metastasis and left adrenal gland radiation (20 G in 5 daily fractions) about 10 months ago. For the past 10 months, the patient had reported no weight loss, nausea, vomiting, or other symptoms or signs of adrenal insufficiency, apart from intermittent fatigue, which he had attributed to his lung cancer diagnosis. On review, a previous PET/CT scan showed intense FDG uptake in the bilaterally enlarged adrenal glands, measuring 3.3 x 2.8 cm on the left, and 3.1 x 1.8 cm on the right. His ACTH level was found to be elevated to 1,023 pg/ml (range: 6-63) with borderline low free cortisol level 0.06 mcg/dl (range 0.04-0.35). Aldosterone level was found to be 3.4 ng/dl (range: 4-31), with a renin level of 36.2 ng/ml/hr (range: 0.5-4). Primary adrenal insufficiency was diagnosed, and the patient was started on hormone replacement therapy, which was titrated as outpatient. Now he is continued on a regimen of hydrocortisone 15 mg and 5 mg, at 8 am and 3 pm respectively, and fludrocortisone 0.1 mg daily. In two months, his ATCH level fell from 1,023 to 89 pg/ml with normalization of kidney functions, sodium level (now 137 mmol/L) and potassium level (now 4.8 mmol/L). He gained 4 kg, and has been feeling more energetic and functional on his follow up visits.

Conclusion: Patients with adrenal metastatic cancer may have atypical symptoms and signs despite having severe primary adrenal insufficiency. High risk patients should be monitored, even in the absence of symptoms, for the development of adrenal insufficiency.

Reference:
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Bone and Mineral Metabolism

BONE AND MINERAL CASE REPORTS II

Severe Hypophosphatemia Induced by Intravenous Ferric Carboxymaltose Therapy for Iron Deficiency Anemia

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MON-338

Severe hypophosphatemia induced by intravenous ferric carboxymaltose therapy for iron deficiency anemia

Background: Ferric carboxymaltose (Injectafer), a newer intravenous iron agent permits larger iron concentrations to be delivered in fewer doses compared to traditional preparations of intravenous iron. However, ferric carboxymaltose has been shown to up-regulate fibroblast growth factor 23 (FGF23) which can result in severe hypophosphatemia. We present a case illustrating this phenomenon.

Clinical Case: A 48 year-old Caucasian female was admitted to the emergency department with complaints of gradual onset muscle weakness and severe exhaustion. Over the course of several months she noticed significant muscle weakness in all extremities. Her co-morbidities included morbid obesity (status-post Roux-en-y bypass surgery), asthma, and hereditary angioedema. Due to her history of gastric bypass surgery, the patient required monthly iron sucrose infusions over the previous two years. Her regimen was changed to ferric carboxymaltose (Injectafer) about five months prior to the admission, receiving 750mg treatments twice monthly.

On admission, she was found to have severe hypophosphatemia of 1.5 mg/dL (2.1 – 4.7 mg/dL) with 25-OH vitamin D 21 ng/mL and PTH of 155 pg/mL. A random urinary phosphate was 72 mg/dL with a urine creatinine of 45 mg/dL, with calculated fractional excretion of phosphorus of 74%. Further diagnostic tests including EMG / nerve conduction studies, inflammatory markers, autoimmune workup, and creatine kinase were negative. She was found to have a ferritin of 2159 ng/mL (11 – 306 ng/mL) from previous baseline of 12.8 ng/mL with normal ESR and CRP. This was elucidated to be due to iron overload from IV iron infusions out of proportion to her needs. Therefore, ferric carboxymaltose was discontinued. Her symptoms gradually improved with phosphorus and vitamin D supplementation. Two months later, when seen by Endocrinology, her ferritin was 1220 ng/mL, PTH 44 pg/mL, and phosphorus normalized to 2.6 mg/dL.

Conclusion: Ferric carboxymaltose can cause profound phosphaturia and hypophosphatemia by inhibiting the cleavage of intact FGF23 to the inactive form, a mechanism similar to autosomal dominant hypophosphatemic rickets. Previous clinical trials show the incidence of hypophosphatemia to be as high as 41-70%. We conclude that baseline phosphorus and vitamin D levels should be obtained prior to therapy and monitored closely during treatment.

