PP-012

Myocardial Performance Index and Aortic Distensibility in Patients with Different Left Ventricle Geometry in Newly Diagnosed Essential Hypertension

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Background: Abnormal left ventricular (LV) geometric patterns, particularly concentric LV hypertrophy, are associated with a greater risk of hypertensive complications. The aim of this study was to investigate the association between LV myocardial performance index (LVMPI) and aortic distensibility (AD) with different LV geometric patterns in patients with newly diagnosed hypertension (HT).
Methods: We studied 181 patients with newly diagnosed HT (mean age; 51.7±5.4 years) and 39 healthy control subjects (mean age; 51.2±5.1 years). Echocardiographic examination was performed in all subjects. Four different geometric patterns were determined in hypertensive patients according to LV mass index (LVMI) and relative wall thickness (RWT). AD was calculated from the echocardiographically derived ascending aorta diameters and hemodynamic pressure measurements. LVMPI was calculated from the tissue Doppler derived ejection time, isovolumic contraction, and relaxation times.
Results: The highest LVMPI and the lowest AD values were observed in concentric hypertrophy group compared with control, normal geometry, concentric remodelling and eccentric hypertrophy groups ($p<0.05$, for all)(Table). LVMPI was associated with LVMI ($r=0.497$, $p<0.001$), RWT ($r=0.270$, $p<0.001$), AD ($r=-0.316$, $p<0.001$) and E deceleration time ($r=0.171$, $p=0.02$) in bivariate analysis. In multiple linear regression analysis, LVMPI was independently related to LVMI ($\beta=0.381$, $p<0.001$) and AD ($\beta=-0.263$, $p=0.001$).
Conclusıons: The LVMPI was highest and AD was lowest in patients with concentric hypertrophy. The LVMPI was independently associated with LVMI and AD in hypertensive patients.

Table. Comparisons of Echocardiographic Characteristics among the Groups

Variables	Control (n=39)	Normal geometry (n=27)	Concentric remodelling (n=33)	Concentric hypertrophy (n=87)	Eccentric hypertrophy (n=34)	p
LVMPI	0.38± 0.03	0.43± 0.04	0.43± 0.05	0.51± 0.05	0.46± 0.05	0.001
Aortic distensibility (cm2 dyn-1 x10-6)	3.28± 0.86	2.10± 0.98	1.70± 0.64	1.20± 0.41	1.67± 0.40	0.001

LVMPI: Left ventricle myocardial performance index

PP-013

White Coat Hypertension and Poor Sleep Quality

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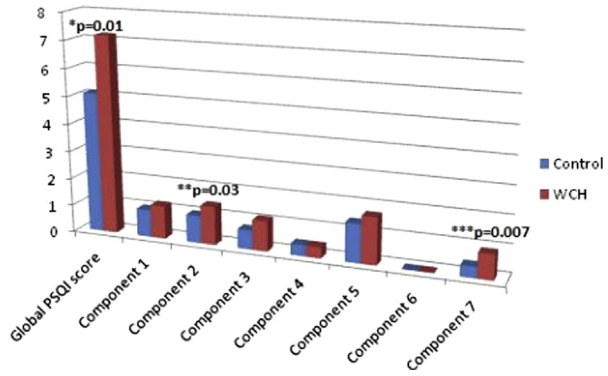
Objectıves: Impaired sleep quality (SQ) is frequently associated with hypertension as well as increased risk of adverse cardiovascular events. White coat hypertension (WCH) is also related with increased target organ damage, metabolic abnormality and cardiovascular risk compared to normotensive patients. The present study aims to examine self-reported SQ of patients with WCH.
Methods: A total of 74 persons, including 39 normotensive and 35 WCH patients between the ages of 20 and 65 were included in this study. Patients with elevated office blood pressure (BP) (≥140/90) and normal daytime ambulatory BP (<130/85) were defined as WCH. Patient's SQ for the last month was evaluated using the Pittsburgh sleep quality index (PSQI). Patients with global PSQI scores greater than five were defined as "poor sleepers."
Results: Global PSQI score was noted to be significantly higher in patients with WCH. (7.2±3.7 vs. 5.1±3.8, p=0.01). Poor SQ was present in 65% of individuals with WCH, and 30% of the control group (p=0.003). When PSQI components were evaluated individually, component 2 (which is an indicator of sleep latency) and component 7 (which shows daytime dysfunction) were significantly higher in the WCH group. A multiple logistic regression analysis showed that WCH (odds: 6.7 (95% CI 1.22-36.64), p=0.03) and female gender (odds: 10.1(95% CI 1.35-76.32), p=0.02) were independent predictors of poor SQ. Daytime systolic BP was also found to be significantly higher in WCH group compared to the control group (125.1±9.3 mmHg vs. 120.6±9.8 mmHg, p=0.05, respectively).
Conclusıon: WCH seems associated with impaired SQ.



