positive with PRA/B. The analysis using KM plotter also revealed that PR was a good prognostic factor in total NSCLC patients. Our data demonstrated that not only PR but also PRB could be a good prognostic factor and have an important role on tumor progressing in NSCLC patients. In order to further elucidate the molecular mechanisms of PRB signaling in NSCLC, we are now performing further in vitro studies. Results of our present study could contribute to the development of novel therapeutic strategies targeting PR and/or PRB in NSCLC patients.

Tumor Biology
ENDOCRINE NEOPLASIA CASE REPORTS II
I’m Not Crazy! I Get a Headache When I Pee: A Case of Metastatic Bladder Paraganglioma
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MON-910
Tumors of chromaffin cells derived from the embryonic neural crest are classified as pheochromocytomas when located in the medulla of the adrenal glands and paragangliomas when located externally to it. Bladder paragangliomas constitute less than 1% of all catecholamine-secreting neuroendocrine tumors. Usually, these tumors are functional and symptomatic, but in other cases, they can be silent. We present an interesting case of a patient with post-micturition catecholaminergic crises that went undiagnosed for several years until found to have a bladder paraganglioma. A 60-year-old male with a past medical history of TIA, HTN, CAD, and ischemic cardiomyopathy presented with post-micturition headaches since age 14. Despite work up, no etiology was found. Eventually, the patient was referred to mental health for what was thought to be somatic symptoms. In 2010, he was diagnosed with hypertension and started keeping daily blood pressure (BP) logs, which showed BP fluctuation as high as 260s/110s with high-volume micturition, yet normotensive at other times. This led to imaging and cystoscopy which revealed a 6-cm bladder lesion. Surgical resection was completed, and pathology showed paraganglioma with positive margins and lymphovascular invasion. He was lost to follow up until 2017 when he presented with hypertensive crisis. CT and octreotide scan showed numerous osseous lytic lesions concerning for metastases. Laboratory testing confirmed excess catecholamines. He was referred to oncology, and after consideration of several treatment options, the patient was started on Xgeva and Sandostatin LAR. However, he passed away shortly thereafter.

Bladder paragangliomas are very rare and account for 6% of extra-adrenal pheochromocytomas. They occur more frequently in women than in men and clinically present mainly during the third decade of life. The patient typically suffers from hypertensive crises that may be accompanied by headache, palpitations, hot flushes, and sweating. These crises are mainly provoked by micturition, overdistention of the bladder, defecation, sexual activity, ejaculation, or bladder instrumentation. If there is high suspicion, biochemical and functional imaging workup should be performed. Surgery is the mainstay of the treatment and requires total excision. If diagnosed preoperatively, a partial cystectomy is preferred over trans-urethral resection as the majority of these tumors extend in the deep layers of the detrusor muscle. Because they are likely to recur and to metastasize, annual follow up with a measurement of plasma and urinary catecholamine levels and cystoscopy are essential. A functional imaging study (Ga-DOTATE scan) should be done to locate recurrence if symptoms reappear or catecholamine resurgence occurs.

Neuroendocrinology and Pituitary
HYPOTHALAMIC-PITUITARY DEVELOPMENT AND FUNCTION

Pituitary Hormonal Levels and Gonadal Histology in the Pubertal Period of the Ames Mice
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SAT-297
Introduction: The pituitary gland controls several mechanisms as metabolism, growth, and reproduction, in response to hypothalamic stimuli. The adequate temporal/spatial expression of transcription factors is mandatory for a normal pituitary development. PROP1 transcription factor is widely known as a key pituitary regulator. The Ames mice is a model of congenital hypopituitarism due to a pathogenic variant in the Prop1 gene, leading to growth retardation, infertility, and hypothryoidism. Aim: To characterize the peripheral levels of pituitary hormones and correlate with gonadal histology during the pubertal period of the Ames mice. Methods: Weight and naso-anal length were measured. Peripheral blood samples were collected from 5 wild type (WT) and 5 Prop1 mutants (Mut) animals with 30 (P30), 40, (P40), and 60 (P60) days after birth. Pituitary hormone levels were measured using the kit Milliplex Map® - Mouse Pituitary Bead Panel (Merck Millipore, Massachusetts, USA). Ovaries and testis from 3 WT and 3 Mut animals from each sex were collected and fixed in 4% paraformaldehyde and embedded in paraffin. Gonadal sections of 3 μm were obtained and the slices were stained with hematoxylin and eosin. Follicles were counted and classified according to the size and cellular composition as small follicle (17μm to 28μm), developing follicle (100μm), and antral follicle (>550μm). Testis were classified using the Johnsen score, ranging from 1 to 10 according to cellular composition and spermatogenesis state. Results: All mutant mice presented decreased weight and naso-anal length at the three analyzed periods. At P30, the female mutants presented GH, LH, and TSH levels similar to wild type and decreased FSH and PRL levels, as well as the males that only differed from GH reduced levels. At P40,
females and males presented GH, LH, FSH, and TSH levels similar to wild type with reduced PRL levels. At P60, it was observed decreased GH, FSH, and PRL levels for both sexes and TSH levels with no difference from WT, LH secretion was decreased in mutant females and normal in males compared to WT. There was no significant difference in follicular number and classification between mutants and wild type in all analyzed periods, despite the observation of ovarian hypoplasia in the mutants. Johnsen score was in the average of 7.5 in mutant males and 8.8 in WT, with no significant difference between periods. **Conclusion:** Despite the absence of PROP1 and the hypopituitary phenotype, mutant females and males were able to secrete some pituitary hormones, mainly during puberty, a pituitary high demand period. Although the ovaries and testis from mutant mice are hypoplastic, cellular morphology and classification are similar to WT.

