41-year-old male with history of anxiety, bipolar disorder, depression, cognitive developmental delay, Idiopathic Thrombocytopenic Purpura (ITP), Vit D deficiency, tinnitus, suicidal attempt, auditory hallucination, borderline intellectual functioning comes to the PCP’s office for regular follow-up. The PCP has noted that the patient was hypocalcemic on multiple visits. On exam, vitals were in normal range, height 5 feet 2 inches, BMI 31 kg/m². Despite the patient being on calcium and Vit D2 pills for a couple of months, his Calcium level was low ranging from 5.8–7.8 mg/dl (normal 8.5–10.1) with normal albumin; ionized calcium was low 0.9-0.97 mmol/l (normal 1.12-1.23); Magnesium was normal 2 mEq/l (normal 1.5-2.5), phosphorus slightly high 5 mg/dl (normal 2.5-4.9), PTH (Para Thyroid Hormone level) was low-normal 18.8 pg/ml (normal 11.9-75.9), vitamin D 25 OH low 16 ng/ml (normal 30-100); 1,25 di OH vitamin D low 8 ng/ml (normal 25-40). Thyroid ultrasound showed 2 benign nodules, no further work-up done. TSH and free T4 were normal. FISH (Fluorescence In Situ Hybridization) came positive for DiGeorge syndrome (deletion at 22q11.2). He was treated with calcium 600 mg 4 pills daily; calcitriol 0.25 mcg two pills daily, Vit D2 50,000 IU weekly and thiazide diuretic. His labs improved.

DISCUSSION Hypocalcemia can be due to low magnesium level, drugs or associated with high or low PTH. The patient had normal magnesium and he was not on any medication that causes hypocalcemia. This rules out first two causes. Hypocalcemia with high PTH (pseudohypoparathyroidism or low vit D levels) doesn’t fall in our differential because our patient had low PTH. For hypocalcemia with low PTH, differentials include post-surgical condition (no surgical history), autoimmune (history and labs not suggestive of), infiltrative diseases (eg hemochromatosis he had normal iron study), Wilson disease- normal copper level, granulomatous he had low 1,25 Di OH vit D). Hypocalcemia secondary to genetic parathyroid gland anomaly was thought to be most likely in our patient. So FISH was pursued. Conclusion: For patients with cognitive issues, persistence of chronic hypocalcemia (with low PTH) despite treatment should prompt for genetic disorders like DiGeorge. DiGeorge is usually the diagnosis of children. Perhaps this is the first case of DiGeorge diagnosed so late at age of 41.

Thyroid

THYROID DISORDERS CASE REPORTS II

Improvement In Metabolic Indices Including Thyroid Hormones Via Enhanced Absorption Of Nutrients By Teduglutide In Short Bowel Syndrome

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SAT-LB86 Background: Short bowel syndrome is characterized by malabsorption resulting in deficiencies of multiple nutrients including vitamins and minerals. Most subjects required parenteral elimination for survival. GLP 2 RA Teduglutide was recently approved for treatment of short-bowel syndrome especially for those requiring parenteral support. Objective: To demonstrate the utility of GLP2 Receptor Agonist Teduglutide in improving multiple metabolic indices. In presence of short bowel syndrome. Case presentation: 66-year-old Caucasian female presented with a history of short bowel syndrome and associated vitamin and mineral deficiencies, hypothyroidism requiring large dose of levothyroxine, diarrhea, and liver cirrhosis. Upon starting teduglutide the subject saw improvement in her symptoms. Moreover, daily dose of levothyroxine required reductions from 300 mcg to 150 mcg to maintain desirable serum concentrations of free T4, free T3 and TSH. Finally, serum levels of several vitamins attained greater than therapeutic concentrations requiring dosage reductions. Also notable was the improvement in her liver function tests, remission from ascites and regeneration of liver nodules. Conclusion: Herein, we report an adult subject with short bowel syndrome with concurrent hypothyroidism and multiple vitamin deficiencies who following administration of GLP2 RA therapy demonstrated a marked improvement in her metabolic parameters with some requiring reduction in daily dose along with improvement in manifestations of liver cirrhosis.

PEDIATRIC ENDOCRINOLGY

PEDIATRIC ENDOCRINE CASE REPORTS II

Retrospective Comparison of Cystic Fibrosis Related Diabetes Pediatric Screening Rates

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MON-LB011 Cystic fibrosis-related diabetes (CFRD) is the most common comorbidity in those with CF, affecting 20% of adolescents and 40-50% of adults with CF. If uncontrolled, it can cause worsened pulmonary outcomes, increased hospital length of stay, and increased mortality. It is typically clinically silent, and hemoglobin A1C and fasting plasma glucose are not sensitive enough to diagnose it. Per national guidelines, the proper outpatient screening method is oral glucose tolerance test (OGTT), annually beginning age 10. Inpatient diagnosis involves fasting glucose >126 mg/dl or 2 hour postprandial glucose >200 persisting for more than 48 hours. It is believed that national screening guidelines are unfortunately not being met, particularly while inpatient. At our institution, there are 137 pediatric patients with CF; of those, 8 have a diagnosis of CFRD, and 4 have impaired glucose tolerance. We aim to study the adherence of our institution to the best practice guidelines for CFRD screening in pediatric patients with Cystic Fibrosis. Retrospective chart review is occurring through our institution’s EMR for inpatient data, and through a CF database (PortCF) for outpatient data. Inclusion criteria includes pediatric patients (below 1 day or above 17 years and 364 days) with CF. Exclusion criteria is those outside this age range, and those with CFRD. Consent is waived, as this is a retrospective data collection. Several variables including demographics, glycemic status, CFTR modulator and class, corticosteroid and vitamin use, and feeding regimen are also being reviewed. REDCap is being used for secure data entry and analysis. Descriptive statistical analysis will be used. Categorical data will be expressed.
as frequency (percent). Numeric data will be expressed as mean ± standard deviation or median [25th, 75th percentile], depending on normality of the data. Univariate analysis, like Chi square or Fisher’s exact test, will be used between successful and unsuccessful inpatient screens for CFRD. Thus far, retrospective chart review of all outpatient data is complete. Preliminary analysis of those who should have received OGTT screening shows 11% have never been screened, and 32% were screened more than one year ago. Completion of inpatient data collection and all statistical analysis is anticipated within the next month. Future direction includes increasing inpatient CFRD screening with use of continuous glucose monitoring sensors during CF exacerbation admissions.

