

**SAT-595**

The arcuate nucleus (ARH) is considered the main mediator of the effects of leptin on energy homeostasis, as well, part of the hypothalamic circuitry through which the sex steroids mediate the ovulatory cycle and therefore reproduction. While it is known that aging influences synaptic plasticity of ARH neurons, the effects of increased weight gain early in life onto the activity of ARH neurons are still poorly understood. In order to demonstrate whether prepubertal adiposity gain is able to modulate the synaptic transmission in leptin receptor (LepR)-expressing cells of the ARH, we employed a postnatal over-nutrition model by raising mice in small litters (SL), while control mice were maintained in regular litters (6-8 pups per litter). The spontaneous currents of LepR-expressing neurons in the ARH were measured by whole-cell patch-clamp recordings in hypothalamic slices obtained from prepubertal, pubertal and adult female LepR-reporter mice. As expected, mice raised in SL exhibited increased body weight compared to control mice at prepubertal and pubertal stage (prepubertal,  $t_{(59)} = 6.9$ ,  $P < 0.001$ ; pubertal,  $t_{(59)} = 5.3$ ,  $P < 0.001$ ), despite no difference at adult age ( $t_{(59)} = 1.5$ ,  $P = 0.4$ ). By evaluating ARH neuronal activity we observed an increased average of excitatory and inhibitory currents frequency during development, in both control females (sEPSC:  $F_{(2, 46)} = 17.76$ ,  $P < 0.0001$ , sIPSC:  $F_{(2, 21)} = 4.064$ ,  $P = 0.0322$ ) and in mice raised in SL (sEPSC:  $F_{(2, 49)} = 27.76$ ,  $P < 0.0001$ , sIPSC:  $F_{(2, 19)} = 6.714$ ,  $P = 0.0062$ ). However, SL and control mice exhibited similar sEPSC amplitudes at all stages of development. A significant interaction between litter size and excitatory transmission frequency onto LepR-expressing cells were noted at the pubertal and adult stages ( $F_{(2, 95)} = 3.164$ ,  $P = 0.046$ ), despite no changes in the amplitudes of these signals (interaction:  $F_{(2, 95)} = 0.1516$ ,  $P = 0.8596$ ; age:  $F_{(2, 95)} = 0.9961$ ,  $P = 0.3731$ ; litter size:  $F_{(1, 95)} = 0.076$ ,  $P = 0.7832$ ). By evaluating the inhibitory transmission to ARH LepR-expressing neurons, no significant interaction between litter size and inhibitory transmission frequency were observed ( $F_{(2, 40)} = 0.09271$ ,  $P = 0.9117$ ). However, the average sIPSC amplitude were significantly reduced in the ARH cells recorded from mice raised in SL, when compared to the control group ( $F_{(2, 42)} = 22.86$ ,  $P < 0.0001$ ), despite no identifiable interaction between litter size and inhibitory transmission ( $F_{(2, 42)} = 0.6619$ ,  $P = 0.5212$ ). Taken together our results suggest that early weight gain influences the excitatory transmission pattern in LepR-expressing neurons by increasing presynaptic excitatory inputs and suppressing postsynaptically transmission to ARH neurons.

**Adrenal****ADRENAL - TUMORS*****Shorter Hospital Stays Are Not Associated with Increased Readmission or Complication Rates in******Patients Undergoing Laparoscopic Adrenalectomies***

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**SAT-156**

**Background:** Traditionally, elective adrenalectomies have been performed as an inpatient procedure. However,

the adoption of laparoscopic adrenalectomy as the gold standard has allowed for shorter postoperative stays. Our objective was to assess the safety of same-day discharge for patients undergoing laparoscopic adrenalectomy.

**Methods:** A retrospective cohort study of patients who underwent laparoscopic adrenalectomy from 2011-2017 was conducted using The American College of Surgeons National Surgical Quality Improvement Project (ACS NSQIP) database. Demographic data was obtained. Multivariable logistic regression models to assess the association between length of stay and both postoperative complication rates and 30-day readmission rates were regressed on age, sex, race, comorbidities, functional status, postoperative diagnosis, and operative time. Statistical significance was defined as  $p < .05$ .

**Results:** 5,611 unique patients who underwent a laparoscopic adrenalectomy were identified. 1,564 patients had a postoperative diagnosis of a pheochromocytoma (27.9%), 162 with Cushing's syndrome (2.9%) and 210 (3.7%) had metastatic disease to the adrenal glands. The average postoperative length of stay was 2.4 days (SD=3.9). 93 patients (1.7%) were discharged on the same day as their surgery (POD0). 2,509 (44.7%) were discharged on postoperative day 1 (POD1), 1,558 (27.8%) on postoperative day 2 (POD2), and 1,451 (25.9%) after POD2. Longer hospital stays were predicted by male sex, non-white race, longer operating time, and postoperative complications in regression models. 351 patients (6.26%) experienced a complication postoperatively. Complication rates were 3.23% for patients discharged on POD0, 1.67% for those discharged on POD1, 3.27% for those discharged on POD2, and 17.57% for those discharged after POD2 ( $p < .01$ ). An increased risk of postoperative complications was also associated with male sex, impaired functional status and the presence of multiple comorbidities in regression models.

290 patients (5.17%) experienced a readmission. Readmission rates were 4.30% for patients discharged on POD0, 3.67% for those discharged on POD1, 4.49% for those discharged on POD2, and 8.55% for those discharged after POD2 ( $p < .01$ ). Multiple comorbidities, African American race, and post-operative complications were associated with higher readmission rates. Length of hospital stay was not associated with readmission rates in regression models.

**Conclusions:** Readmission rates were not significantly different for patients discharged on POD0 than POD1 after a laparoscopic adrenalectomy. Readmission rates were higher for patients who had complications or multiple comorbidities. Therefore, low-risk patients with uncomplicated laparoscopic adrenalectomies can be considered for same day discharge to potentially reduce hospital spending and resource utilization.

**Neuroendocrinology and Pituitary****ADVANCES IN NEUROENDOCRINOLOGY*****The Synthetic Progestin, 17-alpha-hydroxyprogesterone Caproate, Used in Human Pregnancy Alters Prefrontal Cortical Development in Rats***

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