**Bone and Mineral Metabolism**

**BONE AND MINERAL CASE REPORTS II**

**Calcium Gone Crazy: Recurrent Hypercalcemia in Patient with History of Hypoparathyroidism**

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**MON-369**

**Introduction**

Patients with post-operative hypoparathyroidism mostly require Calcium supplements and Calcitriol with goal of maintaining calcium levels in low normal range. However, calcium balance can further be dysregulated by other factors including renal failure in patients with otherwise stable levels.

We present a case of recurrent symptomatic hypercalcemia leading to multiple hospital visits in a patient with otherwise stable longstanding post-operative hypoparathyroidism that was precipitated after episode of Acute Renal Failure.

**Case Presentation**

71 Year old male with past medical history of Atrial fibrillation, Hypertension, Primary Hyperparathyroidism status post Parathyroidectomy (Parathyroid hyperplasia with removal of 3/12 glands) in 2003 with subsequent Hypoparathyroidism presented with lethargy and confusion few days after cardioversion attempt for atrial fibrillation. He was noted to have bradycardia and hypertension post procedure which improved subsequently. His medications included Calcitriol 0.25 mcg twice daily and Calcium Carbonate 1.25 grams twice daily. His Calcium and Carbonate was stable over the years on this regimen.

On presentation, he was found to have elevated corrected calcium of 12.5 mg/dl and Acute Renal failure with Creatinine of 8.3 mg/dl which was normal 1 week prior. He underwent hydration and subsequently required few sessions of hemodialysis with improvement in kidney function and further hemodialysis was not needed. On discharge his corrected calcium was 8.6 mg/dl and Creatinine was 3.9 mg/dl. His Calcitriol and Calcium were resumed on discharge. However, 3 weeks later he presented again with lethargy and calcium was again elevated at 14.8 mg/dl. All other workup for hypercalcemia including PTHRP, Bone marrow biopsy, Serum electrophoresis were negative. Subsequently, he had 2 more admissions for hypercalcemia and 1 admission for hypocalcemia within 1 month. Finally his calcium levels stabilized with reduced dose of Calcitriol and Calcium with close weekly monitoring initially as outpatient.

**Discussion**

In advancing kidney disease, the kidneys are no longer able to increase urine calcium excretion, and this removes an important safety mechanism to prevent calcium excess in patients with Chronic kidney disease. In patients with hypoparathyroidism on Calcitriol and Calcium supplements, renal failure may offset the calcium balance leading to dysregulation and erratic levels with increased tendency towards hypercalcemia.

**Conclusion**

Acute Renal Failure may lead to hypercalcemia in patients with otherwise stable levels. However, limited understanding of calcium balance/ regulation in renal failure, especially in setting of hypoparathyroidism further complicates the situation and may lead to difficult titration of medications.

**Cardiovascular Endocrinology**

**ENDOCRINE HYPERTENSION AND ALDOSTERONE EXCESS**

**Human Hair Aldosterone Measurements for Evaluation of Primary Aldosteronism**

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**SAT-543**

**Background:** Primary Aldosteronism (PA) is the most common cause of endocrine hypertension in US. Diagnostic techniques such as a 24 hour urine collection or saline suppression test (SST) can be laborious for both patients and staff. Our group previously showed that human hair cortisol measurements correlated with urine and serum cortisol levels in patients with endogenous cortisol excess. In this study, we explored whether human hair aldosterone correlated with other measures of aldosterone production.

**Methods:** 41 adult subjects were evaluated at the NIH Clinical Center for adrenal disorders. A pencil-width of hair near the occiput was removed, and the 1cm segment closest to the scalp was analyzed by enzyme immunoassay for aldosterone, reported as pg aldosterone/mg dry hair. Not all subjects underwent complete workup for PA. Data were transformed as necessary to maintain assumptions of normality. Student’s t-test and Pearson correlations were used for statistical analysis.

**Results:** Of the evaluated subjects, 18 were diagnosed with PA, 22 subjects did not have PA, and 1 subject was indeterminate. The mean hair weight was 33.0±13.7mg. For hair