scores on all three indices represent stronger olfactory performance. We also measured fasting serum PYY; severity of A/R eating on the Pica, ARFID and Rumination Disorder Interview (PARDI); and food fussiness as a measure of food-related sensory sensitivity on the Adult Eating Behavior Questionnaire. Statistical analyses included T-test and spearman's correlations. **Results:** Greater fasting serum PYY levels were associated with significantly poorer performance on the odor threshold test (r=-0.4, p=0.003). Greater severity of A/R eating (r=-0.3 p=0.008) and food fussiness (r=-0.2, p=0.03) were both associated with significantly poorer performance on the odor discrimination test. **Conclusions:** As predicted, we found that higher levels of PYY were associated with poorer olfactory performance in youth with full and subthreshold ARFID. However, contrary to hypotheses, we found that greater food fussiness and severity of A/R eating were associated with poorer olfactory performance. Future research should investigate whether high levels of PYY and poor olfactory performance are causes, consequences, or correlates of A/R eating.

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Oxytocin Levels in Response to Pituitary Provocation Tests in Healthy Volunteers

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Background: Oxytocin, secreted into the circulation through the posterior pituitary, regulates lactation, weight, and socio-behavioral functioning. Oxytocin deficiency has been suggested in patients with hypopituitarism, however, diagnostic testing for oxytocin deficiency has not been developed. Known stimuli used in the diagnosis of pituitary deficiencies - the hypertonic saline and arginine infusion tests stimulating copeptin levels, and the oral macimorelin test stimulating growth hormone levels - have also been shown to stimulate oxytocin secretion in animal models. We hypothesized that these provocation tests would stimulate plasma oxytocin levels in humans.
Methods: Basal plasma oxytocin levels were measured for all three tests. Stimulated plasma oxytocin was measured once plasma sodium >150 mmol/l for the hypertonic saline and after 45 minutes for the arginine infusion and the oral macimorelin test, expected peak of copeptin and growth hormone levels, respectively. Primary outcome was change between basal and stimulated oxytocin levels using a paired t-test.
Results: Median (IQR) age of all participants was 24 years (22, 28), 51% were female. As expected, copeptin increased in response to hypertonic saline from 4.0 pmol/L [3.3, 6.7] to 34.2 pmol/L [23.2, 45.4] (p-value <0.001) and in response to arginine infusion from 4.6 pmol/L [3.2, 6.2] to 8.3 pmol/L [6.4, 10.8] (p-value <0.001). Growth hormone increased in response to oral macimorelin from 1.6 ng/mL [0.3, 17.2] to 106.0 ng/mL [73.3, 127.2] (p-value <0.001). Oxytocin levels increased in response to hypertonic saline infusion from 0.3 pg/mL [0.3, 0.5] to 0.6 pg/mL [0.4, 0.7] (p-value 0.007), while there was no change in response to arginine infusion (basal 0.4 pg/mL [0.4, 0.6], stimulated 0.4 pg/mL [0.3, 0.6], p-value 0.6), nor to oral macimorelin (basal 38.7 pg/mL [31.1, 66.9], stimulated 34.2 pg/mL [31.2, 48.2], p-value 0.3).
Conclusion: We found that hypertonic saline infusion results in doubling of oxytocin levels. Further research will be important to determine whether this test could be used diagnostically to identify patients with oxytocin deficiency. In contrast to animal data, arginine and macimorelin did not stimulate oxytocin.

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Pituitary Stalk Lesions - Single Center Long Term Observation

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Background & Methods: Pituitary stalk lesions (PSL) are various changes located in the pituitary infundibulum. The underlying pathology and exact diagnosis are difficult to establish due to their unique anatomical locus. A retrospective observational analysis of 60 adult patients (34W/26M) with pituitary lesions was performed. The mean age of diagnosis was 33.8 years (SD 23.7). The etiologies were divided into 3 groups (congenital, inflammatory, neoplastic), classified as exact, probable or unknown and characterized hormonally.
Aim: To present the etiological spectrum of pituitary stalk lesions and their clinical and hormonal characteristics on the basis of long term observation in the pediatric/adult endocrinology departments of our university. **Results:** The most common causes of PSL were neoplasms (20/60, 33.3%, 14W/6M); congenital malformations were detected in 17/60 (28.3%, 6W/11M), while inflammatory etiology was found in 15/60 (25.0%, 9W/6M) of patients. The exact diagnosis was established in 26/60 (43.3%) cases (16 congenital malformations, 6 adenomas, 1 pituitary cancer, 1 craniopharyngioma, 1 germinoma and 1 lymphocytic hypophysitis [LH]). The probable cause was suggested in

