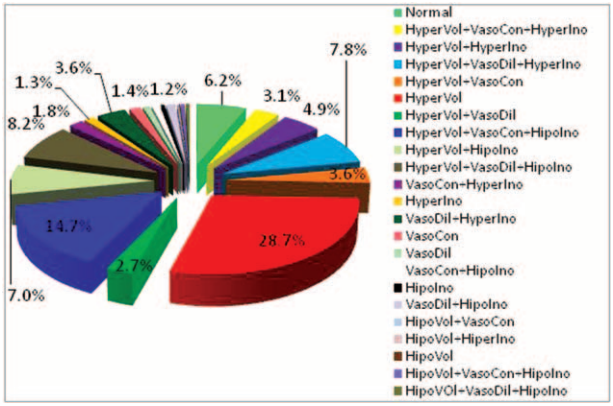
Design and method: Impedance cardiography with the HOTMAN system was performed in 889 adult hypertensive subjects, randomly selected in the frame of the SEPHAR III survey, at the second study visit, for 5–10 minutes in supine position. 771 of them had valid non-invasive hemodynamic measurements data, with estimates of volemia, vasoreactivity, inotropism and hemodynamic state. Blood pressure was measured with the auscultatory technique in seated position twice, according to ESH guidelines.

Results: Analysis of impedance cardiography recordings showed the presence of 22 different HD profiles, 9 of them including hypervolemia. The frequency of any alteration in HD modulators was significantly higher in uncontrolled hypertensives (office BP greater than 140/90 mm Hg) than in controlled ones.
Regression analysis revealed a positive association between the number of altered HD modulators and the lack of BP control: 1 altered HD modulator: OR 2.57, 95%CI for OR (1.03–6.45); 2 altered HD modulators: OR 2.89, 95%CI for OR (1.16–7.20); 3 altered HD modulators: OR 1.67, 95%CI for OR (0.67–4.33); 4 altered HD modulators: OR 2.54, 95%CI for OR (1.04–6.25). Only 20.5% of hypertensive patients with a hyperinotropism pattern were treated with beta-blockers, only 41,4% of hypertensive patients with a vasoconstriction pattern were receiving vasodilatator drugs and only 1,4% of hypervolemic hypertensives were receiving diuretics.



Conclusions: Hypertensive patients have a multitude of different HD profile patterns, which emphasizes the need of assessing their HD characteristics before choosing the more appropriate antihypertensive drug. Currently, antihypertensive treatment targets are unrelated to the HD profile. This may lead to hemodynamic imbalance and lack of optimal BP control due to choice of drugs unable to match the individual patient's HD profile.

PP.04.22 IMPACT OF CARDIOPULMONARY EXERCISE TEST IN PULMONARY ARTERIAL HYPERTENSION PATIENTS RISK STRATIFICATION

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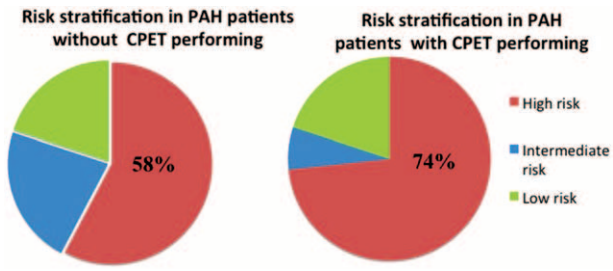
Objective: Incremental cardiopulmonary exercise testing (CPET) is recommended to evaluate severity, prognosis and responses to therapy in patients with pulmonary hypertension. We aimed to evaluate the impact of CPET in pulmonary arterial hypertension (PAH) patients risk stratification.

Design and method: 45 patients with PAH (mean age 43,1+11,0 years) underwent exercise on cycle ergometry. Oxygen uptake (VO2), carbon dioxide output (VCO2), expiratory gas concentrations and minute ventilation (VE) were measured breath-by-breath. Peak VO2 was defined as highest average of VO2 in the last minute of exercise.

Results: The majority of patients (n = 16) had III functional class (World Health Organization (WHO) classification). The mean values of right atrial area and right ventricular size were 20,9 +7,4 sm^2 and 3,6+0,75 sm respectively by echocardiography.
Mean pulmonary arterial pressure and mean right atrial pressure were 53,1+12 / 7,2+6 mmHg according to the right heart catheterization. The mean value of cardiac index was 2,1+0,6 l/min/m^2. The mean distance in 6-minute walking test was 420+113 m.
According to the CPET the mean values of Vo2 peak and VE/Vco2 slope were 10,99+5,15 ml/kg/min and 46,2+19,78.
After the thorough analysis of clinical, functional and hemodynamic status of patients, we revealed, that majority of patients were belonged to the high-risk group (n = 26), and 10 patients were belonged to the intermediate risk group. However, after the CPET performing we got the results, showing that an additional 7 patients, who had been earlier in the intermediate risk group, had a high risk of mortality during 1 year. 9 patients were belonged to the low risk group, that was also confirmed by CPET data.
A significant negative correlation between the functional class (WHO) and VO2 peak in patients with PAH was found ($r = -0,78$; $p < 0,0001$).

Conclusions: Risk stratification is crucial for the development of an appropriate treatment strategy. Patients who achieve the therapy goals, no matter which specific therapy or approach is used, seem to have a better prognosis than those who do not. The CPET is necessary for pathogenic therapy effectiveness assessment and for making decision of therapy escalation in patients with PAH.



PP.04.23 A DIASTOLIC DYSFUNCTION SCORING SYSTEM (DSS) FOR DETECTING LEFT VENTRICULAR DIASTOLIC DYSFUNCTION IN HYPERTENSIVE PATIENTS

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Objective: To identify factors related to left ventricular diastolic dysfunction in hypertensive patients, and to create a scoring system from those related factors.

Design and method: A cross sectional study was conducted in Tarakan General District Hospital North Borneo with hypertensive subjects on October 2016. Patients characteristics, all factors related to left ventricular diastolic dysfunction, and echocardiographic data were collected and analysed.

Results: There were 132 total samples in this study, and left ventricular diastolic dysfunction was found in 40,2% samples. From logistic regression analysis, age more than 55 years old (OR 4.97, 95% CI 1.60–15.42), poor blood pressure control (OR 22.33, 95% CI 4.11–121.48), left ventricular hypertrophy (OR 4.23, 95% CI 1.14–15.72), and abnormal fasting plasma glucose (OR 13.24, 95% CI 2.89–60.67) were found to have a significant relation with left ventricular diastolic dysfunction and became a final model variables of scoring system. Left ventricular diastolic dysfunction scoring system could be generated from those variables final models. Calibration and internal validation tests for this scoring system showed good results.

Conclusions: A scoring system can be generated to detect left ventricular diastolic dysfunction in hypertensive patients.

PP.04.24 THE IMPACT OF HYPERTENSION ON QT DISPERSION AND ECHOCARDIOGRAPHIC PARAMETERS IN PATIENTS WITH ANGINA PECTORIS

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Objective: Introduction: QT dispersion (QTd) is a measure of inhomogeneous repolarization of myocardium and is used as an indicator of arrhythmogenicity. According to the values of QTd can identify coronary patients who are at high risk of cardiac death and sudden cardiac death.

Objective: The aim of this study was to investigate the effect of hypertension on QT dispersion and echocardiographic parameters in patients with angina pectoris.

Design and method: The study included 113 patients with angina pectoris (average age 57.2 years), of which 78 were with hypertension, and 35 were without arterial hypertension. There were no significant differences in age and gender between the two groups of patients. In all subjects exercise stress test on a treadmill