universally treating these VUSs as pathogenic would be costly, low-yield and potentially harmful, the incorporation of family history and tumour tissue staining for SDHB should be considered in all individuals with pheochromocytomas and paragangliomas to help guide interpretation of inconclusive genetic testing results, inform subsequent management and help predict risk for inheritance and recurrence.

Bone and Mineral Metabolism

BONE AND MINERAL CASE REPORTS I

Hyperparathyroid Crisis Precipitated by Rapid Correction of Symptomatic Hypercalcemia in an Occult Ectopic Parathyroid Adenoma

Vanessa Goyes Ruiz, M.D., Nidhi Bansal, MBBS.
SUNY Upstate Medical University, Syracuse, NY, USA.

SAT-341

Background: Parathyroid adenomas (PA) are typically benign, slow-growing tumors causing gradual increase in parathyroid hormone (PTH) and serum calcium (s.Ca) levels. Hyperparathyroid crisis is a rare and potentially fatal syndrome, which occurs due to rapid elevation of PTH and s.Ca levels (s.Ca >15mg/dL). This can potentiate severe metabolic derangements, manifesting as altered mental status (AMS), renal insufficiency and cardiac arrhythmias. We present a case of hyperparathyroid crisis in the setting of an occult ectopic parathyroid adenoma.

Case: 75 year old female with a medical history of osteoporosis, hypertension and Parkinson's disease, presented to our hospital with AMS and one week history of diarrhea. She was recently hospitalized for pneumonia and treated with antibiotics. Biochemical analysis revealed corrected s.Ca 15.4mg/dL (8.2- 9.6mg/dL; 7 days prior s.Ca was 9.7mg/dL), renal insufficiency (Cr 2.26mg/dL; baseline 1.2) with normal serum phosphorus, magnesium, 25-hydroxyvitamin D and alkaline phosphatase. PTH was found to be elevated at 75pg/mL (15-65pg/mL). She was treated with aggressive intravenous hydration and calcitonin 200mg BID for 3 days. Her s.Ca appropriately trended down. However, her PTH level continued to rise: 319pg/mL 12 hours later, 591pg/mL on day 2 and peaked to 1,242pg/mL on day 3. CT angiography neck showed an incidental finding of a heterogeneous, possibly necrotic, soft tissue nodule in the left paraesophageal region. Additional work-up with technetium 99 Sestamibi scan revealed persistent activity in the upper tracheoesophageal groove consistent with an ectopic PA. She underwent parathyroid exploration with excision of an enlarged ectopic left superior parathyroid adenoma, confirmed on histopathological analysis. The remaining parathyroid glands were normal. PTH declined to 34pg/mL postoperatively. Her mental status improved significantly returning to baseline within a few days with normal PTH and s.Ca levels.

Discussion: Secretion of PTH is mediated by s.Ca via the calcium sensing receptors (CaSR). Studies have shown that patients with PA
have decreased expression of the CaSR leading to an autonomous rise in PTH secretion and a higher PTH-calcium set point. In our case, the patient initially presented with a mildly elevated PTH level and symptomatic hypercalcemia. The rapid correction of s.Ca levels precipitated a remarkable rise in PTH levels. We postulate that this was caused by a possible upregulation mechanism in calcium sensing by adenomatous parathyroid tissue that is responsive to acute lowering of s.Ca levels, triggering a hyperparathyroid crisis.

Reference: (1) Corbetta S., et al. Calcium-sensing receptor expression and signaling in human parathyroid adenomas and primary hyperplasia. Clinical Endocrinology. 2000; 52(3):339-48.

Bone and Mineral Metabolism

OSTEOPOROSIS: DIAGNOSIS AND CLINICAL ASPECTS

Unilateral Primary Aldosteronism as an Independent Risk Factor for Vertebral Fracture

Ryuichi Sakamoto, MD,PhD, Maki Yokomoto-Umakoshi, MD,PhD, Hironobu Umakoshi, MD, Yayoi Matsuda, MD,PhD, Nagata Hiromi, MD, Tazuru Fukumoto, MD, Masatoshi Ogata, MD, Yoshihiro Ogawa, MD,PhD.
Department of Medicine and Bioregulatory Science, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan.