PP-014

Estimation of Cognitive Functions and Effective Factors in Middle and Advance Aged Hypertensive Patients

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Objectıve: In this study, our goal is to estimate the cognitive functions in middle and advanced aged hypertensive patients.
Materıal-Method: 100 hypertensive and 30 normotensive patients between ages 50 and 80 who were admitted to the hospital in March 2013 were enrolled in the study. Patients included in the study had blood pressure higher than 140/90 mmHg. and they were using antihypertensive medicine. Exclusion criteria were dementia, history of cerebrovascular accidents, psychiatric diseases, chronic kidney disease, thyroid disease, B12 and folic acid deficiency, severe anemia, diabetes mellitus and being under medical treatment. Cognitive functions were evaluated with Mini Mental State Examination (MMSE) in both the study and control groups. Patients' information were recorded in Microsoft Excel 2007. Data were transferred to STATA 11 and were analyzed with this statistical program. In univariate analysis, Student's T test was used for continuous variables, Pearson's chi-square was used for categorical variables (chi^2). In multivariate analysis data were evaluated with logistic regression analysis. The results of p value ≤0.05 was considered significant.
Results: There were 37 male (37%) and 63 female (63%), and 11 male (36.7%) and 19 female (63.3%) and the mean age was 62±14.9 years and 59.4±76.9 years in the study and control groups respectively. There wasn't a significant difference in gender and age distribution ($p>0.05$) in the study and the control groups. The mean age of hypertension onset was 55.28 ± 10 years (27-75), the mean duration of hypertension was 7.02±5.98 years (0-25). Mean In all cases, 31 people (23.85%) scored below the cut-off score of 24, and a statistically significant difference was not found between the hypertensive group and the control group (p=0.123).

MMSE scores in the hypertensive group (24.8±0.33) were significantly lower than the control group (26±0.53) (p=0.0146) (Table 1). Sub-components making up the MMSE score, such as orientation and recall scores which were two of five examination areas, was significantly lower in hypertensive group. MMSE orientation parameter were 8.45±016 and 9.1±0.23 in the study and control group respectively (p= 0.0223) (Table 2).

In this study, multivariate logistic regression analyses were used. The effects of age, sex, BMI were analyzed and MMSE scores were compared in study and control groups (orientation, location, registration memory, attention and calculation, recall and language (Table 3).

In conclusion, MMSE scores were lower in hypertensive patients. Mild cognitive impairment and dementia were more common. MMT subgroup parameter orientation and memory loss in patients with hypertension compared to the normotensive persons. There was no difference in saving memory, attention, making calculation, the language parameters between hypertensive and normotensive patients in our study. MMSE should be applied to patients with hypertension.

The mean and distribution of MMSE score datas of patients in the study and control group

MMSE score	Patient number in hypertensive group (n)	Patients number in control group (n)	p
13-20	10	2	
21-25	36	6	0.167
26 and >26	54	22	
Mean MMT score	24.8±0.33	26±0.53	0.0146

The comparison MMSE subgroup parameters of patients in the study and control group

Comparison MMSE subgroup	Orientation	Record	Atention	Recall	Language
Study group	8.45±0.16	2.94±0.02	4.13±0.13	1.43±0.1	7.94±0.1
Control group	9.1±0.23	3	4.1±0.2	1.93±0.2	8.2±0.2
p	0.0223	0.0861	0.4542	0.0058	0.1210

Multivariable logistic regression analyses results

Logistic regression 124* 26.78 0.0015				Object number= LR chi2(17) = Prob > chi2 = Pseudo R2 =
Case/control	Coef. (Std. Err.)	Z	P>|z|	[95% Conf. Interval]
Gender	0.0650559 (0.563704	0.12	0.903	-1.865913 0.3437661
Age: 60-69	-0.7610735 (0.563704	-1,35	0.177	-0.5442969 3.266632
Age: 70-80	1.361167 (0.9721935)	1.40 0.161	0.161	-0.5442969 3.266632
BMI	0.0926557 (0.0560651)	1.65	0.098	0.0177299 0.2025412
MMSE Orientation	-1.022435 (0.3430116)	-2.98	0.003	-1.694726 -0.3501451
MMSE Record	Omitted**			
MMSE Atention and calculation	0.1788862 (0.2131284	0.84	0.401	-0.2387591 0.596689
MMSE: Recall	-0.7988862 (0.2960458)	-2.70	0.007	-1.379125 -0.2186472
MMSE: Language	0.015115 (0.2953773)	0.01	0.996	-0.5774174 0.5804404
_cons	-0015115 (3.428666)	-0.13	0.897	-6.276664 7.163459

PP-015

Increased Epicardial Adipose Tissue Thickness is Linked with Aortic Stiffness in Patients with Essential Hypertension

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Aim: In patients with hypertension (HT), increased aortic stiffness is related with higher cardiovascular morbidity and mortality. Recent investigations have shown that epicardial adipose tissue (EAT) is a new cardiometabolic risk factor. The aim of our study was to examine the relation between echocardiographically measured EAT thickness and aortic stiffness in patients with essential HT.

