These data highlight a long-term defective corticotroph function in patients with CS following BADx. Low ACTH concentrations long term after BADx for adrenal CS corroborate that corticotroph function fails to recover after CS cure. In the light of these findings, the utility of the synacthen test for excluding secondary/tertiary adrenal insufficiency following CS remission is disputable and remains to be evaluated in future studies dedicated to CS cohorts.

Neuroendocrinology and Pituitary

NEUROENDOCRINOLOGY AND PITUITARY CLINICAL ADVANCES

Longitudinal Study of Prevalence of Sodium Abnormalities in Hospitalized Patients With COVID-19

Ploutarchos Tzoulis, PhD, MD, MSc (Hons), MRCP (UK), CCT (UK)[1], Julian Waung, BM,BSC,MRCP[2], Emmanouil Bagkeris, MSc[3], Ziad Hussein, MBChB, MRCP[4], Aiyappa Biddanda, MBBS, MRCP[2], John Cousins, BSc (Hons)[2], Alice Dewsnip, MBBS, BSc[2], Kanoyin Falayi, MBBS[2], PW McCaughran, MBSS, BSc[2], Chloe Mullins, MBBS, BSc[2], Ammara Naeem, MBBS, MRCP[2], Munachiso Nwokolo, MBBS, BSc[2], Helen Quah, MBBS, BSc[2], Syed Rabha Bitat, MRCP (UK)[4], Eithar Deyab, MD, MRCP[4], Swarupini Ponnampalam, MBBS, MRCP (UK)[4], Pierre-Marc Gilles Bouloux, BSC,MD,FRCP[5], Hugh Montgomery, MBBS, BSc, FRCP, MD[1], Stephanie Baldeweg, MD FRCP[1].
[1]University College London, London, United Kingdom, [2]Whittington Hospital, London, United Kingdom, [3]Imperial College London, London, United Kingdom, [4]University College London Hospital, London, United Kingdom, [5]Royal Free Hospital, London, United Kingdom.

Background: Sodium abnormalities (dysnatremia) are frequently observed in patients with community-acquired pneumonia and are associated with excess mortality. Data on the prevalence of hyponatremia and hypernatremia (serum sodium [Na] < 135 and > 145 mmol/L respectively) in patients with coronavirus disease 19 (COVID-19) are currently lacking. **Methods:** The aim of this study was to evaluate the prevalence and etiology of hyponatremia and hypernatremia at several timepoints during hospitalization of COVID-19 patients. This retrospective, longitudinal, observational study included all COVID-19 positive adult patients admitted to two London hospitals over an 8-week period (February to May 2020). **Results:** Clinic records were reviewed in 488 patients, 277 males (56.8%) and 211 females (43.2%), with a median age of 68 years. Comorbidities were documented in 79.6%, with the commonest being hypertension (45.7%), diabetes mellitus (25%), and chronic kidney disease (16.4%). Prior to admission, 25 patients (5.1%) had pre-existing chronic hyponatremia. At hospital presentation, median [Na] concentration was 137 mmol/L. Dysnatremia was present in 146 patients (29.9%), including 26 (5.3%) with hypernatremia and 120 (24.6%) with hyponatremia, of whom [Na] was 130-134 mmol/L in 90 (18.4%) and < 130 mmol/L in 30 (6.2%). Only 19% of patients with < 130 mmol/L underwent adequate laboratory assessment of the etiology of hyponatremia. Of those, based on a urinary sodium cut-off of 30 mmol/L, hyponatremia was classified as hypovolemia in 75% and non-hypovolemic in 25%. For the remaining hyponatremic cases, using 5 mmol/L as the cut-off value for plasma urea, 55.7% were classified as probable hypovolemic and 44.3% non-hypovolemic hyponatremia. There was an upward trajectory of [Na] values during hospital stay with a median increase of 2 mmol/L in the first 48 hours following admission. On the fifth day of hospitalization, the prevalence was similar for hypernatremia and hyponatremia (13.8% and 14.1%, respectively). On the tenth day, hypernatremia was more common than hyponatremia (14.2% vs 10.2% respectively). Analysis of [Na] throughout the hospital stay defined four subgroups; 185 patients (37.9%) remained normonatremic throughout hospitalization; 180 (36.9%) had exposure to hyponatremia; 53 (10.9%) were exposed to hypernatremia; and 70 (14.3%) experienced both hypernatremia and hyponatremia. **Conclusions:** Hyponatremia, usually mild, was common at admission in Covid-19 positive patients, while hypovolemic hyponatremia appeared to be the predominant etiology. During hospital stay, abnormal sodium concentration was recorded in more than two thirds of Covid-19 positive patients. The association of dysnatremia with the outcomes in hospitalized COVID-19 patients warrants further exploration.

Neuroendocrinology and Pituitary

NEUROENDOCRINOLOGY AND PITUITARY CLINICAL ADVANCES

Olfactory Performance in Youth With Full and Subthreshold Avoidant/Restrictive Food Intake Disorder

Madeline Rogers Stull, BA[1], Stephanie G. Harshman, PhD[1], Megan Kuhnle, BS[1], Olivia Wons, BS[1], Madhusmita Misra, MD, MPH[2], Kamryn Eddy, PhD[1], Elizabeth Austen Lawson, MD, MMSc[1], Jennifer J. Thomas, PhD[1].
[1]Massachusetts General Hospital, Boston, MA, USA, [2]Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA.

Background: Avoidant/restrictive (A/R) food intake disorder (ARFID) is characterized by restrictive eating defined by lack of interest in food, sensory sensitivity, and/or fear of aversive consequences of eating resulting in a failure to meet adequate nutritional and/or energy needs. The complex psychopathology that differentiates ARFID from other eating disorders highlights the need to explore the role of sensory systems in disease etiology. Olfaction has an important role in eating behavior. Specifically, olfactory dysfunction is associated with decreased food intake and appetite. Olfactory performance and associated clinical characteristics have yet to be examined in individuals with ARFID. We hypothesized that higher levels of PYY, which signals satiety, would be associated with poorer olfactory performance; whereas greater food fussiness and A/R eating severity would be associated with stronger olfactory performance. **Methods:** We evaluated a cross-sectional sample of children and adolescents with full and subthreshold ARFID (n=82, 46.2% female, mean age 15.8±3.8). We measured olfactory performance with the Sniffin' Sticks test (Burghardt®, Wedel, Germany) which captures odor discrimination, odor identification, and odor threshold. Higher