178 nonfunctioning adenomas). Twenty-three patients, 17 with Cushing disease, (CD), mean age: 31 y, 13 female and 4 male) and 6 patients with SCA (mean age: 47 y, 5 female and 1 male) had positive ACTH confirmed by immunohistochemical analysis. Clinical characteristics: in the CD group, 53% had hypertension (9/17), 42% diabetes (7/17), 100% dyslipidemia, BMI was 30.7 kg/m^2. Among SCA group, 67% hypertension, 50% diabetes, 50% dyslipidemia, BMI was 28 kg/m^2. All patients were evaluated with basal ACTH and DHEAS before surgery. Patients with SCA underwent desmopressin test and were compared to CD. Dexamethasone suppression test (DST 1 mg) and 24-hour free urinary test was performed in patients with CD and in two patients with SCA. Response to desmopressin test was considered positive when increase in cortisol was above 20% and in ACTH of 35% using chemiluminescence assay (Immulite 2000).
Results: Among CD group, the median (med) basal ACTH was 75.9 pg/mL (30.9 to 211), the med basal cortisol was 22.5 µg/dL (14.5 to 43.5), the med DHEAS was 170 µg/dL (33 to 465), the med 24h urinary free cortisol of 454.5 µg/24 h (149 to 1673) and med basal cortisol after DST 1mg of 15.4 µg/dL (4.7 to 31.5). Among SCA, med basal ACTH was 19.4 pg/mL (9.5 to 65.5), the med basal cortisol was 9.5 µg/dL (7.8 to 16.4) and the med DHEAS was 104.5 µg/dL (82 to 127). Only 4 patients with CD had macroadenomas. All of them responded with ACTH increase (med increase of 98%, 31.6 to 377%), and only 4 did not respond to cortisol increase (med increase of 54.4%, 0 to 167%). All patients with SCA had macroadenomas. Only one patient did not respond to ACTH increase (med increase of 123.5%, 9.5 to 1522%, 9.5 to 1522%), and 3 patients did not respond to cortisol increase (med increase of 17.9%, 0 to 234%).
Discussion: SCA are invasive tumors, with high recurrence and tests predicting their occurrence
are missing. We hypothesized that as ACTH is present in the adenoma a response to desmopressin test could exist (like CRH).
Conclusion:
The desmopressin test can be a useful tool in the evaluation of SCA and can predict pathological phenotype in preoperative tumors.

Diabetes Mellitus and Glucose Metabolism

CLINICAL AND TRANSLATIONAL STUDIES IN DIABETES

The Relationship Between Glucose Control & Cognitive Function in People with Diabetes After a Lacunar Stroke

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Background & Objective Both lacunar strokes and diabetes are risk factors for dementia and cognitive dysfunction. Thus, elucidating modifiable risk factors for cognitive dysfunction in people with type 2 diabetes who experienced a lacunar infarct has large public health implications. One such factor may be glycemic status, as measured by glycosylated hemoglobin (A1C). Thus, the aim of this study was to assess the relationship between A1C and cognitive function in people with diabetes after a lacunar stroke. **Research Design & Methods** The effect of baseline and follow-up A1C on the baseline and the change in Cognitive Assessment Screening Instrument (CASI) score over time among participants with a median of 2 cognitive assessments (range 1-5) was examined in of 942 individuals with diabetes and a lacunar stroke who participated in the Secondary Prevention of Small Subcortical Strokes (SPS3) trial (ClinicalTrials.gov number, NCT00059306). **Results** Every 1 % higher baseline A1C was associated with a 0.06 lower standardized CASI z-score (95% CI -0.101, -0.018). Higher baseline A1C values were associated with lower CASI z-score over time (p for interaction=0.037). A 1% increase in A1C over time, corresponded with a CASI score decrease of 0.021 (95% CI -0.0043, -0.038) during follow-up. All these remained statistically significant after adjustment for age, sex, education, race, depression, hypertension, hyperlipidemia, BMI, CVD, OSA, diabetic retinopathy, nephropathy insulin use and White Matter Abnormalities. **Conclusion** This analysis of 942 individuals with diabetes after a lacunar stroke demonstrates a relationship between A1C and change in cognitive scores over time. Intervention studies are needed in order to delineate if better glucose control could slow the rate of cognitive decline in this high risk population.

Pediatric Endocrinology

PEDIATRIC OBESITY, THYROID, AND CANCER

Plasma Insulin Measured with a Sensitive Immunoassay May Establish the Diagnosis of Congenital Hyperinsulinism Without Further Testing.

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Plasma insulin measured with a sensitive immunoassay may establish the diagnosis of congenital hyperinsulinism without further testing.

Abstract
Background: The diagnosis of congenital hyperinsulinism (CHI) is often hampered by a plasma insulin (p-insulin) detection limit of 2-3 mU/L (14-21 pmol/L) by RIA methods.