with HTLV-1 associated ATL. It could often be the presenting lab abnormality that leads to the diagnosis of an ATL. Patients who are being treated for hypercalcemia of malignancy with calcitonin (or pamidronate) should be managed cautiously as starting amphotericin B can lead to hypocalcemia that is difficult to treat.

Neuroendocrinology and Pituitary PITUITARY TUMORS II
Biochemical Control of Most Patients Reverting to Injectable Long-Acting Somatostatin Receptor Ligands Is Achieved After One Dose: Results From the Phase 3, Randomized, Double Blind, Placebo-Controlled Optimal Study

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MON-LB55
Background: Injectable somatostatin receptor ligands (SRLs) are currently the most widely used medical therapy for acromegaly worldwide. Oral octreotide capsules (OOC) have been formulated as a potential therapy for this disorder and the safety and efficacy were evaluated in the CHIASMA OPTIMAL pivotal study (Samson et al. ENDO 2020). As reported, mean IGF-I levels of the OOC treatment group were maintained within normal range at the end of treatment in all patients. However, some patients may not respond to OOC treatment (25% of OOC and 68% of placebo groups required rescue, P=0.003). This analysis describes the degree and rapidity with which patients achieve biochemical control (IGF-I ≤1.0 x ULN) when reverted to their prior injectable SRL treatment. Methods: Patients with confirmed acromegaly and receiving a stable dose of injectable SRL (≥3 months) were randomized to OOC (40mg/day; N=28) or placebo (N=28) for 36 weeks. Patients were dose titrated to 60 or 80mg of OOC (or placebo) through week 24 at investigator discretion based on increased IGF-I levels and/or worsening acromegaly signs/symptoms. Patients could be rescued via reversion to prior injectable SRL therapy if they met the predefined withdrawal criteria (i.e., IGF-I ≥1.3 x upper limit of normal [ULN] for 2 consecutive visits on the highest dose, and exacerbation of clinical signs/symptoms) or discontinued treatment early for any other reason. In the study, 7 patients in the OOC group and 19 in the placebo group required rescue. The change in IGF-I from baseline was compared to the end of the Double-blind Placebo Controlled period. Results: In patients rescued up to week 32 and in whom there were at least 4 weeks of follow up, baseline IGF-I levels (mean of Screening Visit 2 and Baseline) were 0.80 and 0.87 x ULN in the OOC and placebo groups, respectively. In patients receiving rescue therapy, the end of study IGF-I levels (mean of week 34 and 36) were 0.80 and 0.89 x ULN in the OOC and placebo groups, respectively, virtually unchanged. The median time to return to normal baseline IGF-I values following loss of response was 4.0 weeks after discontinuing OOC and 4.0 weeks after discontinuing placebo treatment. Therefore, most patients who required rescue following a short trial of therapy with OOC returned to their baseline values following a single SRL injection. Conclusion: Most treatment failures in the CHIASMA OPTIMAL trial (on either OOC or placebo) rescued with injectable SRL re-established their baseline response levels after a single injectable SRL administration (at pre-study dose). Based on this data, patients may potentially be treated with OOC and for those not responding, either not biochemically controlled or who have adverse effects, they may be able to return to injectable SRLs with immediate IGF-I control after one SRL injection.

Thyroid THYROID NEOPLASIA AND CANCER
The Sensitivity and Specificity of Various Thyroid Nodule Ultrasound Characteristics and the Diagnostic Accuracy of the ATA Guidelines and ACR TI-RADS for Predicting Thyroid Cancer at an Urban Endocrinology Clinic

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MON-LB86
Introduction: Several current guidelines assess sonographic features to guide management of thyroid nodules. The ACR uses an additive point system to assign the level of risk to various sonographic features, whereas the ATA groups sonographic features together to determine the level of risk. The purpose of this study is to compare the performance of the ATA guidelines and ACR TI-RADS at an urban endocrinology clinic in risk stratifying thyroid nodules by their specific sonographic features. Methods: This retrospective, chart-review study includes adult patients who met sonographic criteria for fine needle aspiration (FNA) biopsy based on ATA or ACR TI-RADS at an outpatient endocrinology practice in San Francisco, CA between December 2011 and August 2019. Patients with a prior history of thyroid malignancy (anaplastic and medullary thyroid carcinoma or thyroid lymphoma) were excluded. The reference standard for the diagnosis of malignancy was surgical pathology or FNA cytology Bethesda category V or VI when surgical pathology was unavailable. Analysis of guideline performances and specific sonographic features included: sensitivities (Sn), specificities (Sp), positive predictive values (PPV), negative predictive values (NPV), and area-under-the-curve (AUC) using Fisher’s exact test.
Results: Two hundred seventy-five nodules among 195 adults (86.2% were women) were included in the analysis. Twelve nodules were malignant, with an associated malignancy rate of 4.4%. TI-RADS had higher accuracy based on AUC of 0.710 compared to 0.623 using ATA guidelines. TI-RADS also had a higher PPV of 21.4% among nodules with 9 points, versus 5.8% among nodules in the ATA “high suspicion” category. Ultrasound characteristics with the highest Sp, relative PPV and NPV were: microcalcifications (84.5%, 4.3%, 96.0%, respectively), taller-than-wide (81.7%, 7.1%, 96.7%), irregular margins (77.7%, 6.0%, 96.5%); the characteristic with the highest Sn was hypoechoogenicity (83.3%), however this had relatively low Sp (25.4%) and PPV (4.5%).

