was stopped at week 24. The main outcome measure was clinical response versus non-response to a 24-week MMI treatment defined as biochemical euthyroidism versus persistent hyperthyroidism at week 24 and/or relapse at weeks 36, 48, and 96. TSAb was reported as percentage of specimen-to-reference ratio (cut-off SRR% <140). Blocking activity was defined as percent inhibition of luciferase expression relative to induction with bovine TSH alone (cut-off >40% inhibition).
Results
Forty-four patients responded to MMI of whom 43% had Graves' orbitopathy (GO) while 56 were non-responders (66% with GO, p<0.01). At baseline, undiluted serum TSAb but not thyroid binding inhibiting immunoglobulins (TBII) differentiated between thyroidal GD only versus GD+GO (p<0.001). Further, at baseline responders demonstrated marked differences in diluted TSAb titers compared with non-responders (p<0.001). All patients with a TSAb dilution titer above three did not respond to MMI treatment. In contrast, TBII dilution titers did not differentiate between responders and non-responders to MMI and serum samples became TBII negative already at low dilutions. During treatment, serum TSAb levels decreased markedly in responders (p<0.001) but increased in non-responders (p<0.01). In contrast, TBII strongly decreased in non-responders (p=0.002). All non-responders at week 24 and/or those who relapsed during the 72-week follow-up were TSAb positive at week 24. A shift from TSAb to TBAb was noted in eight patients during treatment and/or follow-up and led to remission.
Conclusions
Serum TSAb levels are a biomarker for and mirror severity of GD. Their increase during MMI treatment is a marker for on-going disease activity. TSAb dilution analysis had additional predictive value.

Adrenal

ADRENAL - HYPERTENSION

Cosyntropin Stimulation on Adrenal Venous Sampling Obscure Surgically Curable Primary Aldosteronism

Hiroki Kobayashi, M.D.,Ph.D.[1], Masanori Abe, M.D.,Ph.D.[2], Isao Kurihara, MD,PHD[3], Takamasa Ichijo, PHD, MD[4], Yoshiyu Takeda, MD[5], Takashi Yoneda, MD[6], Takuyuki Katabami, MD[7], Norio Wada, M.D.,Ph.D.[8], Mitsuhide Naruse, MD,PHD[9].
[1]Joslin Diabetes Center, Harvard Medical School, Boston, MA, USA, [2]Nihon University School of Medicine, Tokyo, Japan, [3]Keio Univ Schl of Med, Tokyo, Japan, [4]Saiseikai Yokohamashi Tobu Hospital, Kawasaki, Japan, [5]Kanazawa Univ Sch of Med, Ishikawa, Japan, [6]Kanazawa University, Ishikawa, Japan, [7]St Marianna Univ. Yokohama-shi Seibu Hospital, Yokohamai-shi Kanagawa, Japan, [8]Sapporo City General Hospital, SAPPORO, Japan, [9]Kyoto Medical Center, Kyoto, Japan.

MON-198

Context: While it has been shown that ACTH stimulation during adrenal venous sampling (AVS) for primary aldosteronism (PA) leads to correct lateralization, others showed opposite results. Whether to use ACTH stimulation during AVS for the subtype diagnosis of PA remains unsolved. **Objectives:** Our purpose of this study is to evaluate the clinical implications of ACTH stimulation during AVS in terms of surgical outcomes. **Design and settings:** Among JRAS cohort, we allocated 314 patients with both basal and ACTH-stimulated AVS data who underwent adrenalectomy to 3 groups: basal lateralization index (LI)≥2 with ACTH-stimulated LI ≥4 on the ipsilateral side (Unilateral (U) to U group, n=245); basal LI <2 with ACTH-stimulated LI ≥4 (n=15); basal LI≥2 with ACTH-stimulated LI <4 (U to Bilateral (B) group, n=54). We compared surgical outcomes among the groups. **Results:** Compared with the U to U group, the U to B group had poor clinical and biochemical outcomes and low rates of adrenal adenoma as a pathological finding. All patients in the U to Bgroup with clinical and biochemical benefits however had adrenal adenoma as a pathological finding and could be well differentiated from those with poor surgical outcome via basal LI, but not ACTH-stimulated LI. A receiver operating characteristic curve analysis demonstrated that the cut-off value of 8.3 showed the specificity of 84% for the prediction of good surgical outcome in U to B group.These results were similar even when we defined each group based on a cut-off value of 4 for basal LI. Although, the basal plasma aldosterone concentration (PAC) in the adrenal veins on both dominant and non-dominant sides among patients with better surgical outcome in the U to B group were not significantly different from those in the U to U group, there was a significant difference in the ACTH-stimulated PAC on the dominant side. **Conclusions:** We demonstrated novel findings showing that patients in the U to B group were shown to be comprised of 2 groups with good and poor surgical outcomes, and basal LI was useful in identifying PA patients with good surgical outcome in U to B group. The low expression level of MC2R receptor on aldosterone-producing adenoma (APA) might be the explanation of the weak response in aldosterone level in a proportion of surgically curable APA cases. These findings point to the important fact that ACTH stimulation on AVS obscure surgically curable cases of PA.

Neuroendocrinology and Pituitary

HYPOTHALAMIC-PITUITARY DEVELOPMENT AND FUNCTION

Metabolic Effects Of Hypothalamic Pomc Neurons Generated Postnatally From Tanycytes On A Pomc Null Genetic Background

Surbhi Gahlot, PhD[1], Gabor Wittmann, PhD[2], Ronald M. Lechan, MD, PHD[2], Malcolm J. Low, MD, PHD[1].
[1]Department of Molecular & Integrative Physiology, University of Michigan Medical School, Ann Arbor, MI, USA, [2]Division of Endocrinology, Tufts Medical Center, Boston, MA, USA.

OR16-03

Hypothalamic proopiomelanocortin (POMC) neurons are an integral part of the central melanocortin system and regulate feeding and energy balance in vertebrates. Tanycytes are radial glial-like cells lining the third ventricle that contain a subpopulation of adult stem cells, which can differentiate under specific circumstances into glia and neurons, including POMC neurons. However, the