SUN-023

Polycystic ovary syndrome (PCOS) affects women during their entire lifespan. Evidence from the literature suggests an association of PCOS with decreased bone formation markers (osteocalcin and P1NP), although no conclusive data about the incidence of fractures exist. In the present study, we investigated the consequences of androgenization in rats on bone markers and femur microCT and the changes in these parameters after ovariectomy. This study was approved by the local Animal Ethics Committee. Briefly, Wistar rats (n= 38) were divided in 4 groups: 1) "Control OVX" (single dose of corn oil s.c. at day 5 of life and ovariectomy at day 100, n=9); 2) "Control SHAM" (n=9); 3) "Androgenized OVX"(single dose of testosterone propionate 1.25 mg s.c. at day 5 of life and ovariectomy at day 100, n=10); and 4) "Androgenized SHAM" (n=10). Full characterization of estrous cycles and weight was performed during growth, and all animals were euthanized at day 180 during metestrus/diestrous. Evaluation of glucose levels, lipids, estradiol, P1NP levels (a marker of bone formation), and analysis of the femur micro CT Skyscan 1174 (Aartselaar, Belgium) was performed in at least eight animals of each group. Ovariectomy increased the weight of Androgenized OVX rats on day 180: these animals were heavier than Control OVX, Control SHAM, or Androgenized SHAM (ANOVA $p<0.001$). However, metabolic changes were observed in ovary-intact Androgenized SHAM rats who exhibited higher total cholesterol (ANOVA $p<0.001$), increased LDL (ANOVA $p=0.03$), and elevated TyG index, a marker of insulin resistance (ANOVA $p<0.001$) against all other three groups. This group (Androgenized SHAM rats)also exhibited an increase in MicroCt bone density (g/cm-3) (mean + SEM) of 1.117 + 0.06 against the other - Control SHAM 0.8433 + 0.03, Control OVX 0.5527 + 0.001, and Androgenized OVX 0.6284 + 0.02 (ANOVA $p< 0.001$). Although the values of bone density between Control OVX and Androgenized OVX groups were similar, gonadal removal produced a different pattern of bone density reduction between Control OVX and Androgenized OVX (Two-Way ANOVA $p=0.001$). Moreover, we found P1NP levels significantly decreased in the Androgenized OVX group (mean + SEM) of 58.57 + 4.41 ng/ml against 88.02 + 8.49 ng/ml in Control OVX versus (ANOVA $p<0.0001$) indicating lower bone formation. Our results suggest that bone and metabolic features of Androgenized rats are affected by ovariectomy with a negative impact on bone formation.

Tumor Biology

TUMOR BIOLOGY: DIAGNOSTICS, THERAPIES, ENDOCRINE NEOPLASIAS, AND HORMONE DEPENDENT TUMORS

Hipoinsulinemic Hipoglycemia Caused by Solitary Fibrous Tumor IGF-2 Producer: Case Report

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SUN-129

BACKGROUND: Solitary Fibrous Tumor is a mesenchymal neoplasm composed of CD34+ fibroblastic cells that can produce spontaneous hypoglycemia by the overproduction of IGF-2. It closely resembles the hypoglycemia characteristic of functioning islet cell tumors. **CLINICAL CASE** A 77-year-old male was found unconscious and taken to an emergency department with evidence of hypoglycemia and clinical improvement following intravenous glucose administration. He did not have a history of diabetes mellitus and was not taking any glucose lowering medications. He was discharged with nutritional orientation and for control of capillary glycaemia to prevent hypoglycemia. He had 3 episodes of capillary hypoglycemia (50, 45 and 38) at home, that was predominant in the fasting morning and during its occurrence he presented mild sweating, speech difficulty, staring and diplopia, with complete improvement of symptoms after oral glucose replacement. Months earlier, he sought an otolaryngologist for intermittent mild dyspnea; denied cough, hemoptysis, chest pain and unintentional weight loss. He performed chest X-ray with evidence of large right hemithorax mass. Physical examination revealed diminished breath sounds in the right middle and lower lung fields and dullness to percussion. Despite marked hypoglycemia (31 mg/dl), the serum insulin level was less than 0.6 μIU/mL (less than 3 μIU/mL), the C-peptide level was 0.24nmol/L (less than 0,6 nmol/L), had negative ketonemia and a positive response after glucagon administration (glycaemia increased in 50 mg/dl). Anti-insulin antibodies were negative. Serum cortisol secretion and adrenocorticotropic hormone were normal. The serum level of growth hormone (GH) was 0,03 (less than 0,97ng/ml). The serum IGF-2 level was 227 ng/ml (267 - 616 ng/ml), the IGF-I level was 72 ng/ml (37,1 - 172 ng/ml) and the IGF2/ IGF1 was 3,15 (equal or greater than 3). Computed tomographic (CT) scan revealed a large heterogeneous mass with dimensions of 17,4×15×12.2cm. It determines almost total atelectasis of the lower lobe on this side and maintains broad medial contact with the mediastinum, compressing the right atrium and the inferior pulmonary vein on this side. Preoperatively, was administered 40 mg oral prednisone with capillary glucose normalization. The tumor was completely resected and was a grayish-white solid, with dimensions of 17 x 16 x 12 cm. Immunohistochemical stains demonstrated positivity for CD34 and IGF2 expression. Postoperatively, serum glucose and insulin levels returned to normal, and episodes of hypoglycemia are resolved. **CONCLUSION** This case reinforce the importance of investigate IGF-2 tumor production as a cause of hypoinsulinemic hypoglycemia and reports the complete resolution of hypoglycemia after corticoid administration and/or tumor resection.

