clinical features and several endocrinological problems such as hypogonadism, hypothyroidism, Growth hormone (GH) and adrenal deficiency have been described. Since GH-Therapy (GHT) was approved the physical benefits of the treatment have been established in many studies. It is now recommended to start treatment as soon as possible. The aim of this study is to shed light on possible differences in height, carbohydrate and lipid metabolism between children with PWS in whom GHT was initiated either during or after their first year of life. Patients and Methods: This retrospective longitudinal study included 62 children (31 males) with genetically confirmed PWS in whom fasting morning blood samples and auxological parameters were obtained before start of therapy and semi-annually thereafter. The early treatment cohort A consisted of 21 (11 males) infants who were recruited at 0.3–0.99 yrs (mean 0.72 yrs) for GHT. The later treatment cohort B entailed 41 individuals (20 males) in whom GHT was initiated at 1.02–2.54 yrs (mean 1.42 yr). Results: Auxology: Mean length/height-SDS_{PWS} differed significantly throughout the entire observation period between the groups: 1 yr: A: 0.37 (±0.83) *vs* B: 0.05 (±0.56); 5 yrs: A: 0.81 (±0.67) *vs*. B: 0.54 (±0.64); p=0.012). No significant differences were found in BMI, lean body mass or percent body fat. Endocrinological Parameters: Mean IGF-I SDS in group A did not differ significantly from group B and mean IGF-I SDS were mostly below 0 SDS (within normal range) in both groups.Lipid Metabolism: Low-density lipoprotein (LDL) was statistically significantly lower in Group A than in Group B during the entire course of the study (LDL: 1 yr: A: 79 (±20) mg/dl vs. B: 90 (±19) mg/dl; 5 yrs: A: 91(±18) mg/dl vs. 104 (±26) mg/dl; p=0.024).Carbohydrate Metabolism: Significant differences in mean fasting insulin levels and HOMA-IR between the two groups were found (fasting insulin p=0.012; HOMA-IR p=0.006). Significant differences in HbA1c and blood glucose levels were also determined between the two groups (HbA1c: p<0.001; blood glucose: p=0.022). Conclusion:Our analysis shows that early GHT had a statistically significant favorable effect on height-SDS, LDL, HOMA-IR and fasting insulin. The two groups did not significantly differ in BMI-SDS, body composition or IGF-I SDS.

Neuroendocrinology and Pituitary

CASE REPORTS IN SECRETORY PITUITARY PATHOLOGIES, THEIR TREATMENTS AND OUTCOMES

Block and Replace Therapy Successfully Improved Symptoms in Recurrent Cyclic Cushing's Disease

Risa Kamigaki, MD, Hiraku Kameda, MD, PhD, Hiroshi Iesaka, MD, Rimi Izumihara, MD, Yuki Ohe, MD, Koki Chiba, MD, Wataru Ono, MD, Ikumi Shigesawa, MD, Reina Kameda, MD, Hiroshi Nomoto, MD, PhD, Kyuon Cho, MD, PhD, Akinobu Nakamura, MD, PhD, Hideaki Miyoshi, MD, PhD, Tatsuya Atsumi, MD, PhD.

Faculty of Medicine and Graduate School of Medicine, Hokkaido University, Sapporo, Japan.

SAT-271

Background: Cyclic Cushing's disease is rare and treatments have not been established for post-surgical recurrent cases. Here, we report a patient with recurrent cyclic Cushing's disease, whose subjective symptoms improved by administration of metyrapone and hydrocortisone. **Clinical Case:** A 45-year-old woman had exhibited face and peripheral edema, hyperphagia, weight gain, hair loss and limb numbness since September X-10. In May X-9, her ACTH and cortisol levels were high (87.8 pg/mL and 28.8 μg/dL, respectively), and she was referred to our department. A brain MRI revealed a pituitary adenoma of 7mm in diameter. Because blood ACTH and cortisol levels turned normal and typical Cushingoid features were absent at the admission to our department, cyclic Cushing's disease was suspected. Later in September, because subjective symptoms recurred accompanied with blood cortisol level elevation, she was diagnosed as cyclic Cushing's disease with the examinations including inferior petrosal sinus sampling. Transsphenoidal surgery was performed in November, and immunohistology confirmed ACTH-producing pituitary adenoma based on ACTH positivity. After the surgery, endocrine test results were normalized and subjective symptoms were ameliorated. In March X-3, the blood ACTH level increased again; however, no subjective symptoms were observed. From May X, she had experienced limb numbness, hyperphagia and weight gain again. MRI showed no apparent recurrence, but endocrine tests showed the activity of Cushing's disease. Urinary free cortisol (UFC) increased to 300–400 μg/day in a 1-week cycle, indicating the recurrence of cyclic Cushing's disease. Metyrapone treatment was initiated, and the patient was finally discharged after block and replace therapy with metyrapone 2,000 mg/day and hydrocortisone 15 mg/day. After metyrapone treatment, subjective symptoms improved and UFC was normalized. **Conclusion:** Block and replace therapy with metyrapone and hydrocortisone may be effective for recurrent cyclic Cushing's disease, especially in cases with a very short cycle.

Diabetes Mellitus and Glucose Metabolism

DIABETES TECHNOLOGY AND ADVANCES IN CLINICAL TRIALS

Mixed Meal Tolerance Test (MMTT) Results from Revita-2, the First Randomized, Sham-Controlled, Double-Blind, Prospective, Multicenter Study of Duodenal Mucosal Resurfacing (DMR) Safety and Efficacy in Patients with Sub-Optimally Controlled Type 2 Diabetes (T2D)

David Hopkins, BSc(Hons), MBChB, MRCP, FRCP[1], Geltrude Mingrone, MD[2], Guruprasad P. Aithal, BSc, MBBS, MD, DNB, FRCP, PhD[3], Vijeta Bhambhani, BS, MS, MPH[4], Guido Costamagna, MD[5], Laurent Crenier, MD, PhD[6], Jacques Deviere, MD, PhD[6], Russell Sinclair Drummond, MD FRCP[7], Rehan Haidry, MBBS MD FRCS BSc[8], Iskandar Idris, MD[9], Andrea Lania, MD, PhD[10], Juan Carlos Lopez-Talavera, MD, PhD[4], Cormac Magee, PhD[11], Max Nieuwdorp, MD, PhD[11], Harith Rajagopalan, MD PhD[4], Kelly White, PharmD[4], Jacques JGHM Bergman, MD, PhD[12].

[1]King's Health Partners, London, United Kingdom, [2]UNIV A CATTOLICA DEL SACro Cuore, Rome, Italy, [3]Nottingham University Hospitals NHS Trust and the University of Nottingham, Nottingham, United Kingdom, [4]Fractyl Laboratories