were obtained. F, SAF and UFC were determined by RIA and ACTH by IRMA. Reference values from our laboratory (n= 100): UFC ≤90.0 µg / 24hs; ACTH: 10.0–50.0 pg / ml, SAF_{23}: 0.5–3.8 nM / l; SAF_{dex}: 0.5–2.0 nM; F_{dex}: 13.8–50.0 nM. Statistics were performed by Mann-Whitney and Spearman tests, p <0.05 was considered significant. In AI: ACTH 22.0 ± 11.0 pg /ml; UF:C 47.0 ± 20.0 µg / 24hs; $SAF_{23:}$ 1.5 ± 0.9 nM); $SAF_{dex:}$ 1.0 ± 0.5 nM and $F_{dex:}$ 35.6 ± 10.0 nM were normal and significantly different from CS: 5.6±1.8 pg /ml; 391.0 ± 406.0 µg / 24hs; 20.0 ± 32.0 nM; 27.0 ± 24.0 nM and 674.0 ± 339.0 nM, respectively; p <0.05 in all cases. A positive and significant correlation was demonstrated between SAF_{dex} and F_{dex} in AI (r = 0.830) and CS (r = 0.905); p <0.05 in both. Interestingly, a woman with overt CS and moderate signs of hypercortisolism, had normal SAF_{23} (1.5 nM) and UFC (76.0 µg / 24hs), while SAF_{dex} (3.0 nM) and F_{dex} (69.0 nM) showed absence of suppression. Surgical resection of the adrenal tumor (an adrenocortical adenoma) and postoperative hypocorticism confirmed the diagnosis of CS.

Conclusion: SCS was excluded in all AI. The dexamethasone suppression test using saliva as a diagnostic fluid was a sensitive and practical method to rule out hypercortisolism in these patients.

Tumor Biology

ENDOCRINE NEOPLASIA CASE REPORTS II

Pediatric Parathyroid Carcinoma Presenting With Acute Progressive Genu Valgum

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Abstract: **Background:** Parathyroid carcinoma (PC) is exceptionally rare in children and its clinical features are poorly understood. Available reports have identified that very high serum calcium and parathyroid hormone levels would be expected in this disease. Definitive therapy for PC requires en bloc resection of the parathyroid tumor to reduce the risk of disease recurrence. Unfortunately, there are very few treatment options for metastatic PC and patients with recurrent PC have a high risk of mortality related to their disease. Because of the rarity of the condition, there are very limited data including pediatric patients.

Case: A previously healthy 13-year-old girl initially presented to primary care with bilateral foot and ankle pain in the context of acute and progressive genu valgum, referred to the orthopedic clinic. Lab evaluation prompted by imaging demonstrated severe hypercalcemia (15.6 mg/dL) and hyperphosphatasia (Alkaline phosphatase 2056 units/L). She was urgently referred to our clinic where we found her to have a firm right sided neck mass within the thyroid. Lab testing at that time confirmed profound hyperparathyroidism (PTH 2970 pg/mL). Neck ultrasound confirmed the presence of a 5.8 cm hypoechoic lesion adjacent to the right lower lobe of the thyroid. The patient received IV fluid resuscitation before undergoing urgent parathyroid surgery. The parathyroid lesion was grossly adherent to the thyroid gland and she received en bloc resection of the tumor and right lobe of the thyroid. Post-operatively, PTH rapidly declined to <3.4 and she developed a prolonged hypocalcemic phase. PTH function improved, but she continued to require high doses of calcium carbonate to address hungry bone syndrome over subsequent weeks. Comprehensive evaluation included testing for genetic mutations, deletions, and duplications in CASR, CDC73, CDKN1B, MEN1 and RET, all of which were negative. Extensive genetic testing of the parathyroid tumor did not identify any specific mutations which have been previously associated with PC. Six months post-operatively, her labs have vastly improved, although she has clinical evidence of PTH resistance and her alkaline phosphatase has not yet normalized. Neck ultrasound, F-18 FDG PET/MRI imaging and Sestamibi scans show no evidence of persistent disease.

Conclusions: While parathyroid carcinoma is extremely rare in pediatric patients, the diagnosis must be considered in cases of hypercalcemia with marked elevations in PTH and palpable neck mass. Although rarely described, bone changes related to PC may be dramatic and may result in lasting morbidity - including genu valgum requiring surgical intervention as well as prolonged hungry bone syndrome and metabolic bone disease. Genu valgum is a unique pediatric feature of this disease because this may only evolve in individuals whose physes are open.

Neuroendocrinology and Pituitary

NEUROENDOCRINOLOGY AND PITUITARY

Plasmatic Lipocalin-2 Levels in Chronic Low-Grade Inflammation Syndromes: Comparison Between Metabolic Syndrome, Total and Partial Growth Hormone Deficiency

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Lipocalin-2 (LCN2) is a secreted glycoprotein, member of the lipocalin superfamily and mediator of several chronic inflammatory processes. Metabolic syndrome (METs) and total growth hormone deficiency (GHD) are known as chronic inflammatory conditions (1,2). While discrepant results have been found in literature on LCN2 plasmatic levels in metabolic syndrome, no studies have been performed in GHD. Partial growth hormone deficiency (pGHD) either is associated with cardiovascular risk (3). Therefore, the primary end-point of this observational cross-sectional study was to compare LCN2 in these clinical settings, trying to assess its possible role as a biomarker in these diseases, whether the secondary end-point was to evaluate the impact of BMI and indexes of insulin sensitivity/resistance on this protein plasmatic levels. 74 patients were included in the study. They were divided as follows: Group A, METs (18 patients, 13 females and 5 males, mean±SEM age 45.1±4.11 ys, BMI 31.22±1.73 kg/m^2); Group B, GHD (18 patients, 8 F and 10 M, mean±SEM age 52.44±2.61 ys, BMI 30.49±1.87 kg/m^2); Group C, Partial GHD (19 patients, 13 F and 6 M, mean±SEM age 48.63±2.19 ys, BMI 29.11±1.85 kg/m^2);