SUN-378

Unilateral Primary Aldosteronism as an Independent Risk Factor for Vertebral Fracture

Summary

Context: Primary aldosteronism (PA) is known to increase vertebral fracture (VF), although the detailed mechanism remains to be elucidated. PA consists of two subtypes: the unilateral and bilateral subtype. Patients with unilateral PA, who usually have a higher plasma aldosterone concentration than those with bilateral PA, exhibit a more severe clinical phenotype. We hypothesized that PA subtype affects the prevalence of VF.

Objective: To evaluate whether unilateral PA is associated with the prevalence of VF.

Design: Cross-sectional study in a single referral center.

Patients: We identified 210 hypertensive patients whose clinical data were available for case-detection results. One hundred and fifty-two patients were diagnosed with PA using captopril challenge tests.

Measurements: The prevalence of VF according to PA subtype.

Results: We included 113 patients with PA who were subtype classified according to adrenal vein sampling, of whom 37 patients had unilateral PA and 76 patients had bilateral PA, whereas 58 patients had non-PA. We excluded 39 patients with PA who were not subtype classified. Patients with PA had a higher prevalence of VF (28% [32/113]) than those with non-PA (12% [7/58]; $p = 0.020$). Moreover, unilateral PA had a higher prevalence of VF (46% [17/37]) than bilateral PA (20% [15/76]; $p = 0.021$). There was no significant difference between bilateral PA and non-PA. Unilateral PA was an independent risk factor for VF after adjusting for age and sex (odds ratio, 3.16; 95% confidence interval, 1.12-8.92; $p = 0.017$). Among patients with unilateral PA, serum cortisol concentrations after 1 mg dexamethasone suppression test were higher in those with VF (1.32 ± 0.67 g/dl) than those without (0.96 ± 0.33 g/dl; $p = 0.048$).

Conclusions: Unilateral PA is an independent risk factor for VF, which is associated with autonomous

cortisol secretion. Thus, careful management is required to prevent the development of VF in patients with unilateral PA.

Thyroid

BENIGN THYROID DISEASE AND HEALTH DISPARITIES IN THYROID II

Case Finding Versus Routine Screening of Thyroid Dysfunction in Pregnancy

Ali Ahmed Al Qarni, MD[1], Reem Mohammad Alamoudi, MD, MHSc, FACP[2], Khalida Shahid, MD[1], Amal Almanei, MD[2], Muneera Alotaibi, MD, MHPE[2], Jawharah AlAhmed, MD[1].
[1]King Abduaziz Hospital, King Abdullah International Medical Research Center (KAIMRC), King Saud Bin Abdulaziz University for Health Sciences, Ministry of National Guards Health Affairs, Al Hasa, Saudi Arabia, [2]Imam Abdulrahman bin Faisal Hospital, King Abdullah International Medical Research Center (KAIMRC), King Saud Bin Abdulaziz University for Health Sciences, Ministry of National Guards Health Affairs, Dammam, Saudi Arabia.

