

($-12.6/-9.1$ mmHg, $p < 0.05$) and to the sham group ($-10.5/-10.1$ mmHg, $p < 0.05$) at 28-days. The denervation effects were confirmed by pathological findings without significant ablation-related complications.

Conclusion: The ultrasound imaging-based RDN can be safely and effectively achieved in this animal model and had the potential to be a novel procedure for improving RDN.

Keywords: Ultrasonography, Renal Denervation, Innervation, Hypertension, Ablation

A4073 SODIUM ACETATE AND ANDROGEN RECEPTOR BLOCKADE IMPROVE GESTATIONAL ANDROGEN EXCESS-INDUCED DETERIORATED GLUCOSE HOMEOSTASIS AND ANTIOXIDANT DEFENSES IN RATS: ROLES OF ADENOSINE DEAMINASE AND XANTHINE OXIDASE ACTIVITIES

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Objectives: Nutritional challenges and androgen excess have been implicated in the development of gestational diabetes and poor fetal outcome, but the mechanisms are not well delineated. The effects of short chain fatty acid (SCFA) on glucose dysmetabolism and poor fetal outcome induced by gestational androgen excess is also not known. We tested the hypothesis that blockade of androgen receptor (AR) and suppression of late gestational androgen excess prevents glucose dysmetabolism and poor fetal outcome through suppression of adenosine deaminase (ADA)/xanthine oxidase (XO) pathway.

Methods: Twenty-four pregnant Wistar rats were treated (sc) with olive oil, testosterone propionate (0.5 mg/kg) singly or in combination with SCFA (sodium acetate; 200 mg/kg; po) or AR blocker (flutamide; 7.5 mg/kg; po) between gestational days 14 and 19.

Results: The results showed that late gestational androgen excess led to glucose deregulation, poor fetal outcome, increased plasma and hepatic free fatty acid and lactate dehydrogenase (LDH), liver function marker enzymes, malondialdehyde (MDA), uric acid (UA), ADA and XO activities. Conversely, gestational androgen excess resulted in reduced body weight gain, visceral adiposity, plasma and hepatic anti-oxidant defenses (glutathione peroxidase, reduced glutathione/glutathione disulphide ratio, glucose-6-phosphate dehydrogenase, adenosine and nitric oxide). However, all these effects were ameliorated by either sodium acetate or flutamide treatment.

Conclusion: The study demonstrates that suppression of testosterone by SCFA or AR blockade protects against glucose deregulation and poor fetal outcome by improvement of anti-oxidant defenses through suppression of ADA/XO pathway. Hence, utility of SCFA should be encouraged for prevention of glucose dysmetabolism and poor fetal outcome.

Keywords: "Androgen receptor", "gestational testosterone", "gut microbiota metabolites", "hepatic anti-oxidant", "SCFA"

A5846 PROGNOSTIC ROLE OF FLOW-MEDIATED VASODILATORY RESPONSE IN PATIENTS WITH CHRONIC HEART FAILURE

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Objectives: To establish the dependence of endothelium-mediated vasodilatory response on severity, etiology of CHF, depending on the availability of the phenomenon of insulin resistance and 12-months survival prognosis of CHF.

Methods: We examined 106 hemodynamically stable CHF patients (pts), NYHA II-IV, LVEF $< 40\%$. Hypertensive heart disease (HHD) was established in 66 pts and dilated cardiomyopathy (DCMP) in 40 pts. 42 pts (40%) had IR. Diameter of a brachialis (D) was detected ultrasonographically before (D1) and after (D2) standard forearm cuff test. Insulin resistance index (HOMA-IR) was calculated according to the formula: fasting insulin (microU/L) x fasting glucose (nmol/L)/22.5. IR was based on the value of the index HOMA^{3,77}. Kaplan-Meier 12-months survival analysis was performed for FMV/

Results: In CHF pts FMV was significantly impaired in comparison to age-matched controls ($6.8 \pm 0.5\%$ vs $11.04 \pm 1.3\%$, $p < 0.01$). More pronounced impairment of FMD in III-IV NYHA class pts than in II NYHA class was observed ($6.3 \pm 0.8\%$ vs $7.1 \pm 1.1\%$, $p = 0.03$). In DCMP FMV was significantly worse than in HHD ($5.5 \pm 0.8\%$ vs $7.4 \pm 1.3\%$, $p < 0.001$) despite comparable LVEF ($p = 0.47$) and NYHA class ($p = 0.62$) in both groups. In IR pts FMD was

significantly lower than in pts without IR ($5.2 \pm 0.8\%$ vs $7.9 \pm 1.3\%$, $p < 0.03$). Respectively, significant correlation relationship was found between HOMA index and FMV ($\rho = -310$, $p = 0.004$). 12-months survival was significantly better in group with better (above-median) FMV (93% of pts alive vs 85% of pts alive in below-median group, $p = 0.047$), although LVEF in both groups were comparable ($33.5 \pm 8.1\%$ vs $32.1 \pm 7.3\%$, $p = 0.32$).