Methods: The study included 144 newly diagnosed and untreated essential hypertensive outpatients. Transthoracic echocardiographic EAT thickness and aortic stiffness measurements were performed to all study participants. Afterwards patients were divided in two groups according to their median EAT thickness values. The patients with EAT thickness of <7 mm were included in group 1 and patients with EAT thickness of ≥7 mm were included in group 2.

Results: Aortic strain and distensibility parameters of group 2 was lower than group 1. The aortic stiffness index of group 2 was found to be higher than group 1. Multivariate regression analysis revealed that EAT thickness was the only independent variable for all three parameters of aortic stiffness index, aortic strain and aortic distensibility.

Conclusion: In patients with newly diagnosed essential HT, increased EAT thickness was significantly linked to impaired aortic elastic properties independently from other conventional adiposity measurements.

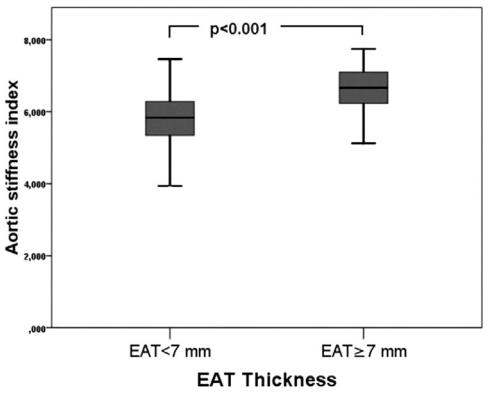

Table I. Baseline demographic and clinical data of the groups.

Variables	Group 1 EAT<7 mm (n= 74)	Group 2 EAT≥7 mm (n= 70)	p value
Age (years)	44.3±11.9	55.0±12.8	<0.001
Men, n (%)	32 (43.2)	27 (38.6)	0.569
Diabetes Mellitus, n (%)	8 (10.8)	4 (5.7)	0.269
Current Smoker, n (%)	15 (20)	12 (17.1%)	0.524
Body mass index, kg/m2	26.9±4.6	29.3±4.5	0.003
Waist Circumference, cm	92.6±13.8	100.7±11.1	<0.001
Office SBP, mmHg	152.8±3.0	152.0±2.9	0.118
Office DBP, mmHg	87.3±8.3	86.4±9.1	0.546
Fasting Glucose, mg/dl	100.6±16.5	102.9±15.5	0.096
Fasting Lipids, mg/dl			
Low density lipoprotein	118.2±33.0	126.0±37.8	0.189
High density lipoprotein	42.3±9.0	45.4±11.7	0.082
Triglycerides	175.8±105.4	150.2± 82.9	0.086
Creatinine, mg/dl	0.9±0.3	0.8±0.2	0.328
White Blood cell count	7.6±1.8	7.3±2.2	0.394
Hemoglobin, g/dl	14.2±1.6	14.0±1.6	0.456

SBP: Systolic blood pressure; DBP: Diastolic blood pressure.

Table II. The echocardiographic data of the patients.

Variables	Group 1 EAT<7 mm (n= 74)	Group 2 EAT≥7 mm (n= 70)	p value
LV ejection fraction,%	63.5±2.5	62.6±4.4	62.6±4.4
LVEDD, cm	4.6±0.4	4.5±0.3	0.283
LVESD, cm	2.7±0.4	2.7±0.4	0.418
IVS, cm	1.0±0.1	1.1±0.1	<0.001
PW, cm	0.9±0.1	1.0±0.1	<0.001
LA dimension, cm	3.6±0.3	3.7±0.3	0.318
LV mass index, gr/m2	104.1±17.6	120.3±23.1	<0.001
Epicardial fat thickness, mm	4.8±1.1	9.5±1.8	<0.001
Aortic elasticity findings			
Systolic diameter, cm	3.2±0.4	3.3±0.4	0.239
Diastolic diameter, cm	2.9±0.4	3.1±0.4	0.069
Diameter change, cm	0.28±0.10	0.23±0.10	0.003
Aortic strain, %	11.5±3.7	7.8±3.7	<0.001
Distensibility, 10-6 cm2/dyn	7.6±2.0	6.0±2.2	<0.001
Aortic stiffness index	5.7±0.9	6.5±0.6	<0.001

LV, left ventricular; LVEDD, LV end-diastolic dimension; LVESD, LV end-systolic dimension; IVS, interventricular septum thickness; PW, posterior wall thickness.