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P1.16
CLINICOPATHOLOGICAL FACTORS ASSOCIATED TO CENTRAL AORTIC PRESSURE PARAMETERS IN PATIENTS WITH HYPERTENSION
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Aim: To investigate association of central aortic pressure (CAP) parameters – augmentation index (Alx), augmentation index, normalized for heart rate 75/min (Alx75), augmentation pressure (AP), central systolic (SPa) and pulse pressure (PPa) with some clinical, laboratory and hemodynamic characteristics of patients with hypertension.

Material-Methods: 100 hypertensive patients at the age of 22–73 years (mean age 54±10.8) were examined, 43% men. Investigation included electrocardiography, echocardiography, determination of serum lipids, creatinine, creatinine clearance (CrCl) calculation, CAP registration using SphygmoCor device.

Results: Alx, Alx75, AP, PPa in women were higher than in men (30% vs. 20%); 28% vs. 17%; 14.5 vs. 8.7mmHg (p<0.001); 46.7 vs. 40.6mmHg (p<0.05); respectively, increased with older age (r=0.28; r=0.23; r=0.36; r=0.33 respectively; p<0.05), negatively correlated with CrCl (r=-0.55; r=-0.56; r=-0.53; r=-0.34 respectively; p<0.05). Alx, Alx75, AP negatively correlated with height and waist circumference (r<0.42; r<0.41; r<0.4 respectively; p<0.05), positively - with LDL cholesterol (r=0.22; r=0.22; r=0.24 respectively; p<0.05). Alx, Alx75, AP correlated positively with left ventricular systolic (r=0.26; r=0.27; r=0.27 respectively; p<0.05), interventricular septum and posterior wall thickness (r=0.36; r=0.34 respectively; p<0.05). SPa positively correlated with systolic blood pressure (r=0.24; p<0.05), negatively – with ratio between early and late ventricular filling velocity (r=-0.28; p<0.05). Alx and Alx75 negatively correlated with diameter of left atrium and end-diastolic diameter of left ventricle (LV) (r=-0.23; r=-0.28 and r=-0.2; r=-0.29 respectively; p<0.05).

Conclusions: As a result, parameters of CAP were associated with gender, age, anthropometric characteristics, renal disease, dyslipoproteinemia, LV hypertrophy and diastolic dysfunction.

P1.17
ARTERIAL STIFFNESS PARAMETERS AND AMBULATORY BLOOD PRESSURE MONITORING IN PATIENTS WITH HYPERTENSION
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Aim: To investigate correlation between ambulatory blood pressure monitoring (ABPM) parameters and central aortic pressure (CAP) parameters (which are the main indicators of arterial stiffness), such as: augmentation index (Alx); augmentation index, normalized for heart rate 75/min (Alx75); augmentation pressure (AP); central systolic (SPa) and pulse pressure (PPa) in patients with hypertension.

Material-Methods: 100 hypertensive patients at the age of 22–73 years (mean age 54±10.8) were examined, 57% women. Investigation included electrocardiography, echocardiography, ABPM, determination of serum lipids and creatinine. CAP was measured with application tonometry of radial artery using SphygmoCor device.

Results: Mean levels of AP, SPa, PPa positively correlated with 24h systolic blood pressure (SBP) (r=0.23; r=0.23; r=0.19 respectively; p<0.05), 24h PP (r=0.35; r=0.35; r=0.23 respectively; p<0.05), Alx and Alx75 negatively correlated with BMI (r=-0.52; r=-0.56; r=-0.53 respectively; p<0.05), Alx and Alx75 positively correlated with systolic blood pressure (r=0.24; r=0.22 respectively; p<0.05). AP, Alx, Alx75, AP negatively correlated with heart rate (HR) (r=-0.22; r=-0.22; r=-0.22 respectively; p<0.05). SPa had positive correlation with 24h diastolic BP (DBP) (r=0.48; p<0.05), Alx and Alx75 negatively correlated with 24h PP (r=-0.42; r=-0.45 respectively; p<0.05), SD of DBP (r=0.24; p<0.05).

