factor β1 (TGFβ1) gene on chromosome 19q13.113.3. This condition is inherited in an autosomal dominant pattern. Case: A 20-year-old male. He has a so-called marfanoid habitus with long and narrow limbs. At the age of 19, he presented pain in lower limb, then walking became difficult. None of his relatives had similar symptoms. In biochemical tests, calcium, phosphorus, and bone-related hormones levels were all in the normal range. 25(OH)D levels were low probably due to his eating habits. On radiological evaluation, X-ray showed thickening of the bone cortex of the bilateral tibia. Bone scintigraphy revealed markedly increased tracer uptake in the bilateral temporal bone, femur, and tibia. Based on clinical and radiological features CED was suspected. Sequence analysis of the transforming growth factor β1 (TGFβ1) gene revealed a previously reported pathologial variant (p.R218H).

Discussion: CED is a rare pan-ethnic condition with more than 300 published cases worldwide. Although this case was difficult to diagnose because there was no family history and the onset of adulthood not childhood, this disease was suspected due to the typical localization of affected bone lesions by bone scintigraphy and was diagnosed by genetic testing. The majority of CED are missense variants in exon 4 leading to single amino acid substitutions in the encoded protein. Exon 4 encodes a latency-associated peptide (LAP) that suppresses the activity of TGF-β1 protein. No consensus management guidelines have been developed to date. Treatment with corticosteroids may relieve the pain, improve the muscle weakness and fatigue. Recently, the efficacy of losartan has been reported in some patients. Conclusion: Here we report a de novo case of CED diagnosed by genetic testing. Osteosclerotic diseases are very rare and are often difficult to diagnose. Genetic testing plays an important role in confirming the diagnosis.

Neuroendocrinology and Pituitary
PITUITARY TUMORS II
Risk Factors of Re-Growth of Non-Functional Pituitary Adenomas
Zamira Yuusufovna Khalimova, DSc, Professor1,
Yulduz Mahkhamatovna Urmanova, DSc, Professor2.
1Center of Endocrinology in Tashkent, Uzbekistan, 100125, Mirzo Ulugbek str 56, Tashkent, Uzbekistan, 2Tashkent Pediatric Medical Institute, Uzbekistan, 100125, Mirzo Ulugbek str 56, Tashkent, Uzbekistan.

MON-299
“Risk factors of re-growth of non-functional pituitary adenomas,” Khalimova Z.Yu., Urmanova Yu.M. Tashkent Pediatric Medical Institute, Department of Endocrinology child endocrinology, Republican Specialized Scientific Practical Medical Center of Endocrinology of Republic of Uzbekistan named by Ya.Kh.Turakulov Uzbekistan, 100125, Tashkent-city, Mirzo Ulugbek str 56. The aim of investigation to determine clinical aggressiveness diagnostic markers in patients with non-functional pituitary adenomas (NFPA) in the formation of gravity neuroendocrine disease symptoms. Material and Methods: We observed in 87 patients (including man - 44 women - 43) of which have a verified diagnosis of NFPA after surgery - 31 which were subjected transnasal adenomectomy of the pituitary (TAG). Further analysis was performed on these patients, who were followed from 1 to 3 years. Results. After the analysis of the frequency of remission and relapse NFPA data selectively in patients we studied the correlation between various parameters and the frequency of relapses. NFPA developed the scale of aggressiveness allowed to identify the risk factors of markers on the 3rd degrees, allowing to create a set of measures of tumor growth relapse prevention. According to MRI data of the brain and pituitary gland, in 15 patients an endosellar tumor was found, in 16 - an endo-extrasellar tumor. In an MRI study, the structure of the NFPA had a predominantly soft tissue (n = 16) and cystic (n = 11) structure. In 4 cases (13%), the structure of the NFPA was represented by a hemorrhagic component, and in 2 (6.4%) of them, both cystic and hemorrhagic components were present. In 18 patients, microadenoma was revealed, in 12 - pituitary macroadenoma and in 1 - a giant pituitary adenoma. The developed scale of aggression markers of NFPA allowed identifying factors by 3 degrees, which allows developing a complex of measures for the prevention of tumor growth recurrence. Conclusions. 1) According to our data, the number of patients with large-cell chromophobitic pituitary adenoma predominated - 24 (77.5%). In 2nd place were patients with small cell NFPA - 6 cases (19.3%). And only in 1 case was observed (3.2%) a giant malignant pituitary macroadenoma with recurrence of growth and metastasis in the brain of a teenage girl, in which dark-cell pituitary adenoma was histologically determined, 2) According to our preliminary data, the markers of aggressiveness of the course of NFPA are: young patient age, first symptoms of the disease manifest, large tumor size, asymmetry and deformation of the pituitary gland, signs of tumor invasion into adjacent tissues / arteries / cavernous sinus, presence of small cell and / or dark extracellular chromophobic adenomas, STH hypopituitarism, panhypopituitarism.

