of cholesterol, triglycerides, glucose. Betaxolol has been well tolerated in most patients.

Conclusion: These results demonstrate that betaxolol increases arterial distensibility. This effect of betaxolol should be attributed to BP lowering and endothelial function improvement.

P.053
PROGNOSTIC SIGNIFICANCE OF FLOW MEDIATED DILATATION OF THE BRACHIAL ARTERY IN HYPERTENSIVE PATIENTS.

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Background: In uncomplicated hypertensive patients the prognostic role of endothelial dysfunction, as evaluated by flow-mediated vasodilatation of the brachial artery, has not been investigated.

Methods: A total of 175 prospectively identified uncomplicated hypertensives (age 53 ± 5 years, 42% women, 48 with diabetes mellitus type 2) were studied. At baseline all subjects were untreated and underwent a baseline standard laboratory examinations. A standard echocardiogram was performed for the evaluation of LV anatomy and function and patients with systolic dysfunction or LV wall motion abnormalities were excluded. Endothelial function was measured as flow-mediated dilatation of the brachial artery using high-resolution ultrasound.

Results: Patients were followed for 86 ± 34 months (range 11-123 months). A first non fatal or fatal cardiovascular event occurred in 28 patients. The incidence of cardiovascular events was 1.4 and 3.1 per 100 patient-years in patients with a FMD above (n = 87) and below (n = 88) the median value, respectively (p = 0.005 by the log-rank test). In Cox analysis, controlling for age, gender, diabetes, hypercholesterolemia, smoking, and systolic BP at baseline, a low FMD conferred an increased risk of cardiovascular events (odds ratio 2.27, 95% confidence interval [CI] 1.01–5.15, p = 0.04). Furthermore, in a Cox analysis including age, gender, diabetes, hypercholesterolemia, smoking and systolic BP at baseline, a low FMD conferred an increased risk of cardiovascular events (odds ratio 2.4, 95% CI 1.1–5.1, p = 0.02). In a Cox analysis including age, gender, diabetes, hypercholesterolemia, smoking and systolic BP at baseline, a low FMD conferred an increased risk of cardiovascular events (odds ratio 2.27, 95% confidence interval [CI] 1.01–5.15, p = 0.04).

Conclusions: The presence of endothelial dysfunction, as evaluated by flow-mediated vasodilatation of the brachial artery, identifies hypertensive patients at increased risk of non fatal and fatal cardiovascular events.

P.054
LOCAL ARTERIAL WAVE SPEED AT CAROTID ARTERY LEVEL IS REPRESENTATIVE OF CAROTIDO-FEMORAL PULSE WAVE VELOCITY AND AORTIC STIFFNESS: EVIDENCE BY A NEW ECHO-TRACKING APPROACH

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Carotido-femoral (CF) pulse wave velocity (PWV) is a marker of aortic stiffness. Recently a new ultrasound technique capable to provide real-time arterial waveform analysis (“E-track”, Aloka) has been developed. When calibrated for blood pressure (BP), arterial stiffness parameters and a single point local wave speed (WS) are obtained. Aim of this study was to evaluate whether or not common carotid (CCA) local WS may representative of CF-PWV. Thirty-one patients free of cardiovascular disease, with or without atherosclerotic risk factors (16 males; mean age 55 ± 12, age range 24-72; mean BP 137 ± 71/81 mmHg), underwent right CCA scanning by high resolution linear US probe (7.5 to 10 MHz, Aloka SSD-5500) for E-track evaluation. Single-point WS at CCA level was computed as WS = (AP/P2Beta). CF-PWV and carotido-radial PWV (CR-PWV) were assessed by Complior (Artech, Paris). For both methods, at least 5 consecutive beats were averaged.

Mean WS, CF-PWV and CR-PWV were 9.4 ± 4 m/s, 10.1 ± 2 m/s, 10.9 ± 1 m/s (p = n.s.). WS was directly related to CF-PWV (r = 0.60, p < 0.001) but not to CR-PWV (r = 0.22, p = n.s.). At Bland-Altman analysis, mean difference between WS and CF-PWV was -1.15 ± 3.58, with all measurements but one within ± 2sd. Both “Beta” and “Epsilon” derived by E-track also correlated directly with CF-PWV (r = 0.50 and 0.05, respectively, p < 0.005) but not with CR-PWV. Finally, the known correlations with age and pulse pressure were confirmed for both CF-PWV and WS (r between 0.40 and 0.65).

CCA stiffness and local WS appear representative of aortic stiffness as estimated by CF-PWV.