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SAT-388

BACKGROUND: The parathyroid adenoma producing an excess of PTH is characterized by hypercalcemia, asthenia, physical weakness and renal lithiasis. **This clinical case is presented only with a dry (non-productive) cough sign of long duration.** **CASE:** 51-year-old female born in Padre Las Casas, D.R. presenting with **chief complain of dry cough for about four years.** Clinical findings: (03/13/2019) Height 62", Weight 142 lbs, Temperature 36.2 Celsius, BP 90/60 mmHg, RR 16 rpm, HR 60 bpm, on her neck no adenopathies or thyroid changes. Occasional coughing. A **sonographic evaluation of the neck** (04/09/2019) reveals a **solid, heterogeneous nodular image of 0.7 cm x 0.5 cm in the left lobe of the Thyroid** (Fig. 1) which by **FNAB** (04/10/2019) showed a **benign adenomatoid node with cystic changes** (Bethesda II) (Fig. 2). **TEST:** (03/20/2019) anti-TG 0.10 IU/mL (NV -115), anti-TPO 9.00 IU/mL (NV -34), TG 9.41 (NV -78 ng/mL), TSH 0.34 μ IU/mL (VN 0.27-4.20), free T3 2.05 pg/mL (NV 2.04-4.40), **total T3 0.74 ng/mL** (NV 0.83-2.00), total T4 8.46 μ g/dL (NV 5.1-14.1), free T4 1.61 ng/dL (NV 0.93-1.71) Calcium 10.4 mg/dL (NV 8.1-10.4), Phosphorus 2.6 mg/dL (NV 2.5-4.5), **PTH-Intact 157 pg/mL** (NV 14.5-87.1) Thyroid-Parathyroid scintigraphy (Sestamibi-Technetium 99mTc04: 15 mCi) (04/23/2019) shows **lower left Parathyroid Adenoma** (Fig. 3). She undergoes surgery (05/23/2019) removing the left thyroid lobe and left inferior parathyroid gland whose pathology shows chronic **nodular colloid goiter**, with areas of **hemorrhage. Parathyroid adenoma of main cells** (Fig. 4-5). Post-surgical **TEST** (06/24/2019) PTH-intact 69.0 pg/mL (NV 14.5-87.1), Calcium 8.6 mg/dL (NV 8.1-10.4), Phosphorus 2.7 mg/dL (NV 2.5-4.5), anti-TG 10.0 IU/mL (NV <115), anti-TPO 9.00 IU/mL (NV <34), TG 8.92 ng/mL (NV <78), **total T3 0.68 ng/mL** (NV 0.83-2.00), **free T3 1.95 pg/mL** (NV 2.04-4.40), total T4 6.40 μ g/dL (NV 5.1-14.1), free T4 1.02 ng/dL (NV 0.93-1.71). Post-surgical clinical evaluation (06/21/2019) Weight 142 lbs, Temperature 36.5 Celsius, BP 110/70 mmHg, RR 16 rpm, HR 60 bpm. Patient has not shown signs of coughing. Last **TESTS** (10/20/2019) Calcium 9.40 mg/dL, Phosphorus 3.10 mg/dL, PTH-intact 24.40 pg/mL, TG 11.90 ng/mL, total T4 6.80 μ g/dL, free T4 1.23 ng/dL, total T3 0.88 ng/mL, free T3 2.66 pg/mL, anti-TPO 11.14 IU/mL, anti-TG 10 IU/mL. **CONCLUSIONS:** Lower left (benign) parathyroid adenoma whose clinical manifestations are not common. Dry (non-productive) cough is not known as a manifestation of elevated PTH-intact. Calcium and Phosphorus levels in normal values. In addition, histological alterations of the left thyroid lobe of benign character

with few manifestations of hormonal alterations and normal antibodies. It is of crucial clinical importance to observe and document more cases with similar presentation in order to identify the possible causes of cough with an elevated PTH manifestation.

Healthcare Delivery and Education

EXPANDING CLINICAL CONSIDERATIONS FOR PATIENT TESTING AND CARE

Underdiagnosis of Primary Hyperparathyroidism in the Outpatient Setting of an Academic Health Care System

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MON-123

Background: Primary hyperparathyroidism (PHPT) is the leading cause of hypercalcemia in the outpatient population and is associated with nephrolithiasis, osteoporosis, and further end-organ effects. When indicated, parathyroidectomy is an effective intervention. The aim of this study was to assess the prevalence of patients with hypercalcemia resulting from undiagnosed PHPT within a large, urban, academic healthcare system.

Methods: The study population comprised all patients within UCLA Health. The electronic medical record was queried between 01/01/2016-12/31/2018 to include patients with at least two elevated serum total calcium concentrations (>10.4 mg/dL) within a six-month period in the outpatient setting. Causes of secondary and tertiary PHPT were excluded. In concordance with the PHPT diagnostic criteria outlined by the Fourth International Workshop, we evaluated the proportion of patients with hypercalcemia who were further assessed with a serum intact parathyroid hormone (iPTH) test. The study identified cases of PHPT as defined by confirmed elevated serum total calcium concentrations and elevated or inappropriately normal iPTH concentrations.