Thyroid
BENIGN THYROID DISEASE AND HEALTH DISPARITIES IN THYROID I
Macro-Thyroid Stimulating Hormone (TSH) in Children
Naoki Hattori, MD,PHD1, Takeshi Matsuda, PhD2, Kazuhiisa Chihara, MD1, Junko Nishioka, MD, PhD1, Selin Elmaciullari, MD, PhD2, Akira Shimatsu, MD, PhD1.
1Ritsumeikan University, Department of Pharmaceutical Sciences, Kurume-City, Shiga, Japan, 2Department of Pediatrics and Child Health, Kurume University School of Medicine, Kurume, Japan, 3Ankara Children’s Hematology and Oncology Training Hospital, Ankara, Turkey, 4Advanced Medical Care Center, Kuata General Hospital, Kuata, Japan.

SAT-426
Macro-TSH is mainly a complex of TSH with anti-TSH autoantibodies. Due to its large molecular size (>150 kDa), it accumulates in the circulation resulting in elevated serum TSH concentrations. Because the bioactivity of macro-TSH is low, treatment with thyroxine is not necessary. The prevalence of macro-TSH is no more than 1% in adult patients with subclinical hypothyroidism. However, the prevalence of macro-TSH in children is not known. We report here two cases of macro-TSH in pediatric setting.
[Case reports]

**Case 1.** Six-year and eight-month-Japanese boy visited a pediatric hospital because of hyperactivity disorder. Physical examination revealed that he had a slight mental retardation (IQ 63 by Tanaka-Binet test). Thyroid tests showed that fT4 1.21 ng/dL, TSH 120.4 µU/mL, Tg antibody 1.9 IU/mL, TPO antibody <0.1 IU/mL. His serum was sent to our laboratory to examine the causes of inappropriate high serum TSH concentration.

**Case 2.** Eight-year and three-month-Turkish girl was brought to a pediatric hospital by her parents because of her yellowish palms, which was not identified at the hospital. She did not have any complaints and physical signs attributable to thyroid dysfunction. Laboratory data disclosed that fT4 1.5 ng/dL, TSH 19.6 µU/mL, Tg Ab negative, TPO Ab negative. Levothyroxine treatment started but serum TSH concentration was still high (39.0 µU/mL) after two months. Her serum sample was sent to our laboratory to examine the causes of inappropriate high serum TSH concentrations.

[Lab. Tests for macro-TSH]

When serum was mixed with the same amount of 25% polyethylene glycol (PEG) and γ-globulin fraction was precipitated, TSH concentration in the supernatant decreased significantly from 109.3 µU/mL to 2.3 µU/mL (PEG precipitation ratio 97.9%) in case 1, and from 17.3 µU/mL to 0.15 µU/mL (PEG precipitation ratio 99.1%) in case 2. HAMA blockers did not significantly change TSH concentrations in case 1 (91.3%) and in case 2 (57.7%), indicating that TSH was associated with IgG. Gel filtration chromatography (GFC) revealed that TSH was mostly eluted at the fraction > 150 kDa rather than 28 kDa of authentic TSH in both cases. Serum was incubated with 37.7 µU of TSH for one hour and subjected to GFC. TSH concentration in the fraction of 150 kDa (macro-TSH) increased from 2.8 µU/mL to 5.6 µU/mL in case 1 and from 0.4 µU/mL to 2.0 µU/mL in case 2, suggesting that macro-TSH was produced by the binding of exogenous TSH to anti-TSH autoantibodies.

