P4.50: EFFICACY OF THE COMBINATION OF β-BLOCKER BISOPROLOL AND IF INHIBITOR IVABRADINE IN PATIENTS WITH STABLE ANGINA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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For this study 109 male and 117 female, lifelong non-smoking, normotensive subjects (40±11 years, BMI 25.6±3.9 kg.m⁻²) were recruited from general population. Subjects with abnormal glycemic responses after an oral glucose tolerance test (OGTT) were excluded. High resolution B-mode ultrasound images (HD7XE, Philips, U.K.) of the common carotid artery were used to measure carotid intima-media thickness (CIMT) and calculate carotid compliance/distensibility. Central aortic blood pressure and pulse wave velocity (PWV) were measured using applanation tonometry (Sphygmocor & Vicorcor, Skidmore Medical, U.K). Early/late mitral valve filling velocity (MV E/A) was used to assess cardiac diastolic function (Vivid 7 Dimension, GE, USA). Mean fasting and plasma glucose and post OGTT glucose were 5.02±0.46 mmol.L⁻¹ and 4.96±1.09 mmol.L⁻¹. Mean CIMT, carotid compliance & distensibility, PWV and MV E/A were 0.52±0.07 mm, 15.86±13.15 m².kpa.¹⁰⁻⁷ & 49.09±34.95 kpa.¹⁰⁻⁷, 7.0±1.23 m.s⁻¹ and 43.46±18.65 respectively.

Switching hypertensive Typ 2 diabetic patients with uncontrolled hypertension under Ramipril/HCT to Perindopril/Indapamide resulted mainly in superior systolic blood pressure control. This effect was persistent for central BP as well as for 24-h-ABPM.

Switching hypertensive Typ 2 diabetic patients with uncontrolled hypertension under Ramipril/HCT to Perindopril/Indapamide investigator initiated, non-randomized, one arm study. Typ 2 Dm, males and females >18, with previously uncontrolled hypertension as defined by a sitting office BP ≥130/80 mmHg (office BP). Triplicate office BP was measured with a validated, fully automatic, oscillometric upper arm device (ESH guidelines; Microlife watch BP office). 24-h-ABPM (Central and peripheral BP) was measured with a validated device at baseline and after 8 weeks therapy (Mobilograph, IEM, Germany) Central BP in the clinic was measured at baseline and after 4 and 8 weeks therapy according to the recommendations of the ESH working group on Large Arteries (Sphygmocor, Atcor).

Results: Up to now 18 patients with an average age of 61±10 years and a BMI von 30±6 were included. Mean daily dosage of Ramipril/HCT was 5.3±22.2 mg, the respective dosage after changing to Perindopril/Indamide was 5.97±1.49.

P4.49

RELATION BETWEEN ARTERIAL STIFFNESS AND COMPONENTS OF AMBULATORY BLOOD PRESSURE IN CHILDREN WITH HYPERTENSION AND CHRONIC KIDNEY DISEASE

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Arterial stiffening may be both the cause and consequence of an increase in blood pressure but the blood pressure components implicated in the inter-relationship may differ. The blood pressure component caused by stiffening is pulse pressure (PP). By contrast, passive stiffening resulting from distension of the arterial wall would be expected to relate most closely to mean arterial blood pressure (MAP) at the time of measurement and stiffening related to structural change to relate to longer term MAP and/or pulse pressure (PP). The objective of the present study was to examine the relation between arterial stiffness as measured by carotid-femoral pulse wave velocity (PWV) and components of blood pressure (MAP and PP) at the time of the measurement of PWV (PWV BP) and over a 24 hour period in children with hypertension and chronic kidney disease (CKD). Children (n=45, 12 female, 27 with CKD, 11 with hypertension, 7 controls) were aged 6-17 years with mean±SD blood pressure 113±17/62±15 mmHg. PWV was measured by ECG referenced carotid-femoral tonometry (Sphygmocor system, Atcor Medical, Australia). PWV was more closely correlated with MAP than with PP (R=0.38, P<0.01 and R=0.26, P=0.08 for 24h MAP and PP respectively) and more closely correlated with 24h MAP than with day-time, night-time or clinic MAP (R=0.26, 0.20 and 0.29 respectively). In children with CKD and hypertension, PWV is most closely associated with 24h MAP and likely to be secondary to increased MAP.
bisoprolol alone. PARTICIPANTS. 50 patients with stable angina and COPD were included (88% men, mean age 62.8±7.2 years). All patients received bisoprolol, the dose of which was titrated until the clinical signs of intolerance. Then, the patients were randomized into two groups: patients of the first group continued to take bisoprolol and patients of the second group were added ivabradine (5–15 mg).