Reference: Adkinson NF et al. Comparative safety of intravenous ferumoxytol versus ferric carboxymaltose in iron deficiency anemia: A randomized trial. Am J Hematol. 2018;93(5):683.

Genetics and Development (including Gene Regulation)

ENDOCRINE DISRUPTING CHEMICALS

Novel Estrogenic Gene Regulation Induced by OTC Medications Containing Paraben Preservatives Is Dependent on Concentration that Varies Between Products and Batches

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SAT-713

Methylparaben, ethylparaben, and propylparaben are widely used as preservatives in food products, cosmetics, and pharmaceuticals. Parabens have been shown to be weak estrogens and this laboratory has described that extracts of some over the counter (OTC) medications with paraben preservatives can induce estrogen activity in tissue culture-based bioassays. At the same time, this laboratory determined that extracts from OTC medications containing the laxative bisacodyl induce estrogen activity regardless of parabens present and that bisacodyl...
Neuroendocrinology and Pituitary
CASE REPORTS IN CLASSICAL AND UNUSUAL CAUSES OF HYPOPITUITARISM II

Central Diabetes Insipidus in a Patient with Crohn’s Disease

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MON-236
Unusual Presentation of Central Diabetes Insipidus in a Patient with Crohn’s disease

Introduction
Autoimmune hypophysitis is defined as an inflammatory condition of the pituitary gland of autoimmune etiology that leads to pituitary dysfunction. There are three different histopathological categories of inflammatory hypophysitis including lymphocytic, granulomatous, and xanthomatous hypophysitis. Although, an autoimmune link has been suggested for lymphocytic hypophysitis (LH), the pathogenesis of autoimmune hypophysitis is still incompletely defined. The co-existence of LH and Crohn’s is a rare combination with only a few case reports in the literature.

Case presentation
We present a 39-year-old female with history of Crohn’s disease who presented to the ED with abdominal pain, poor oral intake and headaches. Lab work showed hypernatremia. A neck CT incidentally noted a nodular density along the superior aspect of the pituitary gland. A focused MRI of the pituitary showed abnormal thickening of the pituitary stalk with a prominent and heterogeneous gland. Endocrinology was consulted and on interview patient reported chronic headaches, polyuria and polydipsia for the past year, worsening over the past month. She denied any visual disturbances. Labs showed Na 159, K+ 4.0, serum osmolality 307, urine osmolality 178, specific gravity urine 1.006, cortisol 18, FSH 1.26, LH 0.12, prolactin 55, TSH 1.45 and free T4 0.84. Patient diagnosed with Diabetes Insipidus (DI) from LH and was started on PO desmopressin. Unfortunately, patient continued to have hypernatremia and increased urine output despite increases in the dose and frequency of the oral desmopressin. Given no clinical improvement, decision was made to switch from PO to IV desmopressin considering malabsorption of PO medication in the setting of Crohn’s disease. DI labs including plasma sodium, plasma osmolality, urine osmolality, specific gravity of urine and urine output were closely monitored. Patient’s hypernatremia and increased urine output started to improve with the switch to IV and was ultimately discharged home with intranasal desmopressin.

Discussion
Lymphocytic hypophysitis is a rare disorder predominantly affecting females during the antepartum or postpartum period. This case illustrates the importance of considering its presence in the setting of other autoimmune conditions. It also serves to illustrate the complex management and decision making followed in adjusting the desmopressin formulation in the setting of a malabsorptive disease such as Crohn’s.

Diabetes Mellitus and Glucose Metabolism

METABOLIC INTERACTIONS IN DIABETES

CHL1 Increases Insulin Secretion & Negatively Regulates the Poliferation of Pancreatic β Cell
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SUN-658
CHL1 Increases Insulin Secretion & Negatively Regulates The Poliferation Of Pancreatic β Cell

Objective: CHL1 belongs to neural recognition molecules of the immunoglobulin superfamily, is mainly expressed in the nervous system. CHL1 is involved in neuronal migration, axonal growth, and dendritic projection. RNA sequencing of single human islet cells confirmed that CHL1 had an expression difference in β cells of type 2 diabetes and