Conclusions: TI-RADS performed better with higher overall accuracy and PPV when applied to nodules classified as having the highest malignancy risk. Taller-than-wide shape, irregular margins, and microlcalfications were the characteristics most useful for malignancy risk stratification. Limitations of this study include: interobserver bias, small sample size, referred patient population (which may differ from other institutions), and inability in some cases to confirm malignant FNA cytology with surgical pathology.

Bone and Mineral Metabolism

BONE AND MINERAL CASE REPORTS I

A Case of PTHrP-Negative Hypercalcemia of Malignancy
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SAT-LB63
Case Presentation:
A 55-year-old male who had recently arrived from Haiti presented to the Emergency Department with chief complaint of a progressively enlarging neck mass. He first noticed the mass in 2000. From 2000-2017, he underwent resection of the mass three times in Haiti, with recurrence after each surgery. On presentation, he reported unintentional 10 kg weight loss over several months and night sweats. Endocrine was consulted for evaluation of hypercalcemia. On examination and imaging, 8.7 x 14.0 x 14.0 cm fungating tumor on the nape of his neck extending to the occipital area and cervical lymphadenopathy were noted. Labs were notable for WBC of 21.7 K/μL, hemoglobin of 6.0 g/dL, calcium of 12.0 mg/dL, albumin of 3.1 g/dL, free calcium of 6.4 mg/dL, corrected calcium of 12.6 mg/dL, phosphorus of 2.6 mg/dL, and intact PTH of < 4 pg/mL. The PTH-related peptide (PTHrP) level was found to be normal at 19 pg/mL (reference range 14-27 pg/mL). SPEP was normal. Neck mass and cervical lymph nodes were biopsied. Histopathological examination of neck mass showed an ulcerated, moderately-differentiated squamous cell carcinoma with multifocal areas of necrosis. There was no evidence of malignancy in the cervical lymph nodes. CT scan showed 3 mm lung nodules, thought to be granulomas, and no clear evidence of metastatic disease.

Hypercalcemia was treated with IV hydration and one dose of bisphosphonate and patient underwent resection of neck mass. Immediately after surgery, his calcium level precipitously decreased and has remained normal in the months since surgery.

Discussion: Hypercalcemia of malignancy is a common finding affecting up to 44.1% of patients with malignancy (1,2). The major mechanism, accounting for approximately 80% of malignancy-related hypercalcemia, is mediated via PTHrP, which can cause hypercalcemia by increasing bone resorption and renal tubule calcium reabsorption (2). Squamous cell carcinoma (SCC), especially of the lungs, breast, or GI tract, is more frequently associated with hypercalcemia. There are also several case reports of primary cutaneous SCC associated with hypercalcemia. In these cases, tumors were large and hypercalcemia was thought to be due to elevated PTHrP (3,4,5). The skin has been shown to express PTHrP and PTHrP receptors (6,10). PTHrP has also been detected in 100% of cutaneous SCCs even in the absence of hypercalcemia. (6,7). Furthermore, PTHrP mRNA has been localized in 100% of squamous tumors with hypercalcemia and PTHrP peptide were detected in 91% of cases in a study of 11 patients (9). The patient presented in this case did not have an elevated level of PTHrP. However, resolution of hypercalcemia with resection of the mass supports a diagnosis of hypercalcemia of malignancy. This case illustrates that hypercalcemia due to primary cutaneous SCC typically, but not always, results in an elevated serum PTHrP level.

Diabetes Mellitus and Glucose Metabolism

CLINICAL AND TRANSLATIONAL STUDIES IN DIABETES

Cgm in Cystic Fibrosis Patients to Predict Cystic Fibrosis-Related Diabetes Onset
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MON-LB114
Background: Therapeutic progress and improvement on resources enabled the emergence of new comorbidities in cystic fibrosis (CF), such as cystic fibrosis-related diabetes (CFRD). About 20% of adolescents and 40-50% of adults are affected. CFRD and glucose intolerance reduce life expectancy in this population, highlighting the importance of early diagnosis and treatment. Up to 15% of CF patients have hypoglycemia during OGTT and its etiology remains unclear. Some authors associate hypoglycemia with CFRD onset, while others do not agree with this association. Objective: To determine whether abnormal CGM (hypo/hyperglycemia) can predict CFRD onset, pulmonary function and BMI decline in CF patients. Methods: Prospective single center study. All CF patients between 10-19yo from our outpatient clinic were screened for CFRD through OGTT following the World Health Organization (WHO) protocol. The enzymatic colorimetric method was used to