high salt diet affected methylation status of 11-HSD1 in the adipose tissue but not 11-HSD2 gene in the kidney in SSH. Food intake such as salt may influence the epigenesis of 11-HSD and induce hypertension.

Diabetes Mellitus and Glucose Metabolism

LIPIDS, OBESITY AND METABOLIC DISEASE

Associations of Serum and CSF Kisspeptin Levels with Metabolic and Reproductive Parameters in Men

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Action of kisspeptin in the central nervous system (CNS) is well known on reproductive regulation; however, its peripheral action is not well understood. Recent studies have shown that peripheral kisspeptin might be related to obesity and/or metabolic parameters in humans [1]; however, these associations are still inconclusive. This study aimed to 1) compare serum or cerebrospinal fluid (CSF) kisspeptin levels between different body mass index (BMI) groups 2) compare levels of kisspeptin between serum and CSF, and 3) determine correlations between serum or CSF kisspeptin levels with clinical, metabolic, and reproductive parameters. There were 40 male subjects who underwent an operation with lumbar puncture anesthesia. Subgroup analysis was performed to compare between the lean-normal group (n=13) which included lean and normal weight subjects, the overweight group (n=10), and the obese group (n=17) according to BMI. Blood samples were collected after at least 8-hour fasting before intravenous cannulation prior to the operation while CSF samples were obtained by lumbar puncture before administration of the spinal anesthesia. Serum kisspeptin and leptin levels were significantly higher in the obese group when compared to the lean-normal and overweight groups even after adjusted to age while CSF kisspeptin levels were comparable between different BMI groups ($p<0.05$ all). Serum kisspeptin levels were significantly higher than CSF kisspeptin levels ($p<0.001$). Serum kisspeptin was significantly positively correlated with body weight ($R= 0.351$), BMI ($R=0.549$), plasma insulin ($R=0.393$), and serum leptin ($R=0.45$) ($p<0.05$ all), and tended to have a positive correlation with the Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) ($R=0.29$, $p=0.77$) but was significantly negatively correlated with plasma LH ($R=-0.37$) ($p<0.05$). CSF kisspeptin was significantly positively correlated with plasma LH ($R=0.452$, $p<0.05$). These results suggest that serum kisspeptin levels were related to increased obesity, leptin, insulin, and insulin resistance while CSF kisspeptin levels were related to reproductive parameters. In summary, central kisspeptin might have a role on reproductive regulation while peripheral kisspeptin might have a role on metabolic regulation. **Reference:** (1) Izzi-Engbeaya, C., et al., The effects of kisspeptin on beta-cell function, serum metabolites and appetite in humans. Diabetes Obes Metab, 2018. 20(12): p. 2800–2810.

Neuroendocrinology and Pituitary

NEUROENDOCRINE & PITUITARY PATHOLOGIES

Central Adrenal Insufficiency Is Rare in Adults with Prader-Willi Syndrome

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SUN-308

Introduction: Prader-Willi syndrome (PWS) is associated with several hypothalamic-pituitary hormone deficiencies. There is no agreement on the prevalence of central adrenal insufficiency (CAI) in adults with PWS. This is partly due to the variable results of the synacthen test, compared with the more robust metyrapone test (MTP) and insulin tolerance test (ITT). In some countries, patients with PWS receive stress-dose corticosteroids during physical or psychological stress. Side effects of frequent corticosteroids use are weight gain, osteoporosis, diabetes mellitus and hypertension, already major problems in adults with PWS. However, undertreatment of CAI can cause significant morbidity or even mortality. To prevent over- and undertreatment with corticosteroids, we assessed the prevalence of CAI in a large international cohort of adults with this rare disorder.
Methods: The hypothalamic-pituitary-adrenal axis was tested in 81 adult subjects (55 Dutch, 10 British, 10 French, 6 Swedish) with genetically confirmed PWS. For multiple-dose MTP, 11-deoxycortisol >230 nmol/L (7.6 g/dL) was considered sufficient. For Dutch, French and Swedish patients who underwent ITT, cortisol >500 nmol/L (18.1 µg/dL) was considered sufficient. For British patients cortisol >450 nmol/L (16.3 µg/dL) was considered sufficient, as this center used a different assay. Additionally, we reviewed medical files of 645 adults with PWS from Italy (240), France (110), the Netherlands (110), Australia (60), Spain (45), Sweden (38) and the United Kingdom (42) for symptoms of hypocortisolism/adrenal crisis during surgery.
Results: Data on 81 adult subjects (46 males and 35 females), median age (range) 25.2 yr (18.0 – 55.5), median BMI (range) 29.1 kg/m^2 (20.0 – 62.0), with genetically confirmed PWS were collected. 33 subjects (41%) were using GH treatment since childhood. Multiple-dose MTP was performed in 45 subjects and ITT in 36 subjects. Both tests