

42.0±13.4 months, during which twenty-four individuals presented at least one study outcome. Outcomes were independently associated with class IV (RR 1.59, 95% CI 1.01–2.49), and with left ventricular mass index (RR 1.03, 95% CI 1.01–1.05). A Cox regression model disclosed that subjects in class I upon enrolment presented longer event-free survival than those in class IV (P=0.006). **Conclusion:** Diastolic dysfunction, defined by the coincidence of a reduced E/A ratio and a protracted IVRT, appears to predict the occurrence of non fatal cardiovascular outcomes in senior adult and elderly subjects with hypertension; consistently, the normality of the variables in question seemingly indicates a relatively favourable vital cardiovascular prognosis.

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Aldosterone Antagonism Increases Post-Exercise Recruitment of Systolic Myocardial Motion Over Left Ventricular Lateral Wall in Hypertensive Patients with Diastolic Heart Failure

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Introduction: As aldosterone has been implicated in the genesis of myocardial dysfunction, we determined the effects of aldosterone antagonism on segmental myocardial motion in hypertensive patients (pts) with diastolic heart failure (DHF). **Methods:** After exclusion of those with active ischemia by stress tests and significant (>moderate) valvular heart disease, 36 hypertensive pts (65±9 years, 20 male) who had DHF, defined as the presence of HF signs/symptoms, diastolic dysfunction (mitral annular early diastolic velocity (Ea)<8 cm/s), and left ventricular (LV) ejection fraction (EF) >50%, were randomized to receive spironolactone 50 mg per day (AA group: N=10) or not (Ctrl group: N=17). We investigated echocardiography coupled with tissue Doppler imaging (TDI) to analyze the peak systolic myocardial velocities (Sm) of 6-basal and 6-mid LV segments at rest and immediately after a 6-minutes (stage 2) treadmill exercise test by Bruce protocol at baseline and at least 3 months after randomization. **Results:** The clinical features including age, gender, underlying diseases, and cardiovascular medications were similar between the AA and Ctrl groups. Conventional and TDI-derived echo-parameters regarding diastolic function, mean Sm of 12 LV segments, and segmental Sm were also similar between the 2 groups (Table 1). After spironolactone, the echo-parameters at rest remained similar between the two groups. However, the post-exercise mean Sm became significantly higher in the AA group than the Ctrl group (9.7±1.2 vs. 8.3±0.9 cm/s, p=0.004). With similar post-exercise septal Sm (AA: 7.5±1.3 vs. Ctrl: 7.2±1.0 cm/s, p=0.594), the main increased mean Sm resulted from higher Sm at lateral segment (AA: 11.4±2.2 vs. Ctrl: 9.4±1.1 cm/s, p=0.008). The post-exercise recruitment of Sm over lateral segment remained stable in the Ctrl group (34±25 vs. 33±20% at follow-up, p=0.959), but increased significantly in the AA group (28±22 vs. 53±33% at follow-up, p=0.014).

Table.

	Ctrl (N=17)	AA (N=19)	p
Left atrial diameter (mm)	33±10	36±5	ns
Mitral E (cm/s)	70±20	80±20	ns
Mitral A (cm/s)	78±19	88±19	ns
Mitral E/A	0.91±0.26	0.93±0.27	ns
Ea (cm/s)	7.1±1.9	7.9±2.0	ns
Mitral E/Ea	10.5±3.5	10.5±2.7	ns
LVEF (%)	66±7	67±7	ns
Heart rate (1/min)			
preEx	66±13	70±15	
postEx	121±19	117±16	
Sm, mean (cm/s)			ns
preEX	6.7±1.0	7.0±1.0	
postEX	8.2±1.1	8.1±1.2	
Sm, septal (cm/s)			ns
preEX	6.6±1.2	6.9±1.7	
postEX	8.6±1.7	8.3±1.6	
Sm, lateral (cm/s)			ns
preEX	7.2±1.4	7.4±1.6	
postEX	9.7±2.0	9.4±2.4	

Conclusions: Aldosterone antagonism therapy improved post-exercise recruitment of systolic myocardial motion over LV lateral segment in pts with DHF. If this would translate into improvement of functional capacity of DHF pts deserves further investigation.

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Tei Index for Cardiovascular Risk Assessment

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Tei-index is a sensitive adjunctive parameter for the non-invasive assessment of cardiac function in coronary heart disease patients. A combined ventricular function index can improve the classical independent evaluation of systolic (ejection fraction) and diastolic (doppler mitral filling pattern) functions, two well established cardiovascular prognostic markers. Tei-Index integrates isovolumic relaxation time (A interval) and isovolumic contraction time (B interval) in relation to ejection time; Tei-index values over 0.45 imply poorer cardiovascular outcomes. **Aim:** to assess whether doppler and tissular Tei-indexes are comparable, estimate the correlation with previous classical independent evaluations of the ejection fraction and diastolic function. **Method:** We studied 115 patients with chronic hypertension, all cases were in sinus rhythm and free of myocardial disease. The mean age was 46±13 years old, BMI was 29±5,

