neuropathy which can present as abdominal pain, urinary retention, polyneuropathy, dark urine and psychiatric disturbance. Hyponatremia is present in 25–60% of cases which is caused by SIADH or sometimes renal and gastrointestinal sodium loss. Triggers for acute attacks include medications, starvation, infections, hormonal changes and alcohol. Treatment includes avoidance of triggers, IV dextrose and high carbohydrate diet. In severe attacks, IV hemin is used.

Our patient's urinary tract infection likely triggered her acute symptoms, which was further exacerbated by treatment with NSAIDS and opiates. She developed SIADH which improved with hypertonic saline and fluid restriction.

This case illustrates the need to consider acute intermittent porphyria in the differential diagnosis of SIADH presenting with abdominal pain of unknown etiology.

Genetics and Development (including Gene Regulation)

GENETICS AND DEVELOPMENT AND NON-STEROID HORMONE SIGNALING I

The Impact of FOXA3 on Testicular Steroidogenesis

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SUN-719

The Forkhead box(Fox) transcription factors are evolutionarily conserved in organisms and regulate diverse biological processes during development as well as adult life. Among the Fox family, FoxA subfamily members *Foxa1-3* have been termed `pioneer' transcription factors as they bind both nucleosome-bound and nucleosome-free DNA targets with the same recognition site. *Foxa3* is the only member of FoxA subfamily that is expressed in both male and female gonads. In the testis, *Foxa3* is expressed in spermatids and interstitial Leydig cells. We focused our study to elucidate the role of FOXA3 in Leydig cells and its impact on testicular steroidogenesis. Expression of FOXA3 dramatically decreased in mouse Leydig cells during testicular development. In addition, the time-dependent expression of FOXA3 showed an opposite pattern to that of steroidogenic genes in cAMP-induced primary Leydig cells. Meanwhile, Nur77 is among the prime regulators of steroidogenesis in the testicular Leydig cells. Overexpression of FOXA3 in MA-10 cells (mouse Leydig tumor cell line) repressed the cAMP-induced Nur77 promoter activity, which further resulted in the reduced activity of Nur77-target steroidogenic gene promoters (*StAR, CYP17A1*and *3*β*-HSD*). Similar to above results, the expression of Nur77 and its target genes,*StAR*, *3*β*-HSD* and *CYP11A1,* were repressed by adenovirus-mediated overexpression of FOXA3 in mouse primary Leydig cells, although the expression of CYP17A1, another steroidogenic gene, was differentially affected. These results suggest that FOXA3 locally regulates the expression of steroidogenic genes through Nur77 during testicular development.

Pediatric Endocrinology

PEDIATRIC ENDOCRINE CASE REPORTS I

Nutritional Deficiency of Calcium Mimicking P Seudohypoparathyroidism

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SAT-070

Nutritional Deficiency of Calcium Mimicking Pseudohypoparathyroidism

Background: Childhood hypocalcemia in general is caused by problems associated with calcium absorption and excretion, parathyroid hormone (PTH) secretion, and vitamin D metabolism. Clinical manifestations can vary from asymptomatic hypocalcemia to life-threatening conditions including convulsions, tetany and laryngeal spasm. As many symptoms are nonspecific, laboratory tests are essential for diagnosis. Nevertheless, the causes of hypocalcemia may not be determined by simple interpretation of baseline calcium, phosphorus, alkaline phosphatase (ALP), PTH and calcidiol (25OHD).

Case presentation: We report a case of 11-month-old female with a generalized tonic type seizure with low serum calcium level (5.7 mg/dl), 25OHD (23.2 ng/mL) and calcitriol ($1,25OH_2D$) (12.83 pg/mL). Serum phosphorus (5.9 mg/dL), ALP (209 mg/dL) were above normal range and PTH (484 pg/mL) was markedly elevated. She had a problem with weaning process after age of 5 months and milk powder was her main staple diet. Pseudohypoparathyroidism (PHP) was suspected due to slightly increased serum phosphorus, however Albright's hereditary osteodystrophy manifestation was absent and no GNAS methylation defect was identified. Serum calcium was normalized by intravenous calcium-gluconate followed by oral calcium carbonate and vitamin D supplement. Two months of oral oral calcium carbonate and vitamin D supplementation alone normalized all laboratory results.

Conclusions: Severe nutritional deficiency of calcium could mimic laboratory findings of PHP, therefore clinical judgement should not be made solely on biochemical markers.