Diabetes Mellitus and Glucose Metabolism
DIABETES COMPLICATIONS II

Psychiatric Medication Induced Diabetes Mellitus

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MON-LB122
Psychiatric medication induced Diabetes mellitus

Abstract: Psychiatric medications are well established cause of diabetes. Our case had similar presentation. 67-year-old African-American male with history of hypertension and dementia was brought to the ER for auditory hallucinication and bizarre behavior. His home medications were Hydrochlorothiazide, Nifedipine and Spironolactone. Psychiatry was consulted and he was admitted to psychiatric floor. He was diagnosed for first time with psychosis and depression. He was treated with citalopram 20 mg for depression; donepezil 10 mg for dementia and risperidone 0.5 mg twice a day for psychosis. 2 weeks later he developed difficulty swallowing and weakness, blood glucose level of 1263 mg/dl. All of his psychiatric medications were stopped except for citalopram 10 mg daily and patient was transferred to ICU. In the ICU, pH was 7.28 (normal 7.34-7.45), normal anion gap, bicarbonate 29mmol/L (normal 20-24), plasma osmolality 428 mOsm/kg (normal 280-320), HbA1c 10% (normal 4-5.6). He was intubated and managed as Hydrochlorothiazide, Nifedipine and Spironolactone. He started on insulin drip and later transitioned to Lantus and short-acting insulin. He improved and was then extubated. After 40 days, repeat A1C was 7.4%. The patient moved to another state and follow-up was lost.

Discussion: While the patient was on thiazide for a long time, he had a fairly good glucose control; his A1C ranged from normal to prediabetic (A1c 5.7%-6.4%). This makes thiazide unlikely cause of diabetes mellitus for him. The fact that right after 21 days of starting psych medications caused him to land in ICU for HONK, with A1c of 10% and glucose of 1273 mg/dl, strongly suggests that this is a case of psych medications induced T2DM. This is also supported by the fact that discontinuation of those medications lowered the A1c to 7.4% in 40 days. 3 weeks before the hospitalization his A1c was 5.1%. Metformin is demonstrated to be most promising long term medication in cases like this.

Conclusion: Psychiatric medications are important cause of drug induced diabetes and should always be thought as a cause of acute new onset diabetes. Stopping the offending drugs ensues good glycemic control.

Adrenal

ADRENAL CASE REPORTS II

Primary Aldosteronism Due To Simultaneous Occurrence of Aldosteronoma in the Left Adrenal Gland and Ectopicaldosteronoma in the Liver: A Case Report

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SUN-LB36
Rationale: Ectopic adrenal tissue is the adrenal rests along the path from gonads to adrenal glands during embryogenesis. Ectopic aldosteronoma is a rare disease presented with over-production of aldosterone by the ectopic adrenocortical tissue. Diagnosis is a clinical challenge with simultaneous occurrence of ectopic aldosteronoma. To our knowledge this is the first reported case of simultaneous occurrence of aldosteronoma in the adrenal gland and ectopic aldosteronoma in the liver based on literatures. Patient concerns: A 33-year-old woman presented with resistant hypertension and severe hypokalemia for 3 years. 5 months ago, the patient was diagnosed as aldosteronoma in left adrenal gland and underwent right adrenalectomy. The histopathological examination of the resected sample suggested adrenal cortical adenoma. The patient still had symptoms of hypertension and hypokalemia after operation, but the blood potassium level was higher than that before operation (minimum blood potassium level rose from 1.8 mmol/L to 2.6 mmol/L). Diagnosis: The saline load test, captopril test, and plasma aldosterone/renin ratio were indicative of primary aldosteronism (PA). The computed tomographic scan (CT) was suggestive of a low-density mass (2.9×2.2 cm) in the liver which was very near to the right adrenal area. Magnetic resonance imaging (MRI) further confirmed that the lesion was located in the liver. PET-CT eliminated the possibility of metastasis to other parts of the body. Ultrasound guided biopsy confirmed that the tumor was ectopic adrenal tissue in the liver. Interventions: Ultrasound-guided percutaneous radiofrequency ablation was performed to the tumor in the liver. Outcomes: The patient’s blood potassium level was 3.8 mmol/L on the third day after the ablation without any potassium supplementation treatments. On follow-up of 2-weeks duration, the patient has good control over her blood pressure of around 126/74 mmHg and blood potassium of 4.55 mmol/L, without taking any medications. Lessons: The patient was diagnosed with PA due to simultaneous occurrence of aldosteronoma in the left adrenal gland and ectopic aldosteronoma in the liver, which is very rare. Ultrasound-Guided Percutaneous Radiofrequency Ablation is a safe and effective treatment for ectopic aldosteronoma in liver.