[Conclusion]

Macro-TSH exists in children and careful evaluation is required in patients with inappropriate high serum TSH concentrations to avoid unnecessary treatment.

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**Reproductive Endocrinology**

**FEMALE REPRODUCTION: BASIC MECHANISMS**

**Uterine Contractility in Pregnancies Complicated by Obesity: The Effects of Adipokines on the in Vitro Functional Contractility of Isolated Uterine Samples**

Hiba J. Mustafa, MD, Weston Upchurch, Researcher, Rachel Vogel, PhD, Paul Iaizzo, PhD, Gill Lisa, MD.

University of Minnesota Physicians, Minneapolis, MN, USA.

**MON-003**

**Objectives:** The onset of parturition in pregnant women with obesity is frequently delayed. Without induction, these women are nearly twice as likely as normal-weight to have prolonged pregnancy (≥41 weeks gestation) which is concerning because of associated two-fold increased risk of third-trimester stillbirth. Data from vascular studies have shown that different adipokines have different effects on smooth muscle contractility; either as relaxants or constrictors. However, only few studies have investigated their role in uterine contractility, a relationship that we sought to investigate. **Materials and Methods:** Total of 22 pregnant women scheduled for term cesarean delivery (CD) were recruited. Strips from the first two participants were used to identify dose response effects for each adipokine, and 20 participants’ data were included in the final analysis. Study groups consisted of normal-weight (N=10) and women with obesity (N=10). Myometrial strips were obtained from the hysterotomy incision at the time of the CD. Muscle strips were mounted within experimental recording baths. Both spontaneous and oxytocin induced contractions were recorded by a custom-build data acquisition software. Adipokines of interest included adiponectin, TNFα, resistin, and omentin. Adipokines were added to the muscle baths after muscle equilibration was achieved. Contractions outcomes of interest included forces, durations, and frequencies. Data comparisons were conducted using Wilcoxon Rank-Sum tests; medians and ranges are presented. **Results:** Forces of contractions in normal-weight participants were double those studied from participants with obesity (13.9 [9.3-34.3] vs. 8.9 [4.8-23.6], p=0.05). There were no statistically significant differences between contractility outcomes of interest after adding adiponectin, TNFα, and resistin to the muscle baths within and between the study groups. In participants with obesity, compared to baseline, omentin significantly reduced the force of spontaneous induced contractions (p=0.002) and prolonged the period between contractions (p=0.01). Importantly, that effect was not seen in normal-weight participants or in oxytocin induced contractions. Omentin also significantly reduced the forces of spontaneous induced contractions (2.9 [2.2-4.6] vs. 14.4 [4.8-33.6]; p=0.01) and prolonged the period (790.6 [753.0-832.0] vs. 611.4 [128.3-702.7]; p=0.04) in participants with obesity compared to normal-weight participants. Differences were no longer observed after adding oxytocin. **Conclusion:** In vitro, uterine contractions were reduced in muscle samples prepared from pregnant women with obesity compared to normal-weight counterparts. Omentin may have a role in reduced uterine contractility in pregnant women with obesity and that effect may be corrected by oxytocin administration.

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**Reproductive Endocrinology**

**CLINICAL STUDIES IN FEMALE REPRODUCTION I**

**Investigating Racial and Ethnic Comorbidity Patterns of Polycystic Ovary Syndrome**

Ky’Era Actkins, BS1, Digna Velez Edwards, PhD2, Melinda Aldrich, PhD2, Lea Davis, PhD2.

1Meharry Medical College, Nashville, TN, USA, 2Vanderbilt University Medical Center, Nashville, TN, USA.

**SAT-024**

Polycystic ovary syndrome (PCOS) is a highly heterogenous reproductive endocrine disorder that affects up to 15% of women and is one of the leading causes of infertility. However, its genetic etiology remains poorly understood. Additionally,