Conclusion: In CHF FMV is pronounsly impaired, particularly in NYHA III-IV, DCMP pts and IR pts. The better FMV responders demonstrated the better 12-months survival.

Keywords: "flow-mediated vasodilation", "hypertensive heart disease", "dilated cardiomyopathy", "chronic heart failure"

A5876 CLINICAL AND PROGNOSTIC ROLE OF STRUCTURAL CHANGES OF LARGE ARTERY AND THE STATE OF PERIPHERAL BLOOD FLOW IN PATIENTS WITH CHRONIC HEART FAILURE

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Objectives: To investigate the dependence of structure of a.femoralis (a.F) and peripheral blood flow (PBF) on severity and 12-months survival prognosis of chronic heart failure (CHF).

Methods: Ultrasonography of a.F, a.dorsalis pedis (a.DP) were performed in 129 patients (age 56.6 ± 1.2 years; 89 males) with stable CHF (NYHA II-III) and LVEF $< 40\%$ and in 40 age-matched healthy subjects. Diameter (D), intima-media thickness (IMT) of a.F, velocities (Vps and Ved) in a.DP were measured; index of relative wall thickness (RWT) of a.F: $RWT = IMT/D$; index of peripheral resistance (RI): $RI = (Vps - Ved)/Vps$. Kaplan-Meier 12-months survival analysis was performed for RWT as well as for Vps, Ved, RI in a.DP.

Results: In pts with CHF IMT and RWT were significantly higher ($IMT: 0.99 \pm 0.16$ vs 0.59 ± 0.09 mm, $p < 0.001$; $RWT: 0.16 \pm 0.03$ vs 0.10 ± 0.01 unit, $p < 0.001$). Vps and Ved in a.DP were significantly lower in pts with CHF (39.3 ± 2.1 vs 56.4 ± 6.6 cm/s, $p < 0.01$ and 5.2 ± 0.8 vs 12.9 ± 1.7 cm/s, $p < 0.01$, respectively), and RI in a.DP was significantly higher (0.83 ± 0.04 vs 0.77 ± 0.02 unit, $p < 0.01$). These changes become more pronounced in pts with NYHA class III-IV than in NYHA class II (Vps 32.3 ± 1.9 vs 35.7 ± 2.1 cm/s, $p = 0.03$, Ved 5.8 ± 0.7 vs 6.9 ± 1.3 cm/s, $p = 0.03$ and RI 0.84 ± 0.03 vs 0.82 ± 0.02 unit, $p = 0.04$, respectively). Kaplan-Meier 12-months survival analysis was performed in relation to the RWT ($p = 0.038$), Vps in a.DP ($p = 0.04$), Ved in a.DP ($p = 0.037$) and RI in a.DP ($p = 0.04$). Significantly lower survival was apparent in pts with $RWT > 0.16$, $Vps < 36$ cm/s, $Ved < 6$ cm/s, $RI > 0.84$ unit.

Conclusion: The present study indicates that remodeling of peripheral blood vessels is accompanied by decrease peripheral arterial blood flow and by increase in resistance of resistive vessels in patients with CHF. RWT, Vps, Ved and RI in a.DP may be used for mortality risk stratification.

Keywords: "large artery", "peripheral blood flow", "chronic heart failure"

A4088 PARTICIPATION OF THE MIR-33A, MIR-33A* AND MIR-33B IN HYPERTENSION SUBJECTS WITH SUBCLINICAL ATHEROSCLEROSIS

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Objectives: Explore the participation of the miR-33a, miR-33a* and miR-33b, contained in the transcription factors SREBF2 and SREBF1, respectively, in the hypertension subjects with subclinical atherosclerosis.

Methods: Until now, we have been studying 58 subjects (28 controls and 30 with essential hypertension) who underwent a lipid profile and carotid ultrasound. Gene expression analyses of LRP1, SREBP-1, SREBP-2 were performed at mRNA level and miR-33a, miR-33a* and miR-33b were determined in human monocytes using RT-PCR.

Results: At the moment, we observed that miR-33a* expression is significantly higher in the hypertensive group ($p = 0.018$), whereas SREBP-1 ($p < 0.001$) and SREBP-2 ($p = 0.014$) expression is significantly reduced with respect to control group. Furthermore, this show a positive correlation between miR-33a ($p = 0.018$) and miR-33a* ($p = 0.038$) expression with IMT.

Conclusion: miR-33a and miR-33a* have a positive correlation with ITM in hypertensive patients, and miR-33a* is significantly higher in hypertension.