Pediatric Endocrinology

PEDIATRIC PUBERTY, TRANSGENDER HEALTH, AND GENERAL ENDOCRINE

Anthropometric and Reproductive Outcomes of Patients with Gonadotropin-Independent Precocious Puberty Due to McCune-Albright Syndrome After Treatment with Distinct Therapeutic Agents

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SUN-061

Ovarian estrogen-secreting cysts leading to peripheral precocious puberty (PPP) are some of the major clinical manifestations of the McCune-Albright syndrome (MAS). Therapeutic options for PPP of MAS include tamoxifen, progestational agents, aromatase inhibitors (AI) and anti-androgens that aiming to block sex steroid synthesis or action. Here, we described the anthropometric and reproductive follow-up of patients with PPP of MAS treated with distinct therapeutic agents. Thirteen unrelated girls with MAS were studied. They had PPP combined with *café-au-lait* spots or/and fibrous dysplasia. All patients were treated with one or more of the following agents: tamoxifen, medroxyprogesterone acetate, aromatase inhibitors (anastrozole or letrozole) and anti-androgens (cyproterone), and, in cases with secondary gonadotropic axis activation, depot GnRHa was used. Patients were evaluated every three months, when height, weight, and Tanner pubertal stage were determined. Vaginal bleeding or other adverse effects were also reviewed. The chronological age (CA) at the diagnosis of PPP was 5.9 ± 2.35 (2.4 to 10.2 years). Thelarche and vaginal bleeding were the first manifestations in 76.9% and 53%, respectively. The first choice of treatment was tamoxifen in 30.7% of the patients, followed by aromatase inhibitors (23%) and medroxyprogesterone acetate in 23% of them. Tamoxifen plus medroxyprogesterone, or cyproterone, or leuprorelin were used (each one) as the first choice in 1 patient (7.6%). Eight patients (61%) presented secondary central precocious puberty and were treated with depot GnRHa. Vaginal bleeding was recurrent in 70% of patients, during treatment. Progression of breast Tanner stage during treatment occurred in 78% of the patients. The great majority (80%) of girls presented bone age (BA) advancement at the diagnosis of PPP (mean Δ BA - CA of 3.2±1.3 yr), which was normalized for chronological age in all except one patient. The mean duration of treatment was 5.8 ± 3.4 yr (ranging from 1 to 12 yr). Three patients are still under medical treatment. Hypertrichosis and uterine enlargement were the main side effects of tamoxifen in 3 and 5 patients, respectively. One patient treated with letrozole presented laboratory hyperandrogenism. Ten patients reached their adult height (149.9 ± 7.9 cm), 60% of them were below their target height. Menarche occurred at a median age of 11.8 yr (10.4 to 14 y), and all but one patient presented regular menstrual cycles. One patient spontaneously became pregnant. Despite a reasonable number of treatment options for peripheral PP in MAS, none of them showed proven effective results in stopping vaginal bleeding, reduce pubertal progression and preserving potential genetic adult height. Therefore, due to the extremely heterogeneous nature of PPP of MAS, the clinical treatment remains a challenge.

Pediatric Endocrinology

PEDIATRIC PUBERTY, TRANSGENDER HEALTH, AND GENERAL ENDOCRINE

Long Term Outcomes in Patients with Disorders of Sex Development in Lucknow, North India

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SUN-056

Due to the deviant genitalia and infertility, the ill effects of DSD are on sexual and psychosocial life. Our aim was to assess the self-reported psychosocial and sexual quality of life in older individuals who are living with a DSD. Quality of life in 31 patients with a DSD (age >16 years, median [IQR] 23 [19-27] years, 16 males) was compared with age, sex and socioeconomic status matched normal (n = 46) and chronic disease controls (type 1 diabetes patients, n = 43) using SF-36v2 Health Survey. Another structured questionnaire was administered touching upon domains of sexual and psychosocial life. Eighteen patients reported history of persistent teasing, with no difference in prevalence between males and females. Eighteen reported suicidal thoughts (no association with being teased), 6 having attempted suicide. Gender identity (GI) of 30 patients was identical with their given sex of rearing, which had been decided by the caregiver in 19 families (including one who had gender change suggested by the parents at 4 years of age), and with physician assistance in 11. One patient had spontaneous change of GI at 16 years age. Sexual orientation was heterosexual in 25 of 29 who responded to this question, homosexual in 1 and bisexual in 3, including the 2 who had gender change. Romantic relationship was reported by 12 patients, sexual activity by 7, aversion to sex (due to fear of rejection) by 11 and abuse by 4. Seventeen patients thought the timing of genital surgery should be before age 5 years and another 10 before age 10 years. Only 2 of 31 patients thought decision for the timing and choice of surgery should rest with themselves, the remainder preferring a decision by parents in 25% and by the physician in 67%. The physical and mental quality of life scores (QOLS) were not different between patients and the controls. Mental QOLS were significantly lower for those with history of teasing. Physical QOLS in males correlated with external masculinisation score (r=0.55, p=0.04). Conclusion: Serious psychological stress is common in patients with DSD in our region. Despite early sex assignment, the absence of prominent gender dysphoria in adulthood, along with their stated preference for corrective genital surgery at an early age, favour an early sex assignment and genital reconstruction before the age of romantic relationships.

Thyroid

THYROID DISORDERS CASE REPORTS III

Coexistence of Thyroid Dysgenesis and Premature Ovarian Failure: A Case Report

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MON-474

Co-existence of Thyroid Dysgenesis and Premature Ovarian Failure: A Case Report