

the delay discounting parameter k was calculated as a marker of choice preferences with higher values indicating a stronger preference for the immediate smaller reward. Blood was drawn prior to and 30, 60, and 120 min after the meal for analysis of ghrelin, and area under the curve was calculated as a cumulative measurement of ghrelin levels.

Results: As per study design, BMI was lower in the LWED group ($17.3 \pm 1.5 \text{ kg/m}^2$) compared to the HC group (mean \pm SD: $21.4 \pm 2.5 \text{ kg/m}^2$; $t[96]=11.33$, $p<0.0001$, $d=-1.99$). Groups did not differ by age (LWED: 18.3 ± 3.2 years, HC: 18.0 ± 3.1 years; $t[96]=-0.36$, $p=0.720$, $d=-0.10$). Ghrelin levels were higher in the LWED compared to HC group ($t[96]=-2.67$, $p=0.009$, $d=0.57$). K was numerically lower in the LWED compared to the HC group, but the difference was not significant ($t[96]=1.37$, $p=0.175$, $d=-0.30$). Importantly, in HC higher ghrelin levels were associated with higher k values ($r=0.37$, $p=0.032$). This relationship was not observed in the LWED group ($r=-0.13$, $p=0.304$).

Conclusions: In HC, higher levels of ghrelin predicted a stronger preference for smaller immediate rewards, which is consistent with increased impulsive choices shown in animal research. We did not observe this relationship in our LWED sample. Our results indicate that beyond energy homeostasis, ghrelin might play a broader role in reward-related behavior and decision-making, such as monetary choices. Future studies are required to further explore the role of ghrelin in human behavior in both clinical and non-clinical populations.

Neuroendocrinology and Pituitary NEUROENDOCRINOLOGY AND PITUITARY CLINICAL ADVANCES

Body Composition and Nuchal Skinfold Thickness in Pediatric Brain Tumor Patients

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Obesity, cardiovascular disease, and relapse/progression have major impact on prognosis in pediatric brain tumor patients. Cranial MRI is part of routine follow-up. In a cross-sectional study, we analyzed nuchal skinfold thickness (NST) by a standardized method on MRI performed for brain tumor follow-up monitoring as a novel parameter for body composition and cardiovascular disease in 177 brain tumor patients (40 WHO grade 1-2 brain tumors; 31 grade 3-4 brain tumors; 106 craniopharyngioma), and 53 healthy controls. Associations of NST with body mass index (BMI), waist-to-height ratio, caliper-measured skinfold thickness, and blood pressure were analysed in brain tumor patients and healthy controls. Craniopharyngioma patients showed higher BMI, waist-to-height ratio, NST and caliper-measured skinfold thickness when compared with brain tumor patients and healthy controls, whereas

these differences were not detectable between brain tumor patients and healthy controls. However, WHO grade 1-2 brain tumor patients were observed with higher BMI, waist circumference and caliper-measured triceps skinfold thickness when compared to WHO grade 3-4 brain tumor patients. NST showed high correlations with BMI, waist-to-height ratio, and caliper-measured skinfold thickness. NST, BMI and waist-to-height ratio had predictive value for cardiovascular disease in terms of increased blood pressure, and in multivariate analysis, only BMI was selected for the final model resulting in an odds ratio of 1.25 (1.14-1.379). In craniopharyngioma patients with hypothalamic involvement/lesion or gross-total resection, rate and degree of obesity were increased. As monitoring of MRI and body composition play an important role in follow-up after brain tumor, we conclude that NST could serve as a novel useful parameter for assessment of body composition and cardiovascular disease risk in brain tumor patients.

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Characterizing Immune Checkpoint Inhibitor-Induced Hypophysitis and Obstacles in Diagnosis

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Background: Immune checkpoint inhibitors (ICI) are used in the treatment of multiple cancers. ICI-induced endocrinopathies are known side effects of many of these agents due to their immunogenic properties. The primary aim of this single institution analysis was to characterize the population who developed hypophysitis and secondary adrenal insufficiency (AI) related to ICI therapy, and identify diagnostic challenges.

Methods: We performed a retrospective cohort study of adult cancer patients who received ICI therapy from 12/1/2012- 12/31/2019. We identified 839 patients who received CTLA-4, PD-1, PDL-1 inhibitors, or a combination during this time. Hypophysitis (H) was defined as low ACTH and low serum cortisol \pm other pituitary hormone deficiencies.

Results: Sixteen patients (1.9%; 16/839) developed hypophysitis after a median of 7 months from ICI initiation. The underlying cancers included: uroepithelial (1/48; 2.1%), neuroendocrine (1/10; 10%), melanoma (9/156; 5.8%), renal cell carcinoma (4/74; 5.4%), and non-small cell lung carcinoma (1/247; 0.4%). Four patients were excluded since they had isolated secondary AI due to exogenous steroids. Two patients with hypophysitis also had exogenous steroid usage. However, these patients had central hypothyroidism + secondary AI so were included. The median age at start of ICI was 61.3 years and 57% were males. Patients who developed hypophysitis were younger compared to the non-hypophysitis (NH) patients (median age: 57 years vs. 65 years; $p=0.0113$). Time from initiation of ICI to death/last follow-up was longer in the H group (20 months vs. 10.8 months; $p=.0013$). 87.5% of group H as compared to 47.3% of NH were alive at end of data collection ($p=0.0008$). In the H cohort, 43.8% (7/16) received