26/60 patients (43.3%) - 10 with the suspicion of LH, 4 with histiocytosis, 3 with a metastatic tumor from a disseminated cancer, 3 craniopharyngiomas, 1 posterior pituitary lobe ectopy, 1 prolactinoma, 1 granular cell tumor, 2 adenomas and 1 pituicytoma. The origin of 8/60 PSL (13.3%) remains unknown. During hormonal assessment the most common insufficiency concerned the gonadal axis found in 29/60 (48.3%) of patients, followed by thyroid (26/60, 43.4%), somatotropic (21/60, 35.0%) and adrenal axis (20/60, 33.3%) insufficiencies. Hyperprolactinemia was detected in 20/60 (33.3%) of patients, while diabetes insipidus was confirmed in 15/60 (25%) of cases. 45 patients presented at least 1 hormonal deficit, some of them were transient. In clinical aspect, symptoms associated with hormonal deficits led to the initiation of diagnostic work-up in 29 patients (48.3%; including 15 patients (25.0%) with growth retardation). Neurological symptoms such as headaches, visual disturbances and seizures were seen in 13 patients (21.7%). Polydipsia and polyuria were the primary presentation in 11 cases (18.3%), while 5 cases (8.3%) had a clinical manifestation of hormone overproduction. Incidental diagnosis was seen in 2 female patients (3.3%). **Conclusions:** The diagnosis, management and treatment of the pituitary stalk lesions remains challenging. Difficulties in establishing the exact diagnosis might also be related to the non-specific, transient characteristics of the symptoms and hormonal insufficiencies. Long term observations might help better the understanding of the disease and result in improvement of management.

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PYY Levels and Relationship to Appetite Across Different Presentations of Anorexia Nervosa

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Objectives: While the pathophysiology of eating disorders is not well understood, there is evidence that anorexigenic peptide YY (PYY) may play a role. We have shown that PYY levels are high in individuals with anorexia nervosa (AN) and associated with subjective appetite. However, it is unclear whether this represents a general characteristic across AN presentations. Here we investigate PYY levels and their associations with subjective appetite in individuals with atypical (atypAN), binge/purge type (AN-BP), and restricting type (AN-R) AN compared to healthy controls (HC). We hypothesized that PYY levels would be high in all AN presentations compared to HC and associated with subjective appetite.

Methods: We performed a cross-sectional study of 106 females (26 atypAN, 11 AN-BP, 29 AN-R and 40 HC, age 10-22 yrs). Research diagnoses were conferred using the Eating Disorder Examination. Fasting blood was drawn for PYY and visual analog scales were administered to assess hunger and desire to eat one's favorite food. We performed Wilcoxon test to determine between-group differences in clinical characteristics. Spearman's correlation coefficient was used to determine the relationship between PYY levels and appetite within each group.

Results: Mean age±SD of atypAN (18.3±3.3 yrs) and AN-BP (19.9±1.5 yrs) did not differ (ps≥0.11) while AN-R (19.5±2.4 yrs) were older (p=0.013) than HC (17.8±3.1 yrs). BMI was lower in atypAN (18.7±1.2 kg/m^2), AN-BP (17.3±0.8 kg/m^2), and AN-R (16.6±1.0 kg/m^2) than in HC (21.3±2.0 kg/m^2; ps<0.0001). Fasting PYY levels were higher in atypAN (107.4±40.8 pg/mL), AN-BP (118.4±56.8 pg/mL) and AN-R (124.1±48.5 pg/mL) than HC (83.2±31.7 pg/mL, ps≤0.045). Hunger and desire to eat one's favorite food were lower in atypAN and AN-BP compared to HC (ps≤0.042). Between group differences in PYY and appetite remained significant after controlling for age (ps≤0.032). The relationship between PYY and hunger was negative in AN-BP (ρ= -0.71, p=0.012), positive in AN-R (ρ=0.40, p=0.035), and not significant in atyp AN (ρ=0.02, p=0.90). The relationship between PYY and desire to eat favorite food was negative in AN-BP at trend level (ρ=-0.56, p=0.071), positive in AN-R (ρ=0.52, p=0.005), and not significant in atypAN (ρ=0.09, p=0.65).

Conclusions: Compared to HC, fasting PYY levels were higher and appetite lower in all AN presentations. Higher fasting PYY levels were associated with lower appetite in AN-BP and greater appetite in AN-R, while no relationship was found in atypAN. The absence of an association in atypAN, which includes females who do not meet low weight criteria for AN-R or AN-BP, may reflect opposing relationships in those who restrict vs. binge/purge. Future research is required to further understand the differences in relationships between PYY levels and subjective appetite across AN presentations.

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Recovery of Male Hypogonadism Following Successful Treatment of Prolactinoma: The Experience of an Integrated Health Network

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Background: Hypogonadism is the most prevalent deficiency in male patients with prolactinomas (PrL). The recovery rates of hypogonadism (HGo) following treatment of PrL is variable and can be as high as 62%. In this study we aimed to identify predictors of HGo recovery in mean with PrL. We hypothesized that younger and leaner men and smaller tumor size predict HGo recovery after successful PrL treatment. We also hypothesized that higher baseline serum T predicts HGo recovery.

Methods: We conducted a retrospective review of the electronic medical records of adult males with a diagnosis of