secretin stimulation test (SST) can produce false positive results in the setting of proton pump inhibitor (PPI) use. However, withholding the PPI treatment in a patient with severe peptic ulcer disease can be potentially unsafe. There is also a theoretical concern that abrupt withdrawal of PPI will cause a surge in gastrin. Here we discuss a case where SST yielded impressive results despite the use of PPI.

Case report:
78 y.o. Caucasian male presented in December 2018 with chronic nausea, vomiting, diarrhea of 5-year duration. Further evaluation showed severe esophagitis with strictures, multiple gastric and duodenal ulcers and he was initiated on PPI. He also had h/o hyperparathyroidism diagnosed 2 years ago s/p parathyroidectomy (2 of 4 parathyroid glands removed) and one kidney stone in his late 20s and early 70s. He had no family history of any endocrine issues. Physical examination was unremarkable. Labs were significant for gastrin levels (nl <100 pg/mL) of 375 pg/mL in 6/2016 and 219 pg/mL in 11/2018. SST was performed on 12/22/2018 which showed gastrin levels as follows: -10 min=405 pg/mL, - 5 min=404 pg/mL, + 2 min=3201 pg/mL, + 5 min=3439 pg/mL, +10 min=2445 pg/mL, +20 min=1218 pg/mL, +30 min=578 pg/mL. He was diagnosed with gastrinoma based on the SST results. Genetic testing did not show any pathogenic sequence variants or deletions/duplications identified in MEN-1; CASR; CDC73; CDKN1B or RET. Given history of hyperparathyroidism and gastrina, he was clinically diagnosed with MEN1 syndrome. Ga-68 DOTATE scan in May 2019 revealed focal radiotracer avidity in the tail the pancreas suspicious for neuroendocrine tumor and multiple radiotracer avid retroperitoneal and abdominal lymph nodes. Focal radiotracer avid lesion was also noted in the sacrum suspicious for osseous metastatic disease. He was started on lantreotide monthly injections in July 2019. Gastrin level decreased to 94 pg/mL 1 week after first injection, however later increased to 304 pg/mL 1 week after third dose of lantreotide. Surgical options are also being explored.

Conclusion:
An increase in more than 120pg/mL over basal gastrin level within 10 min in SST is consistent with a diagnosis of gastrinoma. Our patient demonstrated an impressive increase in gastrin level with SST while on PPI therapy. Pertinent diagnostic information was successfully obtained without increasing the risk of complications that can occur by withdrawal of PPI therapy.

Diabetes Mellitus and Glucose Metabolism

TYPE 1 DIABETES MELLITUS
A Deadly Triad: Coexistence of Acute Pancreatitis, Hypertriglyceridemia and Diabetic Ketoacidosis
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SAT-684
The coexistence of diabetic ketoacidosis (DKA), hypertriglyceridemia and acute pancreatitis (AP) represent a complex phenomenon described as the enigmatic triad. The exact initial culprit and pathophysiologic mechanism of this chain of events are still unclear posing a challenge in
management. DKA may lead to glucose and lipid metabolism dysregulation which can result in hypertriglyceridemia leading to AP. On the other hand, hypertriglyceridemia may induce AP which may decompensate diabetes and lead to DKA. In both scenarios, this triad results in an uncommon clinical presentation with up to 80% mortality rate. Most frequently reported in children, this entity accounts for only a handful of cases reported in the literature.

Case of an obese, non-alcoholic 57 year old male without history of systemic illness who visits the emergency room due to mid-upper abdominal pain for the past day. Pain radiates to the back, worsens upon laying flat, and is associated with bloating and nausea. He denies previous similar episodes, vomiting, fever or bowel habit changes. Laboratory workup revealed lipidemic sample with hyperglycemia, metabolic acidosis, positive serum ketones, and normal amylase and lipase. Lipid panel revealed hypertriglyceridemia at 6,260 mg/dL (35-150). Glycated hemoglobin at 14.7%. Abdominal computed tomography showed peripancreatic inflammation consistent with pancreatitis. Given clinical and imaging criteria the diagnosis of severe hypertriglyceridemia induced AP and DKA were made. The patient was admitted to ICU and treated with intravenous insulin drip and supportive management. Resolution of DKA and successful decrease in triglycerides to less than 500 mg/dL was achieved by the third day of admission. After six days, the patient was discharged home with insulin and lipid lowering regimens.