SUN-431

Background:
Thyroid dysfunction in pregnancy is associated several adverse outcomes. This has triggered a debate about whether universal screening should be implemented. Despite recommendations against universal screening, the clinical practice of many caregivers may differ. We aimed to assess the sensitivity of using targeted high-risk case finding for diagnosing thyroid dysfunction in pregnancy compared to routine screening in pregnant Saudi women, and to evaluate if gestational diabetes (GDM) specifically affected the risk.
Methods:
A cross-sectional study in two hospitals under the Ministry of National Guards Health affairs of Saudi Arabia; King Abdulaziz Hospital, Al-Ahsa, and Imam Abdulrahman bin Faisal Hospital, Dammam. Pregnant ladies attending the Family medicine, Obstetrics and Gynecology, and Endocrinology clinics in both hospitals were assessed by the caring physician based on a check list for risk stratification for thyroid dysfunction as per the 2012 Endocrine society clinical practice guidelines for management of thyroid dysfunction in pregnancy. Presence of one risk factor defined high risk. All patients had a routine serum TSH measured as universal screening is commonly practiced in both institutions, the physician doing the risk stratification was not aware of the TSH result. Sensitivity and specificity for the case finding approach was calculated using and abnormal TSH value as the gold standard for presence of thyroid dysfunction. The institutions lab reference TSH 0.35 – 4.94 mIU/L was used as cutoff.
Results:
1571 pregnant women were included in the study; mean age 29.3± 6.2 years, 396 (23.5%) were primigravida. The mean TSH value was 1.898 ± 1.459 mIU/L. 1178 (75%) pregnant women had an indication for screening based on presence of at least one risk factor, of which 95 (8.1%) tested abnormal for TSH. 393 women had no risk factors, of which 379 (96.4%) had normal TSH, (Chi square 9.3, p-value 0.002). [Sensitivity 87.2%, (95%CI 79.4% – 92.8%), Specificity 25.9%, (95%CI 23.7% – 28.3%)]. Total abnormal TSH values was 109 (6.9%), 43 were abnormal high (i.e. hypothyroid); of which 40 screened positive by case finding approach [Sensitivity 93.02%, (95%CI 80.9% – 98.5%), Specificity 25.52%, (95%CI 23.4% – 27.8%)]. Moreover, 178 (11.3%) women screened positive for GDM at some stage in pregnancy out of which only 5 (2.8%) had an abnormal TSH value, while of the 1393 pregnant women who screened negative for GDM 1289 (92.5%) had a normal TSH value, (Chi square 5.3, p-value 0.02). [Sensitivity 4.6%, (95%CI 1.5% – 10.4%), Specificity 88.2%, (95%CI 86.4% – 89.8%)].
Conclusion:
Targeted high-risk case finding predicts thyroid dysfunction in pregnant Saudi women with high sensitivity supporting its utility in screening our pregnant population. Gestational diabetes is highly prevalent in Saudi women, but does not increase risk of thyroid dysfunction in pregnancy.

Cardiovascular Endocrinology

HYPERTRIGLYCERIDEMIA; INFLAMMATION AND MUSCLE METABOLISM IN OBESITY AND WEIGHT LOSS I

Management of Severe Gestational Hypertriglyceridemia

Anne Borja, M.D., Meena Khandelwal, M.D., Farah Morgan, MD.
Cooper University Hospital, Camden, NJ, USA.

SAT-569

Background: Severe gestational hypertriglyceridemia is a dangerous and life threatening illness. Management can be difficult due to the limited data on safety of medical therapy during pregnancy. We present a case of severe gestational hypertriglyceridemia.
Case Presentation: A 29 year old woman, G4P2012 at 23w3d, with a past medical history of gestational diabetes, nontoxic thyroid nodule, and hypertriglyceridemia presented to the emergency room for abdominal pain and nausea. She has no known family history of lipid disorders. Her last pregnancy was complicated by acute pancreatitis due to hypertriglyceridemia. Between pregnancies, her triglyceride level was >900 mg/dL and gemfibrozil therapy was advised, however reported nonadherence. In current pregnancy and after counseling, she was prescribed omega-3 acid ethyl esters (Lovaza) 2 grams twice a day and referred to maternal fetal medicine. Triglyceride level on admission was 3640 mg/dL, and she admitted to poor adherence to Lovaza. Liver function tests were within normal limits. She was started on an insulin drip, as well omega-3 fatty acids 4g daily. However, the triglyceride level remained elevated despite 72 hours on the insulin drip and it was subsequently discontinued. Plasmapheresis was discussed but deferred given no evidence of pancreatitis. Gemfibrozil 600mg twice a day was added to the omega-3 fatty acids which were titrated up to 2g three times a day. On her day of discharge, her triglyceride level was 2200 mg/dL and abdominal pain had resolved. She was maintained on gemfibrozil and Omega-3 fatty acids, with plans to increase them by 1g per week to reach a goal of 10g per day with a goal triglyceride level <1000mg/dL. Pre-gestational diabetes was tightly controlled with insulin. She was also seen by the nutritionist for counseling of a low fat diet and