Keywords: Hypocalcemia, pseudohypoparathyroidism, ri ckets

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Cardiovascular Endocrinology

ENDOCRINE HYPERTENSION AND ALDOSTERONE EXCESS

Difference in Aldosterone Dependency Between Cardiovascular Diseases and Renal Impairments in Patients with Primary Aldosteronism.

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SAT-541

Background:
There have been several clinical studies examining the factors associated with cardiovascular disease (CVD) and renal impairment in patients with primary aldosteronism (PA); however, their results have left it unclear as to whether they are affected by the plasma aldosterone concentration (PAC) itself.
Method:
This is a retrospective cross-sectional study. We assessed the PA database established by the multicenter JPAS (Japan Primary Aldosteronism Study) and compared the prevalences of CVD (stroke, ischemic heart disease, and heart failure) and renal impairment (proteinuria and lowered eGFR) among patients with PA and those with essential hypertension (EHT). We also performed logistic regression analysis to determine which parameters significantly increased the odds ratio for these complications.
Results:
The prevalence of CVD was significantly higher among 2814 patients with PA than among matched patients with EHT. The prevalence of proteinuria was also significantly higher among PA than EHT patients, whereas there was no significant difference in the prevalence of lowered eGFR. Multivariable logistic regression analysis showed that the PAC significantly increases the adjusted odds ratios for proteinuria and lowered eGFR independent of other known risk factors. By contrast, the PAC was not linearly related to the adjusted odds ratio for CVD.
Conclusion:
Plasma aldosterone levels are closely associated with renal impairment in patients with PA. This is contrast to our finding that the PAC was not, itself, linearly associated with CVDs, such as stroke or ischemic heart disease. The mechanism underlying the kidney damage in patients with PA may thus differ from that affecting the cardiovascular system.

Pediatric Endocrinology

PEDIATRIC OBESITY, THYROID, AND CANCER

The Relationship Between Metabolic Syndrome Indicators and Body Composition Measured by Bioelectrical Impedance Analysis Methods in Obese Children

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MON-104

The Relationship between Metabolic Syndrome Indicators and Body Composition measured by Bioelectrical Impedance Analysis Methods in Obese Children
Purpose: This study aimed to compare obesity indices with impedance analyzed body composition data, and to investigate the association between impedance analyzed body composition data and the prevalence of metabolic syndrome.
Methods: 123 prepubertal children (49% girls 3-to-8-year-old, 51% boys 3-to-9-year-old) who are below or equal to body mass index (BMI, kg/m^2) 85^{th} percentile were retrospectively reviewed. Height, weight, waist circumference, blood pressure, serum lipid profiles, fasting plasma glucose and serum insulin were measured. Body fat percentile (BFP), fat-free mass (FFM) were measured by BIA and fat mass index (FMI), fat-free mass index (FFMI) were calculated. We investigated the relationship between metabolic syndrome indicators and body composition measured by BIA. Metabolic syndrome (MetS) was defined as including more than or equal to three of the metabolic abnormalities according to the modified National Cholesterol Education Program Adult Treatment Panel III.
Results: The overall prevalence of MetS was found to be 15.4%(19/123). The prevalence of MetS, MetS indicators, and body composition measured by BIA were not significantly different between males and females. BMI z-score was positively correlated with BFP, FMI and FFMI (r=0.51, P=0.001; r=0.63, P=0.001; r=0.29, P=0.001, respectively), so was waist-to-height ratio (WHR) (r=0.57, P=0.001; r=0.70, P=0.001; r=0.33, P=0.001). Homeostatic model assessment for insulin resistance (HOMA-IR) index was associated to BFP, FFM, FMI, and FFMI (r=0.305, P=0.003; r=0.359, P=0.001; r=0.331, P=0.001; r=0.24, P=0.018, respectively). Regression analysis showed chronological age (CA) and BMI z-score affect HOMA-IR (β=0.61, P=0.001; β=0.93, P=0.002, respectively) and CA was considered as a potential risk factor of MetS (Odd ratio of 3.09 and 95 % confidence interval of 1.25–7.65).
Conclusion: BIA seems to be a good tools for measuring obesity but not a good tool for predicting complications of obesity in prepubertal children. Further study is needed on the risk factors for complications of obesity in prepubertal children.

Cardiovascular Endocrinology

HYPERTRIGLYCERIDEMIA; INFLAMMATION AND MUSCLE METABOLISM IN OBESITY AND WEIGHT LOSS I

Possible Involvement of Thyroid Function in PCSK9 Inhibitor Therapy

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SAT-576

INTRODUCTION
Proprotein convertase subtilisin kexin type 9 (PCSK9) inhibition is an effective strategy for lowering plasma