hyperthyroidism hospitalizations, 4% had chronic kidney disease. Chronic kidney disease with hyperthyroidism had a similar odd of inpatient mortality (AOR 0.79, CI 0.34–4.52, P= 0.787) and cardiogenic shock (AOR 2.66, CI 0.35–20.50, P=0.347). There was a statistically significant increase in odds of acute kidney injury (AOR 2.77, CI 1.60- 4.80, P <0.001) in those hospitalized with hyperthyroidism and chronic kidney disease compared to those with hyperthyroidism alone

Conclusion: Chronic kidney disease is associated with similar odds of hospital mortality and cardiogenic shock among patients hospitalized for hyperthyroidism with increased odds of acute kidney injury compared to those without hyperthyroidism. It is very important to consider all clinical features and thyroid manifestations in those patients with CKD.

Cardiovascular Endocrinology
CARDIOVASCULAR ENDOCRINOLOGY

Epigenetic Programming Reverses Cardiometabolic Dysfunctions and Modulates Hypothalamic Genes Involved in Oxidative Stress and Inflammation in Angiotensin II-Treated Male Mice

Mona Elgazzaz, MD.MS[1], Franck Mauvais-Jarvis, MD, PhD[2], Eric Lazartigues, PhD[1].

[1]Louisiana State University Health Sciences Center, New Orleans, LA, USA, [2]Tulane University Health Sciences Center, New Orleans, LA, USA.

Cardiometabolic disease is a global health issue that affects millions of people worldwide. Environmental perinatal exposure affects the health outcomes of the offspring and determines their disease susceptibility later in life. Angiotensin-II (Ang-II) is a peptide known to cause vasoconstriction, elevated blood glucose levels and inflammation. Previously, we reported that perinatal exposure to a hypercaloric diet (HD) results in elevated blood pressure (BP), weight gain, fasting hyperglycemia and glucose intolerance only in male mice. In addition, subcutaneous infusion of a sub-pressor dose of Ang-II was associated with a normalization in fasting blood glucose levels and a reversal of glucose intolerance only in programmed male mice. We hypothesize that epigenetic programming blocks the deleterious effects of Ang-II by altering its inflammatory signaling pathway. C57BL6/J dams were fed HD or regular diet (RD) for 1 month before mating with RD-fed males. After weaning, offspring of HD dams (programmed) and of RD dams (controls) were maintained on RD until 3 months of age. Mice then underwent 24 h BP recording (telemetry) and were implanted with Ang-II osmotic pumps (200 ng/kg/min/2 weeks). BP (24 h) was recorded weekly for 2 weeks. Mice were then sacrificed and hypothalami were harvested for mRNA sequencing (Illumina NextSeq). Programmed mice had lower 24 h systolic BP levels compared to control males (area under the curve: 41844 ±263.2 *vs.* 44522 ±275.6; p<0.0001). For RNAseq analysis, data showed 62 differentially expressed genes (DEG) in programmed males compared to controls. Using iPathway analysis, we found that some of the DEG are correlated to cholinergic synapse pathway (p=0.005) and neuroactive ligand-receptor interaction pathway (p=0.003). Nicotinic acetylcholine alpha-7 receptor (Chrna7) gene, known for its anti-inflammatory and hypoglycemic effects was upregulated in programmed males (p=0.024). On the other hand, genes involved in metabolic pathways and oxidative stress were differentially expressed as well. Phospholipase A2 group 3 (Pla2g3) gene, known to be overexpressed in oxidative stress was downregulated in programmed males (p=0.04). Moreover, Thiosulfate sulfurtransferase (Tst) gene, an antioxidant enzyme and used as a marker for enhanced insulin sensitivity was upregulated (p=0.023) in programmed males. Interestingly, female mice did not show any changes in BP or gene expression between the two groups. In conclusion, perinatal exposure to HD alters the cardiovascular response to Ang-II possibly through the modulation of gene expression of Chrna7 gene and genes involved in oxidative stress. Future experiments will be investigating the signaling pathways used in epigenetic programming to affect inflammation and oxidative stress in male mice.

Cardiovascular Endocrinology
CARDIOVASCULAR ENDOCRINOLOGY

Exploring Cardio-Metabolic Effects of Liraglutide in Patients With Type 2 Diabetes Through a Proteomic Approach

Aishah Ali Ekhzaimy, MD[1], Afshan Masood, Dr, MD[1], Hicham Benabdelkamel, Dr, MD[1], Tasnem Elhassan, Dr, MBBS MD[2], Assim A. Alfadda, Dr, MD[1].

[1]King Saud University, Riyadh, Saudi Arabia, [2]King saud university, Riyadh, Saudi Arabia.

Background: Diabetes is associated with complications that increase the risk of cardiovascular events in diabetic patients by 3 folds compared to healthy population. Liraglutide is a GLP-1 receptors agonist that showed cardiovascular benefits beside its glycemic advantage and weight reduction. The cardioprotective benefit of liraglutide in diabetic patients is unclear. **Objective:** To explore potential cardiovascular-protective and metabolic effects of Liraglutide treatment in patients with T2DM, through evaluation of alterations in circulatory proteins using a proteomics approach. To relate the altered proteins to identify pathways using bioinformatics and network pathway analysis. **Methods:** Twenty adult patients with T2DM were recruited with HbA1c of 8–11 %, on oral anti-diabetic agents or insulin in whom liraglutide was indicated, after obtaining the consent. At baseline: anthropometric measurements, basal blood for HBA1c, Renal function, creatinine clearance, lipid profile and urine in the fasting state. Then Liraglutide 1.8 mg subcutaneous once daily injection was initiated as prescribed by the treating physician. AT 3 months follow up visit post-treatment, similar parameters were measured. Primary endpoint was the reduction from baseline in HbA1c for ≥ 0.5 %. **Results:** Alterations in the abundance of urinary proteins, analyzed by Progenesis software, revealed statistically significant differential abundance in a total of 80 spots corresponding to 71 proteins, 14 up and 57 down (≥1.5-fold change, ANOVA, p ≤ 0.05) in the post treatment group. The proteins identified in our study are known to regulate processes related to acute phase response (APR), cellular metabolism and transport. The post treatment group demonstrated an increased