this clinical condition to avoid misdiagnosis, delay in treatment or over-treatment. Common etiologies causing PCS include depression, chronic alcoholism, obesity, physical stress, malnutrition, eating disorders, uncontrolled DM, obstructive sleep apnea. PCS occurs due to chronic activation of the hypothalamic-pituitary-adrenal axis, it is usually mild and resolves with treatment of underlying etiology. In our case, first-line screening tests could differentiate between PCS and CD hence she did not require late-night salivary cortisol testing or corticotropic-releasing hormone testing.

Conclusion: In our patient, PCS occurred secondary to malnutrition and severe gluco-toxicity which mimicked insulin-dependent type 1 DM. Interestingly, once her nutritional status and insulin compliance improved, cortisol levels normalized, gluco-toxicity state resolved and she no longer required exogenous insulin therapy.

Neuroendocrinology and Pituitary

PITUITARY TUMORS I

3D Mapping of the Human Growth Hormone Locus Identifies Putative Regulatory Hubs for Genes Involved in Cellular Signalling and Cancer-Related Pathways

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SAT-303

Growth hormone (GH) is a peptide hormone predominantly produced in the pituitary that is crucial for normal growth and metabolism. Downstream effects of GH are mediated through binding to the GH receptor (GHR) and consequent activation of key signalling cascades including JAK-STAT, MAPK, PI3K-Akt and mTOR. The *GH* locus is comprised of five evolutionarily related genes under the control of an upstream locus control region which coordinates tissue-specific expression of these genes in the pituitary and placenta (1). Compromised GH signalling and genetic variation in these genes has been implicated in various disorders including cancer. We hypothesised that polymorphisms which occur within the *GH* locus have the potential to impact on disease phenotypes by altering or disrupting gene regulation. We used the CoDeS3D (Contextualize Developmental SNPs using 3D Information) algorithm to analyse 529 common single nucleotide polymorphisms (SNPs) across the locus. This algorithm identifies colocalised Hi-C and eQTL associations to determine which SNPs are associated with a change in gene expression at loci that physically interact within the nucleus. We identified 181 common SNPs that interacted with 292 eGenes in 48 different tissues. 145 eGenes were regulated in *trans*. We performed pathway enrichment of identified eGenes and found these to be enriched in GH/GHR-related downstream cellular signalling pathways including MAPK, PI3K-Akt-mTOR, and ErbB signalling. Enrichment was also observed in the Wnt and Hippo signalling pathways. There was also a significant representation of these eGenes in pathways associated with hepatocellular, colorectal, breast and non-small cell lung carcinoma. 33 eQTL SNPs identified in our study were found to be of regulatory importance in a genome-wide Survey of Regulatory Elements (SuRE) reporter screen (2). In addition, 7 eQTL SNPs were located in known enhancer regions. Our data suggests that regions within the *GH* locus form regulatory hubs for multiple genes in *cis* and *trans* (intra and inter-chromosomal), many of which are involved in mediating GH function in normal and pathogenic states.

Reference: (1) Tsai et al. Nucleic Acids Res 2016, 44, 10, 4651 (2) van Arensbergen et al. Nat Genet 2019, 51, 7, 1160.

Cardiovascular Endocrinology

HYPERTRIGLYCERIDEMIA; INFLAMMATION AND MUSCLE METABOLISM IN OBESITY AND WEIGHT LOSS I

Experiences with Hypertriglyceridemic Pancreatitis: A Mini Case Series

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SAT-579

Background: Hypertriglyceridemia (HTG) is a well-established cause of acute pancreatitis (AP) in up to 14% of all cases & up to 56% cases during pregnancy. The triad of HTG, Diabetic ketoacidosis (DKA) and AP is rarely seen posing diagnostic challenges. Early recognition of HTG-induced pancreatitis (HTGP) is important to provide appropriate therapy & prevent recurrence. In this case series, we discuss the diagnostic challenges and clinical features of HTGP. ***Clinical cases:*** Our first patient was a 65-year-old male with a history of hypertension who presented to the ER with abdominal pain and new-onset pruritic skin rash after a heavy meal. His exam and labs were notable for a diffuse papular rash on his back, triglycerides (TG) of 7073mg/dL (normal: <150mg/dL). The rash improved with the resolution of HTG. Our second patient was a 29-year-old male with a history of alcohol dependence who was found to have AP complicated by ARDS requiring intubation. Further testing revealed that his TG was 12,862mg/dL & his sodium (Na) was 102mEq/L. Although HTG was known to cause pseudohyponatremia, it was a diagnostic challenge to estimate the true Na level. In a third scenario, a 28-year-old female with a history of T2DM on Insulin presented with nausea & abdominal pain. Labs were suggestive of DKA and lipase was normal. CT abdomen showed changes consistent with AP. The TG level that was later added on was elevated to 4413mg/dL. She was treated with insulin that improved her TG level. ***Discussion:*** We present three cases of hypertriglyceridemic pancreatitis. While the presentation can be similar to other causes of acute pancreatitis (AP), there are factors in the diagnosis and management of HTGP that are important to understand. Occasionally, physical exam findings can be suggestive of underlying HTG. In the first scenario, our patient presented with eruptive xanthomas - a sudden eruption of crops of papules that can be pruritic. They are highly suggestive of HTG, often associated with serum TG levels > 1500mg/dL. Our second patient presented with pseudohyponatremia.