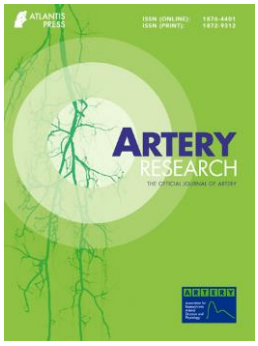

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13.2: EFFECTS ON VASCULAR STRUCTURE AND FUNCTION OF SINGLE AT1R BLOCKADE OR ITS COMBINATION WITH CCB, DIURETICS OR THEIR TRIPLE ASSOCIATION

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cuff oscillometric cuff method (Arteriograph, Tensiomed). With PWV and Aix adjustments were made for potential confounding by height, age, gender, and baseline mean arterial pressure.
Results: Seated office brachial BP on inclusion was (mean values ± SD) 154±10/93±9 mmHg. Baseline central BP was 154±19/93±9 mmHg, central PP was 61±13 mmHg, PWV 9.0±2.1 m/s, AIx 45±13%, and transit time 61±12 ms. Treatment induced changes (mean values ± SEM) in central BP (-8±2/-8±1%; both P<0.01), aortic PP (-9±2 mmHg; P<0.01), PWV (-5.2±2.0%; P<0.05), AIx (-12±3%; P<0.01), and transit time (8±3 ms; P<0.01). Ramipril induced greater changes than doxazosin in central BP (-13±2/-11±2 vs -2±2/-3±2%; all P<0.01), central PP (-16±3 vs -2±3 mmHg; P<0.01), and AIx (-18±4 vs -5±4%; P<0.05). The reductions in PWV were similar for ramipril and doxazosin (-6±3 vs -4±3%, respectively).
Conclusions: Both ramipril and doxazosin reduce BP and indices of arterial stiffness, with greater effects by ramipril on central BP and AIx. The results suggest that the single cuff oscillometric cuff technique can be used to evaluate effects of antihypertensive treatment on central BP and arterial function.

13.2
EFFECTS ON VASCULAR STRUCTURE AND FUNCTION OF SINGLE AT1R BLOCKADE OR ITS COMBINATION WITH CCB, DIURETICS OR THEIR TRIPLE ASSOCIATION

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Environment/Objectives: The antihypertensive efficacy of Valsartan (VAL) is largely known in monotherapy and combination with CCB and diuretics (D) but there is scarce evidence of its vascular effects in subjects younger than 60 y.o. Otherwise, there is a rationale supporting using combinations in high CV risk or patients with higher BP but vascular findings are not considered still as a reason.
To analyze a population of subjects <60 y.o treated with different regimens of antihypertensive drugs and the vascular patterns in each group.
Methods: From the database of our Non Invasive Vascular lab with 7865 p. first evaluation, we analyzed in a real life case control, retrospective study 700 control hypertensives, 57 on VAL monotherapy, 28 on VAL+D, 64 on VAL+CCB and 21 on triple combination (VAL+CCB+D). Data of CV RF and Vascular parameters (IMT, Plaques, PWV, Endothelial Function (EF) and Arterial Stiffness (AS) like CAP and Aix) are reported.
Results: Mean age was 52.5 + 4.2 y.o. and males mean 73%. Older subjects, obese, smokers and those presenting Metabolic Syndrome (MS) were predominant in combination groups. (p<0.001) Higher levels of BP and lower levels of BP control were observed in combination groups.(p<.001)
Vascular disease parameters were worse in combination groups (IMT, Plaques, PWV, CAP and Aix) but no EF (p<.001) than in monotherapy.
Conclusion: With limitations of an observational study, we found that doctors use combinations in more sick patients, with high CV risk profile and it is related with more severe vascular compromise deserving more intensive therapeutic regimens.

