functions. 72 Hours fasting test was performed. at hour 3, the BG was 2.27 mmol (40.86 mg/dl), insulin > 1000 mU/ml (N: 2.6–24.9), c- peptide 15 ng/ml (N: 1.1–4.4), negative beta-hydroxybutyrate, with good glycemia response to glucagon 1mg. Urine sulfonylurea (SU) screen was negative. Insulin antibodies titre was high 8.9 nmol/L (N: 0–0.02) and Proinsulin >700 pmol/L (N: 3.6–22). MRI Abdomen showed only 3 mm lesion in the pancreatic head, likely a cyst.
During hospitalization, the patient continued to have episodic hypoglycaemia and received dextrose 10% and octreotide injection. Bisoprolol was changed to amlodipine as it may mask his symptoms.
Episodes of hypoglycaemia improved with octreotide but did not resolve completely. Prednisolone 30 mg daily was started with improvement and was tapered slowly after 16 weeks after mild hyperglycemia developed. Repeat work up showed reduction in insulin 67.4 mcunit/ml, C- peptide 2.66 ng/ml and insulin antibody titres to 0.24 nmol/L and remission of hypoglycemia.
Discussion:
Autoimmune hypoglycaemia is rare resulting from insulin antibodies(IAS), or anti-insulin receptor antibodies (Type B insulin Resistance). IAS can be triggered by drugs or viruses including hepatitis C and is associated with autoimmune diseases and hematologic malignancies. the differential diagnosis of hyperinsulinemic hypoglycemia include insulinoma, the presence of extreme levels of insulin, c-peptide and proinsulin and insulin antibodies is diagnostic of AIS. Short-term treatment with steroids was effective in treating hypoglycaemia and careful follow-up is ongoing. If the patient recurs, rituximab will be employed.
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Adrenal

ADRENAL CASE REPORTS II

Isolated Primary Pigmented Micronodular Adrenal Disease. Unilateral or Bilateral Adrenalectomy? Two Cases Report.

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SUN-162

Background: Isolated primary pigmented nodular adrenal disease (i-PPNAD) is a particular case of micronodular bilateral hyperplasia (MiBAH) leading to Cushing syndrome (CS). We present two patients with i-PPNAD who undergone unilateral adrenalectomy with different disease outcomes.
Case 1: A 56 yo man presented with typical signs and symptoms of CS, including central weight gain, proximal muscle weakness, hypertension and marked osteoporosis. A biochemical investigation showed an assessment of late-night salivary cortisol - 23 nmol/l (n <9), 24h urinary free cortisol (UFC)- 1206 nmol/24h (n-60–413). The 1 mg DST showed post-DST cortisol 617 nmol/l (n<50). ACTH concentration was suppressed at 1.1 pg/ml (n-7–66). Adrenal CT-scan was normal. PPNAD was assumed and the screening for Carney complex components was negative. After left adrenalectomy, histological examination confirmed the diagnosis of PPNAD. However, biochemical remission wasn't achieved: postoperative UFC-860 nmol/24h. Thus, the right adrenalectomy was conducted.
Case 2: A 40 yo female presented with long term drug-corrected (beta-blockers, ACE inhibitor) arterial hypertension, menstrual dysfunction and clinical features of CS (central obesity, proximal muscle weakness, hirsutism), without osteoporosis. Baseline hormonal evaluation documented slightly increased level of salivary cortisol-9,8 nmol/l (n <9), post 1 mg DST cortisol - 470 nmol/l (n<50) and ACTH-concentration below detection <1 pg/ml (n-7–66). However, UFC was normal – 215 nmol/l (n-60–413). Abdominal CT-scan revealed micronodular hyperplasia of the left adrenal and was suggestive of possible right adrenal gland hyperplasia. We performed left adrenalectomy. In the early postoperative period, adrenal insufficiency was diagnosed and thus it required hydrocortisone replacement.
Discussion: We obtained two opposite results: in case 1, an expected remission after unilateral adrenalectomy was not achieved, while patient No.2 developed adrenal insufficiency, which was a more favourable prognostic sign and attested to the successful outcome of surgical treatment. A possible explanation of the ineffectiveness of surgical intervention in patient No.1 was primary more severe hypercortisolism. It is also necessary to take into account that according to the CT data of the patient No.1, both adrenal glands were within normal ranges and did not differ from one another, while in the patient No.2, the lesion was more prominent on the right side.
Conclusion: Diagnostic of i-PPNAD and choice of intervention can be precarious, consequently more studies are needed to define to which patients unilateral adrenalectomy could be an efficient treatment modality. It is possible to perform unilateral adrenalectomy with subsequent assessment of cortisol levels, in case of lack of remission the contralateral adrenalectomy is required.

