

Cushing disease is characterized by a gradual onset and subtle manifestations of hypercortisolism. Acute, severe presentation favors an ectopic ACTH producing tumor, and is associated with much higher cortisol levels. In our patient, clinical data suggested ectopic ACTH production, yet he was found to have Cushing disease, and was treated successfully with trans-sphenoidal resection of the pituitary adenoma. It is imperative to consider all possibilities, and do the full work up so as not to miss an atypical presentation of Cushing disease, and direct treatment accordingly.

## Cardiovascular Endocrinology

### HYPERTRIGLYCERIDEMIA; INFLAMMATION AND MUSCLE METABOLISM IN OBESITY AND WEIGHT LOSS II

#### *Effect of Testosterone Replacement Therapy Added to Intensive Lifestyle Intervention in Frail, Older Male Veterans with Hypogonadism and Obesity: A Randomized Clinical Trial*

Yoann Barnouin, PhD<sup>1</sup>, Alessandra Celli, MS<sup>1</sup>, Bryan Jiang, MD<sup>1</sup>, Arjun Paudyal, MS<sup>1</sup>, Vijay Nambi, PhD<sup>1</sup>, Bryant Monthaporn, PhD<sup>1</sup>, Reina Condevillamar Villareal, MD<sup>1</sup>, Marco Marcelli, MD<sup>1</sup>, Jose Manuel Garcia, MD PhD<sup>2</sup>, Clifford Qualls, PhD<sup>3</sup>, Dennis Tan Villareal, MD<sup>1</sup>.

<sup>1</sup>Baylor College of Medicine, Houston, TX, USA, <sup>2</sup>University of Washington/Puget Sound VA/SIBCR, Seattle, WA, USA,

<sup>3</sup>University of New Mexico, Albuquerque, NM, USA.

#### SUN-541

##### Background

Both hypogonadism and obesity are common in older men which additively exacerbate their age-related decline in physical function resulting in frailty. However, the appropriate treatment approach for frail, older men with hypogonadism and obesity is still controversial.

##### Methods

In this randomized, comparative efficacy, double-blinded, placebo-controlled (for testosterone) trial, we examined the effect of 6-months: 1) lifestyle therapy (diet-induced weight loss and supervised aerobic and resistance exercise training) + testosterone replacement therapy (LT+Test) vs. 2) lifestyle therapy + placebo (LT+Pbo) in 83 older (age $\geq$ 65 years) male veterans with obesity (BMI $\geq$ 30 kg/m<sup>2</sup>) and evidence of persistently low AM serum testosterone (<300 ng/dl) associated with physical frailty. The primary outcome was change in score in the modified Physical Performance Test (PPT). Secondary outcomes included other frailty measures, body composition, bone mineral density, and physical functions. Results

In the intention-to-treat analysis, the score in the PPT increased similarly in the LT+Test group and LT+Pbo (increase from baseline of 17% vs. 17%, respectively; P=0.78 for between-group comparison). Peak oxygen consumption (VO<sub>2peak</sub>) increased more in the LT+Test group than in the LT+Pbo group (increase of 23% vs. 16%, respectively; P=0.04). Moreover, despite equivalent weight loss between groups (both groups lost 9% of body weight from baseline), lean body mass decreased less in the LT+Test group than in LT+Pbo group (-1.8% vs. -3.5%, respectively; P=0.02). Likewise, bone mineral density at the total hip was relatively preserved in the LT+Test group compared to the

LT+Pbo group (+0.5% vs. -1.1%; respectively; P<0.01). Knee extension and flexion strength assessed by isokinetic dynamometry increased similarly in the LT+Test group and LT+Pbo group (increase of 17 and 25% vs. 18 and 27%, respectively; P=0.89 to 0.99). Both hematocrit and PSA increased more in the LT+Test group than in the LT+Pbo group (increases of 5% vs. 1% and 45% vs. 0.1%, respectively while HDLc increased less (increase of 0.5% vs. 13%, respectively) (P<0.001 to 0.01 for all comparisons). Total testosterone levels measured by LC-MS increased more in the LT+Test group than in the LT+Pbo group (125% increase [from 222 ng/dl to 546 ng/dl] vs. 19% increase [from 247 ng/dl to 335 ng/dl], respectively; P<0.001).

##### Conclusions

In older men with hypogonadism and obesity associated with frailty, testosterone replacement therapy significantly augments the increase in endurance capacity in response to lifestyle intervention with diet and regular exercise and helps to preserve muscle and bone mass during weight loss. However, testosterone replacement therapy does not lead to greater amelioration of frailty than in response to intensive lifestyle intervention alone in this population.

## Pediatric Endocrinology

### PEDIATRIC OBESITY, THYROID, AND CANCER

#### *The Neonatal Screen That Cried Wolff*

Fabiola D'Ambrosio, M.D.<sup>1</sup>, Laika M. Nur, MD<sup>2</sup>, Stelios Mantis, MD<sup>3</sup>, Carla Z. Minutti, MD<sup>3</sup>.

<sup>1</sup>University of Illinois in Chicago, Chicago, IL, USA, <sup>2</sup>University of California, San Diego, CA, USA, <sup>3</sup>Rush University Medical Center, Chicago, IL, USA.

#### MON-082

##### Introduction:

Hypothyroidism is one of the major causes of preventable mental retardation. Neonatal screening aids in the prompt diagnosis of newborns with congenital hypothyroidism. There are other clinical conditions that can alter thyroid function during the newborn period, including exposure of high iodine concentrations.

##### Case Presentation:

One day old female born at 37 3/7 weeks of gestational age by C-section with imperforated anus and congenital heart disease was transferred to our children's hospital within the first day of life for a hybrid cardiac procedure of bilateral pulmonary artery banding and PDA stenting. She had an Illinois Neonatal screen done at 36 hours of life that was normal. Her cardiac surgery was performed at 10 days of life, where she was exposed to iodine products transdermally. At 14 days of age, she had a repeat Illinois Neonatal screen that was positive for congenital hypothyroidism with a TSH of 78 mIU/mL (normal < 20 mIU/mL) and reflex total T4 of 5.4ug/dL (normal is > 8ug/dL). No family history of thyroid disease; mother was healthy during pregnancy and was not on medications that could affect baby's thyroid function. Subsequent serum laboratory testing confirmed a TSH of 74.3mIU/mL and Free T4 of 0.6ng/dL. Patient was diagnosed with Wolff-Chaikoff effect, which is the phenomenon of transient hypothyroidism caused by exposure to high doses of iodine (iodine containing contrast agents or topical antiseptics). Pediatric