each patient, using an arteriograph. Trying to establish a correlation, the patients have been split into two groups, group A with AAI < / = 1, group B with AAI > 1.

Results: Correlation index between PWV and AAI has been calculated: group A 0.911 (standard deviation (SD) = + /-0.062), PWV = 9.27, SD = + /-1.93; group B 1.168 (SD = + /-0.079). Pearson Index for PWV for group A r = -0.702 and B r = 0.672.

Conclusions: Arterial rigidity measurement represents a simple method to evaluate patients in Primary Care. PWV correlates directly to AAI when it surpasses unitary value and indirectly when AAI is subunitary.

PP.20.14 CHANGES IN CAROTID STRUCTURE OVER LONG-TERM OBSERVATION. THE ROLE OF HYPERTENSION DURATION AND ANTIHYPERTENSIVE DRUGS INTAKE

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Objective: to investigate the carotid structure changes in patients with essential hypertension (EH) over 10-years observation

Design and method: In 118 pts with EH (average age 66,8 ± 0,8; 69 males) we measured ultrasonographically diameter (D) of common carotid (CCA), internal carotid (ICA) arteries, carotid intima-media thickness (IMT) twice: initially and after mean period of 10 years. Changes in D CCA and IMT were defined as a difference between a subject's baseline D CCA, IMT and subsequent measurements obtained 10 years late. According to hypertension duration at the baseline pts were devoted into 2 groups: I gr.(n = 49) – less than 10 years, II gr.(n = 69) – more than 10 years. All pts intook antihypertensive drugs during observation period, but 71 pts – regularly (monotherapy – 23 pts, combination therapy – 48 pts), 47 pts – irregularly.

Results: Carotid diameter and IMT were significantly increased during observation period (accordingly: DCCA from 7,38 ± 0,11 to 8,01 ± 0,13 mm, p < 0,001, DICA from 5,33 ± 0,08 to 6,54 ± 0,05 mm, p < 0,001, IMT from 1,12 ± 0,03 to 1,26 ± 0,04 mm, p < 0,007). The hypertension duration and regular intake of antihypertensive drugs influence on parameters of carotid structure: II gr. pts had greater changes of DCCA and IMT, than I gr. pts (accordingly: 0,095 ± 0,008 vs 0,045 ± 0,003 mm, p < 0,05 and 0,045 ± 0,003 vs 0,017 ± 0,003 mm, p < 0,05). Same changes were in pts with irregular/regular intake of antihypertensive drugs: accordingly DCCA 0,097 ± 0,002 vs 0,005 ± 0,002 mm, p < 0,05, IMT 0,025 ± 0,001 vs 0,004 ± 0,002 mm, p < 0,05.

Conclusions: our data suggested that patients with essential hypertension have progression of carotid structural changes, such as increasing of carotid diameters and intima-media thickness, associated with duration of hypertension and antihypertensive drugs irregular intake.

PP.20.15 SERUM GLUCOSE LEVELS AND ITS ASSOCIATION WITH VASCULAR STRUCTURE AND FUNCTION IN ADULTS WITH INTERMEDIATE CARDIOVASCULAR RISK. MARK STUDY

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Objective: We investigated the relationship between the measure serum glucose levels and vascular structure and function based on carotid intima-media thickness, pulse wave velocity, central augmentation index and cardio-ankle vascular index in intermediate cardiovascular risk patients.

Design and method: This study analyzed 500 subjects who were included in the MARK study, aged 35 to 74 years (mean: 60.3 ± 8.4), 45.6% women. Measurements: Serum glucose levels were evaluated by fasting glucose, postpandrial glucose and HbA1c. Brachial ankle Pulse wave velocity (ba-PWV) and Cardio-Ankle Vascular Index (CAVI) using the VaSera device; Carotid ultrasound was used to measure carotid intima media thickness (IMT). The Mobil-O-Graph was used to measure the central augmentation index (CAIx).

Results: Hypertensives 80%; diabetics: 27%; smokers; 23% and dyslipemics 84%. Basal and postpandrial glucose mean was; 97 ± 30 and 119 ± 32 mg/dL; HbA1c: 5,9 ± 0,95%; mean IMT was 0,74 ± 0,09 mm; maximum IMT was 0,90 ± 0,11 mm; CAVI was 8,59 ± 1,1; 34,1% > 9; ba-PWV 14,3 ± 2,4, 13,1% > 17,5m/s; CAIx 26,7 ± 13,8. All glucose measurements showed a positive correlation with mean and maximum IMT, CAVI and ba-PWV, and a negative correlation with CAIx. IMT showed higher correlation with HbA1c: (r = 0,194 y r = 0,188 respectively (p < 0,001), with mean and maximum IMT values, respectively. CAVI and ba-PWV showed higher correlation with postpandrial glucose: (r = 0,145 y r = 0,176 respectively (p < 0,001). In multiple linear regression analysis, the vascular structure and function parameters maintained a positive association with basal and postpandrial glucose and with HbA1c after adjusting for age, gender, systolic blood pressure, body mass index and no-HDL cholesterol. The associations of HbA1c levels were Beta = 0.260 (IC 95% 0,140-0,380) with mean IMT, Beta = 0,267 (IC 95% 0,139-0,394) with CAVI and Beta = 0,130 (IC 95% 0,040-0,220) with ba-PWV (p < 0,001 in all cases).