abdominal perimeter was 105±16 cm; 52% were males, systolic pressure was 156±23 mm Hg, diastolic 91±15 mm Hg, with a mean of 112±16 mm Hg, pulse pressure was 65±15 on average. **Results:** Ejection fraction was 62±5%; DF was normal in 23% and 22% showed impaired distensibility. Left ventricular mass index was 116±35 g/m²; left ventricular telediastolic diameter was 47±5 mm; mean left atrium was 37±5 mm. Tei-index showed good correlation with diastolic function assessed by means of transmitral flow (E/A ratio), combined transmitral and tissular (E/e) methods (p 0.001). Tei-index values were similar with both methods (p 0.001); correlated with ejection fraction (p 0.2), (all cases had normal ejection fraction). The mean ITei DF was 0.56±19 and 0.57±17 for ITei DT. **Conclusion:** Tei-index is an easy valuable tool for non-invasive cardiovascular status and risk assessment. Tei-index correlates well with both methods DF/DT. Tei-index values increase as the EF decreases and conforming to the degree of diastolic dysfunction. Tei-index is more independent from the observer and ready to complete the traditional evaluation with both doppler and tissular approaches.

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Comparison Study of Left Ventricle Ejection Fraction with Real-Time Volumetric 3D and Biplane Modified Simpson Way

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Introduction: There are many ways to measure left ventricle systolic function, but many of them is not accurate. The goal of this study is to verify the accuracy of LVEF measured by a new developed technique one heart beat real-time volumetric 3D and compare with the routine method. **Methods:** 106 subjects (male 57, female 49, 18–72 years-old) were enrolled in this study, among them health person 58, myocardial infarction patients 36, dilated cardiomyopathy 12. Left ventricle end-diastolic volume, end –systolic volume and left ejection fraction were measured with real-time full volume 3D (SC2000, acuson Siemens) and 2D methods (sequoia 512, acuson) respectively. A statistics study was done with SPSS 13.0. and to analysis the regress relationship. **Result:** left ventricle end-diastolic volume was 50.00–280.73 ml, by 3D and 50.00–246.43 by biplane 2D, r=0.820, p<0.01; left ventricle end-systolic volume 18–220.22 ml by 3D and 19–224.16 ml by biplane 2D r=0.897, p<0.01; left ventricle ejection refraction 18.75–71.00% by 3D and 21.5–71.6% by biplane 2D. r=0.797, p<0.01. **Conclusion:** The result of this study suggest that real-time volumetric 3D could proved more comprehensive and accurately left ventricle systolic function.

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Morphology and Cardiac Functions in Chronic Kidney Failure Patients on Dialysis with and without Renal Residual Function

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Introduction: CKF patients despite therapeutic advances show higher cardiac morbid-mortality indexes than the general population. The most common cardiovascular problems in CKF patients are: coronary disease, heart failure, left ventricular hypertrophy (LVH), peripheral arteriopathy and brain vascular diseases. LVH is resulted of an increase in resistance of the vessels and an overload of intravascular volume. Patients with renal residual function on hemodialysis treatment could have the ventricular morphology different from those that do not have RRF. **Objectives:** This study evaluates the left ventricle (LV) morphologic and functional alterations in two groups of CKF patients: without RRF (G1) and with RRF (G2) undergoing hemodialysis. **Materials and Methods:** Thirty one patients were studied: G1 (n=14) and G2 (n=17). They were evaluated by echodoppler cardiography. The morphology and cardiac function were analysed according to the variables: Cardiac Output (CO), LV final diastolic volume. (LVDV), Ejected Systolic Volume (ESV), Left Ventricle diastolic diameter (LVD), Mass Left Ventricle (LVM), Ejection Fraction (EF) and Relative Thickness of Left Ventricle Wall (RTLWV). **Results:** Patients from the group G1 presented higher RTLWV, when were compared with group G2 (0.44±0.01 vs 0.38±0.001; p<0.0008). Other significant differences were observed, when we compared G1 v G2 groups respectively: CO, (5.08±0.39 vs 6.84±0.30 l.min; p<0.001), LVDV (112.5±7.6 vs 141.1±6.7 ml; p<0.01), ESV (74.4±5.43 vs 95.1±4.3 ml.bp; p<0.005) and LVD (47.9±1.12 vs 51.8±0.79 mm; p<0.0072). No difference was observed in EF (66.0±1.46 vs 66.3±1.24%; p= 0.873) and in the LVM (214.8±14.6 vs 219.4±10.5 g; p=0.798). **Discussion:** Thus, the highest Cardiac Output in G2 group can be due to the LV geometrical pattern. G1 group showed values of RTLWV of LV larger than those observed in G2 group. When we compared data in both groups, it was possible to say that RRF presented in G2 could be responsible for better ventricular performance in these patients on dialysis. **Conclusion:** The best preservation of residual renal function (and diuresis) seems to be connected to the Left Ventricle geometric pattern measured by calculating the Relative Thickness of Left Ventricular Wall.

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Huge Left Atrium Thrombus and Chronic Pulmonary Artery Thrombus due to Critical Mitral Valve Stenosis

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Introduction: Mitral valve stenosis (MS) is associated with significant incidence of left atrium (LA), mostly LA appendage (LAA) thrombi. Pulmonary hypertension (PH) and predisposition to