Bone and Mineral Metabolism

BONE DISEASE FROM BENCH TO BEDSIDE

Patients with Fibrodysplasia Ossificans Progressiva Have an Increased Prevalence of Cardiac Conduction Abnormalities

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SUN-344

Background

Genetic contributors to cardiac arrhythmias often found in cardiovascular conduction pathway and channel proteins. However, genes outside of these categories can contribute to cardiovascular conduction abnormalities. Fibrodysplasia ossificans progressiva (FOP) is a rare genetic disease characterized by large volumes heterotopic ossification caused by a highly recurrent R206H mutation in the ACVR1/Alk2 gene. This mutation produces an abnormal activation of the bone morphogenetic pathway (BMP) pathway in response to Activin A. Prior studies suggested an increased risk of cardiopulmonary complications in FOP[1]. We examined patients in a Natural History Study (NHS) of FOP (NCT02322255) to better understand their cardiovascular risk.

Methods

The NHS is an ongoing 3 year international multi-center cross-sectional study of 114 patients with FOP (ages 4–56 years) genetically verified to have the AVCR1 R206H mutation. Patients at baseline and 12 months were assessed by electrocardiogram (ECG). Abnormal lead placements were excluded. ECG readings were assessed in a central ECG laboratory.

Results

At baseline, 45.3% (48/106) of ECGs showed conduction abnormalities. The majority of these abnormalities were classified as nonspecific intraventricular conduction delay (37.7% of all ECGs). For patients > 18 years old, 22.7% (10/44) had conduction abnormalities, which was significantly higher than previously reported in the healthy population (5.9%; n=3978)[2] (proportional t-test; $p<0.00001$). FOP patients < 18 years of age also had an extremely high prevalence of conduction abnormalities (60.3%, 38/61). The NHS 12-month follow up data showed similar prevalence. The high frequency of conduction abnormalities did not correlate with the presence of chest wall deformities or scoliosis, abnormal pulmonary function test results, increased cumulative analog joint involvement scale (CAJIS) scores, or abnormal echocardiograms.

Conclusions

Our results show that some patients with FOP may have subclinical conduction abnormalities. These ECG changes appear to be independent of chest wall deformities or scoliosis, although ectopic bone may make ECG measurement in FOP patients challenging. Though there is no reported association of FOP with clinically significant heart block to date and clinical implications for cardiovascular risk remain unclear, knowledge about these ECG changes may be important for planning clinical care and clinical trials of investigational agents in patients with FOP. Further studies of how the AVCR1 R206H activating mutation and BMP signaling changes cardiac conduction are needed to better understand the mechanistic link.

References

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Reproductive Endocrinology

SEX DETERMINATION AND REPRODUCTIVE AXIS DEVELOPMENT

Evaluation of Gender Experience Among Individuals with Isolated GnRH Deficiency Compared to Controls

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SUN-036

Background: Sex hormones play a role in gender identity development. For example, 46,XY individuals with complete androgen insensitivity typically have a female gender identity. Isolated GnRH deficiency (IGD) leads to hypogonadism due to decreased GnRH-induced gonadotropin production. It is unknown if decreased sex hormone exposure leads to differences in gender identity among individuals with IGD compared with the general population. Our objective was to determine if the gender identity in subjects with IGD differs from controls.

Methods: We distributed a validated questionnaire; the Gender Identity/Gender Dysphoria Questionnaire for Adults and Adolescents (GIDYQ-AA) (1), to IGD participants who previously enrolled in a phenotyping study. Subjects also provided their age, sex assigned at birth (SAAB), gender and information about their condition and treatment. Group survey scores are expressed as mean ± SD. IGD subject scores were compared with control data (Student's t-test) obtained from a validation study for the GIDYQ-AA (2).

Results: Out of 79 subjects who were contacted, 8 males (M) assigned at birth and 7 females (F) assigned at birth chose to participate and one person actively declined. Average age was 30 y for F and 28 y for M. At the time of the study, all subjects were on hormone supplementation except for one F. A score of 5 indicates a gender identity congruent with SAAB. Among F, mean scaled IGD score was 4.73 ± 0.29 vs. controls (4.8 ± 0.28, n=57; not significant (ns)), and for M it was 4.62 ± 0.52 vs. controls (4.82 ± 0.24, n=37; ns). One female identified as "non-gendered", one male identified as "intersex/DSD" (14% of respondents), one female did not respond and gender was congruent with SAAB in the remainder. The lowest mean score for an individual question for the IGD F group was in response to whether they felt satisfied being a woman