This case demonstrates an extremely rare initial presentation of diabetes mellitus. This triad is the result of a toxic chain of events that may be lethal if not promptly identified. This case makes an exemplary lesson as to always take under consideration atypical etiologies to potentially life threatening conditions and also remarks that while uncommon, pancreatitis with normal pancreatic enzymes is a possible phenomenon. Even though false negative amylase has been associated with hypertriglyceridemia induced AP, only a few cases with negative lipase have been described. While no definite explanation has been yet discovered, negative lipase may be explained by early acinar cell apoptosis in AP. More research efforts are necessary in order to improve early diagnosis, treatment, and mortality rate for this rare but potentially deadly triad and to better understand the mechanisms underlying AP and the role that digestive enzymes play.

Case:A 35-year-old female is evaluated for hyperthyroidism discovered in preparation for embryo transfer. History includes transient hyperthyroidism two years ago while undergoing in vitro fertilization. Prior workup included negative antibodies and nuclear uptake scan revealing a right-sided autonomously functioning thyroid nodule with 24-hour uptake of 40.7%. She was briefly treated with PTU in first trimester and lost to follow-up. While once again undergoing fertility treatment with clomiphene, the patient developed tremor and heat intolerance. She was found to have TSH 0.3 (0.45-4.12 mU/L) and analog FT4 of 6.4 (0.8-1.8 ng/dL). She denied use of OTC supplements. PTU 50 mg twice daily was initiated with minimal improvement with TSH 0.7 mU/L, FT4 3.7 ng/dL. On evaluation, slight tremor and mild thyroid enlargement were noted. Our differential expanded to include TSH-secreting pituitary adenoma, thyroid hormone resistance (no family history), and assay interference. Both MRI pituitary and an alpha-subunit level (0.36) were normal. Symptoms improved gradually with repeat TSH 1.79 mU/L, FT4 2.4 ng/dL by standard analog methods. We suspected ‘assay interference’ for which FT4 via direct equilibrium dialysis was obtained and was indeed normal at 0.76 ng/dL. Further lab testing verified interference in both in the standard TSH and FT4 assays presumed secondary to heterophile antibodies.

Discussion: Interpretation of thyroid studies discordant with the clinical picture or incongruent with each other requires understanding of thyroid physiology and the intricacies of commonly utilized assays. The differential of elevated thyroxine levels with detectable/normal TSH rests between thyroid hormone resistance syndromes, TSH secreting pituitary tumors and interfering substances in the assay. Most commercially available TSH assays are based on a ‘sandwich’ assay which is notoriously interfered with by heterophile antibodies and excess biotin. Determination of FT4 is also challenging as the assay must detect very low concentrations of free hormone relative to excess of protein-bound analyte. When in question, it is important consider utilization of laboratory expertise and retesting by alternative assays.

Adrenal

ADRENAL CASE REPORTS II

Pseudohypoaldosteronism Presenting with Salt Wasting Crisis
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SUN-184
A case of Pseudohypoaldosteronism presenting with salt wasting crisis
Pseudohypoaldosteronism (PHA) is due to end organ resistance to mineralocorticoids. It is usually inherited in an autosomal recessive or autosomal dominant pattern, and rarely can a result of the mutation de novo. Zennaro MC, Hubert EL, Fernandes-Rosa FL. Aldosterone resistance: structural and functional considerations and new perspectives. Mol Cell Endocrinol. 2012;350:206-15.10.1016/j.mce.2011.04.023[Crossref], [PubMed], [Web of Science ®] It can be sub-classified into two forms PHA type 1 A involving the kidneys or PHA-1 B which effects

Thyroid

THYROID DISORDERS CASE REPORTS I

A “Curve Ball” in the Management of an Infertile Hyperthyroid Patient
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SUN-493
Introduction: We present the case of a young female patient referred for hyperthyroidism with persistently detectable TSH despite elevated free thyroxine (FT4) levels which, interestingly, failed to normalize following antithyroidal treatment. Further testing elucidated the underlying causation for detectable TSH in presence of hyperthyroxinemia to be due to interfering substances in the thyroid function assays.