Conclusions: The basal and postpandrial glucose and HbA1c levels showed a positive correlation with IMT, CAVI and ba-PWV values. These association were maintained after adjusting for age and other confounders.

PP.20.16 CAROTID PULSE PRESSURE ASSESSMENT BY MEANS OF DIAMETER-VELOCITY LOOP

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Objective: Carotid pulse pressure (cPP) and carotid pulse wave velocity (cPWV) are increasingly used in clinical practice as biomarkers of cardiovascular disease. The diameter-velocity loop (lnD-V loop) could represent a valid approach for cPWV evaluation since it requires the use of the ultrasound equipment only. Aim of this study was to assess cPP from the elaboration of ultrasound images.

Design and method: Common carotid artery ultrasound scans were obtained from 27 healthy subjects (44.1 ± 17.8 years, 44.4% males, BMI 25.5 ± 3.9 kg/m^2). The lnD-V loop was achieved plotting together diameter and flow velocity values obtained elaborating B-mode and PW-Doppler images. cPWV was assessed from the slope of the systolic linear reflection-free part of the loop which was determined identifying the points within the 20% and the 80% of the maximum velocity value (cPWV20/80) and, alternatively, locating the first peak of the Wave Intensity Analysis (WIA) (cPWVwia). Standard tonometric-derived carotid stiffness (CS) was also evaluated. cPP values were obtained from cPWV20/80 and cPWVwia calculations using the Bramwell-Hill equation (cPPbh-20/80, cPPbh-wia) firstly, and a model based on the Laplace law (cPPl-20/80, cPPl-wia) alternatively. A carotid pressure waveform was obtained linearly scaling the diameter instantaneous values according to cPP extreme values. cPP assessments and the corresponding pressure waveforms (Pbh-20/80, Pbh-wia, Pl-20/80, Pl-wia) were compared with the same parameters obtained by applanation tonometry (cPPton, Pton).

Results: cPWV20/80 and cPWVwia values were in good agreement with CS assessments (r = 0.84 and r = 0.88, respectively). Comparison between cPPton calculations and cPPbh-20/80, cPPbh-wia, cPPl-20/80, cPPl-wia provided a correlation coefficient equal to 0.63, 0.81, 0.66 and 0.81, respectively. The biases obtained through the Bland-Altman analysis were all significant (-13.7 ± 13.1 mmHg, -11.2 ± 9.6 mmHg, -16.5 ± 12.4 mmHg, -14.2 ± 9.4 mmHg). Pbh-20/80, Pbh-wia, Pl-20/80 and Pl-wia were in good correlation with Pton (r = 0.94 ± 0.04 for all) while the root-mean square error values obtained were 9.4 ± 4.4 mmHg, 8.04 ± 3.5 mmHg, 10.01 ± 4.5 mmHg and 8.56 ± 3.9 mmHg, respectively.

Conclusions: In addition to cPWV calculation, the lnD-V loop could also lead to a usable cPP evaluation. The best results were achieved calculating the cPWV through WIA and obtaining the cPP assessment using Bramwell-Hill equation.

PP.20.17 MEDICAL THERAPY PRESCRIPTION AT DISCHARGE AFTER TYPE A AORTIC DISSECTION CURE: A NEED FOR SURGICAL AND MEDICAL COLLABORATION

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Objective: The association between a structural anomaly of the aortic wall and uncontrolled hypertension are the main causing factors of aortic dissection. Follow-up management is based on an optimal blood pressure control. The data on blood pressure control and on medical therapy prescription at discharge after an acute surgery in this population are scares.

Design and method: We retrospectively analyzed the data of 74 patients hospitalized from 2005 to 2010 for an emergency surgical type A aortic dissection. All patients benefited of a 24-hour blood pressure monitoring at discharge, medical prescription before admission and at discharge were collected. Statistical analyses were made with non parametric tests.

Results: 67% of the population was male, median age of 53 years, 9.5 % with a prior history of ascending aorta aneurysm, 6.7 % with an elastic aortic wall disease. 50% take an antihypertensive therapy before admission, 8% of patients received 3 or more drugs, 4 % of diabetes mellitus, 31 % of former smoker and median Body Mass Index was of 26.4 Kg/m^2. We note 23 % of left ventricular hypertrophy on