Results: There were 7102 patients with a single elevated serum total calcium result who never received a repeat assessment within the study period. Although there were 5617 patients with confirmed hypercalcemia, only 2773 (51%) had an iPTH level assessed within six months of the repeated calcium measurement. Of those who underwent iPTH testing, 1931 (69%) were biochemically confirmed to have classic (34.2%) or normohormonal (35.4%) PHPT; the remaining 31% had an appropriately suppressed iPTH concentration relative to the hypercalcemia.

Conclusions: In a large, academic, tertiary healthcare center, over half of the ambulatory patients with confirmed hypercalcemia did not receive further work-up to assess for possible PHPT. Efforts to improve diagnosis of PHPT and expand curative treatment have the potential to decrease

the prevalence of nephrolithiasis, bone loss, and further end-organ effects associated with the disease.

Diabetes Mellitus and Glucose Metabolism

DIABETES DIAGNOSIS, TREATMENT AND COMPLICATIONS

Does Patient Location (Urban or Rural) Influence Risk Factors and Incidence Rate for 30-Day Readmission for Diabetic Ketoacidosis?

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SUN-615

Introduction Nearly 1 in 10 individuals in the US have Diabetes Mellitus [1]. One potential preventable complication is Diabetic Ketoacidosis (DKA). Urban and rural patients may have different mortality [2]. Better understanding of the risk factors for readmissions of DKA will allow the development and implementation of specific patient-centered interventions to decrease future readmissions. We determined the 30-day all-cause readmission rate for adults (age ≥ 18) admitted with a principal diagnosis of DKA and compare the risk factors for urban and rural patients. **Methods** We utilized Agency of Healthcare Research and Quality's (AHRQ) 2014 Nationwide Readmission Database to identify admissions with a principal diagnosis of DKA related ICD-9 diagnosis (250.10, 250.11, 250.12, and 250.13) associated with both Type 1 and Type 2 Diabetes Mellitus. Applicable admissions were all adults (age ≥ 18) with an index hospitalization between January 1 to November 30, 2014. Patients who died during index admission and those with missing covariates were excluded. The 2013 NCHS Urban-Rural Classification System was used to classify if originating from an urban or rural location. All-cause readmission within 30-days of DKA were analyzed. Predictors for readmission were determined using logistic regression model. **Results** A total of 65,249 patients met criteria for inclusion. Of which, there was 12,561 readmissions (19.25 %) within 30-days of the index admission. Patients originating from urban locations had a readmission rate of 19.36% compared to 18.56 % for patients from rural locations ($p=0.07$). Multivariate analysis showed patients from either rural or urban location each had a higher likelihood of readmission if their disposition was home health or AMA, younger age (<65), female, Medicare as payer, LOS 7-14 days, absence of obesity, and presence of renal failure. In addition, disposition to short term hospital increased the odds for readmission from rural patients. **Conclusion** Almost 1 in 5 patients discharged with a principal diagnosis of DKA will be readmitted within 30 days. No difference was noted in rates of readmissions for patients originating from urban or rural locations. Risk factors are similar with further research needed to better understand the drivers of readmission. **References:** [1] CDC: National Diabetes Statistics Report (2017) [2] Ferdinand AO, et al. (2017). Diabetes-Related Hospital Mortality in Rural America: A Significant Cause for Concern. Policy Brief #3. Southwest Rural Health Research Center

Reproductive Endocrinology

CLINICAL STUDIES IN FEMALE REPRODUCTION II

Elevated Levothyroxine Requirements Post-Partum as Initial Presentation of Placenta Accreta

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SUN-007

Elevated Levothyroxine Requirements Post-Partum as Initial Presentation of Placenta Accreta

Introduction: It is well known that estrogen plays an important role in thyroid regulation. We report an unusual case of post-partum placenta accreta causing pathologic estrogen secretion leading to increased levothyroxine (LT4) requirements and inability to lactate.

Case: A 36-year-old woman with history of Hashimoto's hypothyroidism presented post-partum day 11 after a normal vaginal delivery with inability to produce breast milk and mildly elevated TSH levels. Prior to her pregnancy, she required an equivalent dose of 142 mcg of LT4 supplementation daily, which increased appropriately to 171 mcg during pregnancy. After delivery, LT4 was decreased to 150mcg in anticipation of normalization of levothyroxine requirements to pre-pregnancy level. However, she had difficulty lactating and was found to have elevated prolactin, estradiol, and TSH levels. The following day, she presented to her obstetrician for persistent vaginal bleeding and was found to have placenta accreta requiring dilation and curettage (D&C). Her LT4 requirements eventually dropped to 125 mcg with decreasing beta-HCG and estrogen levels after successful D&C treatment. She was also then able to produce sufficient breast milk for lactation.

Discussion: This case highlights the effect of estrogen on LT4 requirements during physiologic pregnancy and postpartum with placenta accreta. It is expected that hypothyroid patients have approximately 25-50% increased thyroid replacement requirements during pregnancy, which normalizes soon after delivery.¹ Estrogen increases thyroxine-binding globulin and lowers circulating free thyroxine², which causes higher thyroid replacement requirements. Estrogen is also known to inhibit lactation. Our patient demonstrates that this holds true even in a pathologically high estrogen state from placenta accreta. Our case uniquely demonstrates a temporal association between estrogen levels and LT4 requirements in the post-partum hypothyroid patient. Patients with inappropriately high TSH levels after delivery should prompt investigation into pathologic causes of elevated estrogen-states, as levothyroxine requirements are expected to normalize immediately post-partum.

References:

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