

**MON-277**

**Background** There is augmented concern for dopamine agonists (DA) related risk to mood and impulse control disorders (ICD) in patients (pts) with pituitary adenomas (PA). In this study, we analyzed prevalence using two validated self-assessment screening surveys; PHQ-9 and BIS-11. **Methods** A retrospective review of pts from an IRB approved PA registry. Patients; DA treated group (DA-T) and DA nontreated controls (DA-C). Patients with previous psychiatric diagnoses, and taking anti-depressive or anti-psychotics, were excluded. BIS-11 score  $\geq$  75<sup>th</sup>ile ( $>61$  points) was considered an increased ICD risk. DAs maximum standard dose low (MSDL) and high (MSDH), were calculated (2.0 and 3.5 mg/week for cabergoline (Cab) and 7.5 and 15 mg/day for bromocriptine; Bromo). Stats SPSS v.25. **Results** 103 pts (61 female, mean age 42.38 $\pm$ 5.38 years) were included. 76 were DA-T (70 Cab, 6 Bromo) and 27 DA-C. Median MSDL was 0.5mg (IQR: 0.25-0.75), MSDH was 0.28mg (IQR: 0.14-0.42). Median prolactin was 12.7ng/ml (IQR: 4.35-51.6). Overall median PHQ-9 score was 4 (IQR=2-9) and median BIS-11 score was 52 (IQR: 47-61). Per **PHQ-9**, 11/103 pts had major depressive disorder (MDD); 10 (13.2%) DA-T, 1 (3.7%) DA-C,  $p=0.28$ . 12/103 pts had other depressive disorder (ODD); 7 (9.2%) DA-T, 5 (18.5%) DA-C,  $p=0.19$ . 8 pts had thoughts of self-injury; 6 (7.9%) DA-T, 2 (7.4%) DA-C,  $p=NS$ . Severe depression was found in 3, (3.9%) DA-T pts only, moderately severe in 7 (9.2%) DA-T and 2 (7.4%) DA-C, moderate in 8 (10.5%) DA-T and 1 (3.7%) DA-C, and mild in 18 (23.7%) DA-T, 12 (44.4%) DA-C,  $p=NS$ . For **BIS-11 (97 pts)** median score was 52.0 (23-104) for DA-T, 52.5 (38-77) for DA-C. 23 pts had a score  $\geq$  75<sup>th</sup>ile, 18 (26.1%) DA-T and 5 (20%) DA-C. Younger pts (36 $\pm$ 14.8 vs 43.5 $\pm$ 15.09 years;  $p=0.043$ ) and lower DA cumulative doses had significantly higher ICD scores (median 18.27, IQR 11.5-313.98 vs 120.4, IQR 48.04-296.5;  $p=0.022$ ). Differences in prolactin levels and sex were not significant. Per PHQ-9; 26.1% of pts with vs 5.3% without increased ICD risk had MDD ( $p=0.013$ ). Depression severity and the total PHQ-9 score were higher in pts with increased ICD risk ( $p\leq 0.001$ ). Pts with an increased ICD had higher odds of having thoughts of death or self-harm (OR=6.29 CI95% 1.37-28.86,  $p=0.01$ ). **Discussion** The data shows a trend of higher impulsivity among DA treated pts. Pts with increased ICD risk had higher odds of MDD, self-harm ideation and thoughts about being dead. In contrast with previous studies, prolactin and male sex were non-significant for increased ICD, while a lower DA cumulative dose was significant. We suggest ICD is more likely to appear in DA naïve or pts recently taking DA. **Conclusion** Routine self-assessment questionnaires PHQ-9 and BIS-11 during office visits may be useful to identify patients at risk of depression and ICD in pts with DA treated PA.

## Neuroendocrinology and Pituitary CASE REPORTS IN CLASSICAL AND UNUSUAL CAUSES OF HYPOPITUITARISM

### *Isolated Adrenocorticotrophic Hormone Deficiency Secondary to the PD-1 Inhibitor Pembrolizumab*

Justin Mathew, MD, Priyanka Mathias, MD, Noah Bloomgarden, MD.

Montefiore Medical Center, New York, NY, USA.

**SAT-242**

**Background:** Immune checkpoint inhibitors (ICIs) are now indicated in the treatment of several solid tumors and have improved the prognosis of patients with advanced malignancy. The expanded use of ICI's has led to the rise of otherwise rare autoimmune sequelae. The overall incidence of ICI-induced autoimmune hypophysitis has increased to approximately 10%, but is only estimated to be 0.4% with PD-1 inhibitors specifically (1). Isolated ACTH deficiency from immune checkpoint inhibitors is rare, and very few cases secondary to the PD-1 inhibitor pembrolizumab have thus far been reported.

**Clinical Case:** A 75-year old woman with history of Stage IV lung adenocarcinoma presented to oncology clinic in July 2019 with progressive weakness, weight loss, and confusion for several weeks. She was found to be hypotensive and dehydrated in the clinic and subsequently was admitted to the hospital. A comprehensive infectious work-up was non-contributory. History revealed that after treatment failure with carboplatin, she was treated with pembrolizumab from January 2017 to June 2019 with excellent response. Laboratory evaluation on admission demonstrated an undetectable AM cortisol level of  $< 1$  ug/dL (n 5-25 ug/dL) with concomitant ACTH  $< 5$ pg/mL (Roche cobas, n 7.2-63 pg/mL), consistent with central adrenal insufficiency. Testing of the remainder of the pituitary axis, including TSH (0.83uU/mL, n 0.4-4.6 uU/mL), FSH (34.7 mIU/mL, n  $<150$ mIU/mL), LH (12.6mIU/mL, n  $<60$  mIU/mL), and IGF-1 (33ng/mL, n 34-245ng/mL), all returned within normal limits. Further chart review verified that she had not been exposed to any form of glucocorticoids within the past 6 months. MRI brain with contrast demonstrated no obvious pituitary disease. The patient was started on 5mg of prednisone daily, with significant improvement in mental status, appetite, and blood pressure. She was discharged home on maintenance prednisone for adrenal insufficiency due to presumed isolated corticotroph destruction.

**Conclusions:** Isolated ACTH deficiency is a very rare but potential consequence of pembrolizumab use. It can be especially difficult to diagnose in patients on chemotherapy who are at higher risk for dehydration and failure to thrive. Duration of pembrolizumab therapy should not preclude the diagnosis of isolated ACTH deficiency, as it can occur even as late as 2.5 years into therapy.

**Reference:** (1) Chang, L., Barroso-Sousa, R., Tolane S., Hodi F.S., Kaiser, U.B., Min, L. Endocrine Toxicity of Cancer Immunotherapy Targeting Immune Checkpoints, *Endocr Rev.* 2019;40;17–65.

## Pediatric Endocrinology

### PEDIATRIC ENDOCRINE CASE REPORTS I

#### *Polymicrobial Suppurative Thyroiditis Masquerading as Thyroid Storm*

Erin E. Finn, MD, Kalie L. Tommerdahl, MD, Kari L. Hayes, MD, Christine L. Chan, MD.

The Children's Hospital Colorado, Aurora, CO, USA.

**SAT-063**

Introduction:

The thyroid gland is highly resistant to infection due to a robust blood supply, good lymphatic drainage, and high