13.3
SACUBITRIL/VALSARTAN THERAPY IS ASSOCIATED WITH DECREASE OF ARTERIAL ELASTANCE IN STABLE PATIENTS WITH HEART FAILURE WITH REDUCED EJECTION FRACTION

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Objective: Angiotensin receptor-neprilysin inhibition with LCZ696 is a novel approach for the treatment of heart failure with reduced ejection fraction (HFrEF). The aim of the study was to assess the effects of valsartan/sacubitril on parameters of ventricular-arterial coupling and left ventricular (LV) work efficiency in patients with stable HFrEF.
Methods: In the open-label follow-up to PARADIGM HF study 18 patients with stable HFrEF (16 male, 69±9 years (MSD), arterial hypertension 83%, previous myocardial infarction 89%, diabetes mellitus 39%, LVEF 324%) were enrolled. 2-dimentional echocardiography was performed to assess arterial (Ea) and end-systolic LV elastance (Ees) baseline and after 6 month LCZ696 therapy. VAC was assessed as the ratio Ea/Ees. Wilcoxon test was considered significant if p<0.05.
Results: Baseline brachial BP decreased from 137.1±22.0/83.4±11.8 to 120.5±13.5/75.1±9.3 mmHg (Δ -16.6±14.2/-8.3±10.3 mmHg, p<0.05). LCZ696 therapy was associated with significant decrease of VAC (2.10±0.55 vs 1.68±0.32, p<0.05), Ea (2.11±1.04 vs 1.66±0.6 mmHg/ml/m^2 (Δ -0,70 (-0.26%)), p<0.05), arterial peripheral resistance (0.029±0.016 vs 0.027±0.011 mmHg/ml/min, p<0.05), increase of stroke volume (63±24 vs 78±26 ml, p<0.05). Ees remained unchanged (1.11±0.42 vs 1.01±0.52 mmHg/ml/m^2, p>0.05). LCZ696 therapy was associated with potential energy decrease (8049±2846 vs 5037±2492 mmHg*ml/m^2, p<0.05),stroke work/pressure-volume area index (LV work efficiency) increase (0.48±0.09 vs 0.63±0.05, p<0.05). There was no statistically significant correlation between decrease of Ea and brachial BP decrease.
Conclusion: LCZ696 therapy was associated with BP-independent improvement in VAC related with decrease of Ea rather than Ees changes and associated with decrease of arterial peripheral resistance and improvement of LV work efficiency
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13.4
SACUBITRIL/VALSARTAN THERAPY IS ASSOCIATED WITH DECREASE OF PULSE WAVE VELOCITY IN STABLE PATIENTS WITH HEART FAILURE WITH REDUCED EJECTION FRACTION

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Objective: Dual neprilysin inhibition and angiotensin receptor blockade with LCZ696 has been shown therapeutic benefits in chronic heart failure (CHF) patients. The aim of the study was to assess sacubitril/valsartan effects on parameters of arterial stiffness in stable heart failure with reduced ejection fraction (HFrEF).
Methods: In the open-label follow-up to PARADIGM HF study 18 patients with stable HFrEF (16 male, 699 years (MSD), arterial hypertension 83%, previous myocardial infarction 89%, diabetes mellitus 39%, dyslipidemia 56%, LVEF 324%, serum creatinine 11821 μmol/l, eGFR 5613 ml/min/1.73m^2, potassium 4.450.35 mmol/l) were enrolled. Patients received a stable background treatment for at least a month (ACEI 94%, beta-blockers 100%, aldosterone receptor antagonists 83.3%, loop diuretics 72.2%). Applanation tonometry was performed baseline and after 6 month LCZ696 therapy. Wilcoxon test was considered significant if p<0.05.
Results: Baseline brachial BP decreased from 137.1±22.0/83.4±11.8 to 120.5±13.5/75.1±9.3 mmHg (Δ -16.6±14.2/-8.3±10.3 mmHg, p<0.05), heart rate did not change (78±12 vs 75±15 beats/min (Δ -2.7±14.7 beats/min, p>0.05). Valsartan/sacubitril therapy was associated with significant decrease of carotid-femoral pulse wave velocity (11.5±2.9 vs 10.2±2.9 m/s, p<0.05), central systolic (125±16 vs 116±15 mmHg, p=0.005) and diastolic (78±7 vs 74±9 mmHg, p<0.05) blood pressure. Central pulse pressure (45±11 vs 41±16 mmHg), augmentation pressure (16±7,1 vs 13,8±8,4 mmHg), augmentation index (29±7 vs 28±11%), time to reflected wave (128±8 vs 132±7 ms) did not change significantly (p>0.05 for all comparisons).
Conclusion: 6 month sacubitril/valsartan therapy was associated with significant decrease of aortic systolic pressure and pulse wave velocity.
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