Results: Combination therapy resulted in further decrease of heart rate (HR) to an average of 62±4 bpm over 6 month of follow-up. This was associated with additional decrease of the number of angina attacks (by 4.7±4.4 per week vs. 2.5±4.7, p<0.05) and increase of quality of life (p<0.05). Only in combination therapy group there was also the decrease of bronchodilatory consumption (from 2.9±3.2 to 1.9±2.7 per week, p<0.05). Pulse wave velocity (PWV) estimated by Arteriograph (TensiClinic) decreased significantly in both groups, but no difference delta PWV between groups.

Conclusion: The combination of tolerable doses of bisoprolol and ivabradine is safe and allows to achieve adequate HR decrease. This is associated with maximal antianginal effect, decrease in the need for broncholytic therapy, improvement of the quality of life compared with the treatment with bisoprolol alone. We did not find the influences of ivabradine on the arterial stiffness.

P4.51 NONINVASIVE EVALUATION OF STRUCUTRAL AND FUNCTIONAL CHANGES IN THE HEART AND LARGE ARTERIES IN PATIENTS WITH PRIMARY ALDOSTERONISM


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Background Only few studies, in small groups of patients, have evaluated large arteries alterations in primary aldosteronism (PA). In addition, the assessment of cardiac and vascular involvement has not been simultaneously performed.

Methods: The combination of tolerable doses of bisoprolol and ivabradine differed significantly (p<0.05) in PWV (9.0±1.9 vs. 11.4±2.5 m/s), CCA IMT (619±146 vs. 736±169 μm) and PPc (37±9 vs. 46±14 mmHg), but not in β-index (10.1±2.9 vs. 12.5±4.9; p=0.23). Within diabetics, after adjustment for confounders, DM-CVD showed higher (p<0.05) PPc but not CCA IMT, β-index and brachial PP (PPb) than DM(Tab 2).

Conclusions: Central PP appears to be the only structural/functional large artery measure significantly different in diabetic patients with or without cardiovascular complications, despite similar glucose levels and BMI. Contour wave analysis by ultrasound provides additional information beyond IMT and local stiffness indices.

P4.53 IMMEDIATE EFFECTS OF SUBMAXIMAL EFFORT ON PULSE WAVE VELOCITY IN PATIENTS WITH MARFAN SYNDROME

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Marfan syndrome (MS) is a dominant autosomal disease caused by mutations in chromosome 15, the locus controlling fibrillin 1 synthesis, and may exhibit skeletal, ocular, cardiovascular, and other manifestations. Pulse wave velocity (PWV) is used to measure arterial elasticity and stiffness and is related to the elastic properties of the vascular wall. Since the practice of exercise is limited in MS patients, it was of interest to analyze the acute effect of submaximal exercise on arterial distensibility using PWV and other hemodynamic variables in patients with MS with either mild or no aortic dilatation. PWV and physiological variables were evaluated before and after submaximal exercise in 33 patients with MS and 18 controls. PWV was 8.51±0.58 at rest and 9.10±0.63 m/s at the end of exercise (P=0.002) in the group with MS and 8.07±0.35 and 8.98±0.56 m/s in the control group, respectively (P=0.004). Comparative group analysis regarding PWV at rest and at the end of exercise revealed no statistically significant differences. The same was true for the group that used β-blockers and the one that did not. The final heart rate was 10% higher in the control group than in the MS group (P=0.01). Final systolic arterial pressure was higher in the control group (P=0.02). PWV in MS patients with mild or no aortic dilatation did not differ from the control group after submaximal effort.