Conclusions: According to our study results, parameters of CAP positively correlates with all parameters of ABPM, except HR. Arterial wall stiffness increases in response to lower HR and/or higher BP during 24h.
almost statistically significant differences (p values ranging from 0.07 and 0.13) could only be recorded consistently in the 40-49 age class concerning PWV/ cSBP / cPP / AI. Authors discuss the relevance of these findings concerning risk stratification in a Portuguese population with high incidence of stroke.

P1.20
ASSOCIATION OF THE CARDIO-ANKLE VASCULAR INDEX WITH AGE AND SEX IN THE SAPALDIA 3 COHORT STUDY

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Background: To study haemodynamic patterns in a defined group of patients, to increased risk in elder women (W) and different responses to treatment.

Objective: To study different arterial stiffness patterns in essential hypertensive patients.

Methods: We included 564 H from JAN2007 to DIC2010. Inclusion criteria: age ≥40 and <70, at least 2 CV risk factors and 6 mo. under stable monotherapy with atenolol (ATEN):n=114, amloidipine (AML):n=113, enalapril: (ENL):n=195 or losartan (LOS):n=142. A Control group (C) was also included (131p). All with a rate males/women (M/W) 2/1. Evaluations: BP, cIMT, Platelet counts, cPWV, Endothelial Function (EF), Central/Peripheral Pulse Pressure (PPC/PPPs) and Augmentation Indexes (Aix c / Aix p). (Hemodynamic Ateriograph ®). Statistics: t test , ANOVA, Dunnet p < 0.05.

Results: (only signif.) Peripheral BP, PP and PWV were higher in H than C. PPC and Aix c were higher in M than in W. (table attached)

Conclusion: Impedance cardiology is a non-invasive, cheap, easy-to-use and reproducible method that could provide useful information to take therapeutic decisions with CV patients.

P1.21
ARTERIAL DISTENSIBILITY IN YOUNG INDIVIDUALS – COMPARISON OF ARTERIAL DISTENSIBILITY THROUGH THE MEASUREMENT OF PULSE WAVE VELOCITY IN YOUNG SPORTSMEN VERSUS NON-SPORTSMEN

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Withdrawn by the author

P1.22
NON-INVASIVE HEMODYNAMIC CHARACTERIZATION BY MEANS OF IMPEDANCE CARDIOGRAPHY IN PRIMARY PREVENTION

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Background: Impedance Cardiography (ICG) is a non-invasive method to assess the main haemodynamic parameters: cardiac output, peripheral resistance, cardiac work, and thoracic fluid content. It provides critical information on a wide range of CV conditions, particularly hypertension and heart failure.

Objective: To study haemodynamic patterns in a defined group of patients, according to age in an non-invasive manner.

Methods: In an observational study we analyzed haemodynamic data of 523 males out of 810 p. on primary prevention studied from DEC2010 to JAN2011. We used an Impedance Cardiograph (2 Logic (R)) following standard procedures. Data were analyzed in three groups: under 40, 40 to 59 and over 60 yrs, using boundaries for Cardiac Index (CI): 2.5–4.2 l/min/m2 and Peripheral Vascular Resistance Index (PVRi): 1700–2600 dyn.scm-5.m2.

Results: Baseline data: Age 51 ± 13, SBP 137 ± 22, DBP 82 ± 11mmHg, HR 62 ± 11bpm, BMI 27.7 ± 4kg/m2, 63% hypertensives, 561/63 systolicp. A normal CI/normal or low PVRi ratio was observed in 40% of young males, in the 40-60 yrs group and was below 10% in the eldest. The normal CI/high PVRi ratio was relatively stable, from 15% to 23%. Finally, the low CI/high PVRi ratio rose from 27% in the young to 59% in adults and 74% in the elder, an indicator of Ventriculo-Arterial uncoupling.(see table)

Conclusion: Impedance cardiology is a non-invasive, cheap, easy-to-use and reproducible method that could provide useful information to take therapeutic decisions with CV patients.