Low serum AMH is an appropriate screening biomarker to select patients for NGS, in order to make a genetic diagnosis in boys of prepubertal age with suspected central hypogonadism. **Patients and methods:** All patients aged 1-10 yr referred between 2001 and 2018 with clinical suspicion of central hypogonadism (micropenis and cryptorchidism and/or microorchidism), with low serum AMH (<10^10^1^ centile) were included. Serum AMH was determined by ELISA (Beckman-Coulter), and LH, FSH and testosterone (T) by ECLIA (Roche). NGS was performed with the TruSight™ One Sequencing Panel in a NextSeq® 500 sequencer (Illumina). Results are expressed as medians (range). **Results:** 13 patients were included. Age at first visit was 4.4 (0.1-9.2) yr. Cryptorchidism was present in all of them, micropenis in 10 and microorchidism in 11. Orchiopexy was required in 11 boys and the other 2 responded to hCG treatment. 4 patients had olfactory disturbances, 1 had sensory deafness and 1 had piebaldism. 2 patients had a family history of olfactory disturbances and/or central hypogonadism. 7 patients could be followed up to pubertal age, and the diagnosis of central hypogonadism was clinically confirmed. At age 6.1 yr (1.2-10), AMH was 159 pmol/L (65-363), LH was <0.1 IU/L in all, FSH was 0.61 IU/L (<0.1-1.9). 17 variants in 9 genes associated with central hypogonadism were found in 10 of 13 patients. 5 boys had 1 gene variant, while 4 had 2 gene variants and 1 had 3 gene variants indicating probable oligogenicity, in the following genes: FGFR1 (n:4), CHD7 (n:3), PROKR2 (n:2), SOX10 (n:2), AXL (n:2), HS6ST1 (n:1), AMHR2 (n:1), NSMF (n:1), DCC (n:1). **Conclusion:** A high prevalence of gene variants was found in boys of prepubertal age with a suspicion of central hypogonadism based on micropenis and cryptorchidism and/or microorchidism with low serum AMH.

Reproductive Endocrinology

MALE REPRODUCTIVE CASE REPORTS

Diabetes Mellitus Associated with Klinefelter Syndrome

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SUN-029

**Background:** It has not been clarified why diabetes mellitus develops in patients with Klinefelter’s syndrome. However, the association between both diseases is frequent.

**Clinical Case:** A 31-years-old man with type 2 diabetes diagnosed 2 months ago who received metformin for treatment. He presented to the hospital with dysuria, polyuria, polydipsia, weight loss, hyporexia, vomiting and drowsiness. On examination: BP: 110/60 mmHg, HR: 108 lp, FR: 24 rp, T °: 37 ° C, BMI: 31.4 kg / m², oral mucosa dry, bilateral gynecomastia, subcutaneous cellular tissue of gynecomastia. His body hair was thin. His penis was small and both testicles were prepubertal. Laboratory: Glucose: 410 mg / dl; Hba1c 15.2%; creatinine: 1.01 mg / dl; arterial gases: pH 7.14 pCO2: 20, HCO3: 6.6, AG: 29. Normal electrolytes. Ketonuria: 3+. We concluded: diabetic ketoacidosis. In addition, FSH 61.18 μU / ml (RR: 1.5-12.5); LH: 28.47 μU / ml (RR: 0.7-8.6); Total testosterone: 0.41 ng / ml (RR: 2.8-8), compatible with hypergonadotropic hypogonadism. Therefore a karyotype is requested in peripheral blood, resulting in 47, XXY in 20 metaphases analyzed. Klinefelter’s syndrome was diagnosed from his photocharacteristics, hormonal findings and his chromosomal aberration. He received testosterone undecanoate every 4 weeks, NPH insulin 12 IU / SU1 plus metformin 850 mg every 12 hours. Three months later: baseline glucose 89 mg / dl and Hba1c of 9.5%. **Conclusion:** We present the case of a young male with diabetic ketoacidosis and hypogonadism, secondary to Klinefelter syndrome. Klinefelter syndrome is associated with Diabetes mellitus with a RR that varies from 1.64 to 7.06 according to current literature. In addition, we highlight the importance of the medical history and physical examination for an adequate diagnosis of rare conditions such as Klinefelter Syndrome.

**Reference:** I. Kanakis G, Nieschlag E. Klinefelter syndrome: more than hypogonadism. Metabolism. September 2018;86:135-44.

Thyroid

THYROID NEOPLASIA AND CANCER

A Descriptive Study of Clinical and Surgical Characteristics of Patients with Thyroid Cancer: A 10-Year Retrospective Study from UAE

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MON-507

A descriptive study of clinical and surgical characteristics of patients with thyroid cancer: a 10-year retrospective study from UAE

**Introduction:** Thyroid cancer is the sixth most common type of cancer in the UAE. It has been observed that the incidence of thyroid cancer has been steadily increasing worldwide. However, limited studies about thyroid cancer has been reported from the Arab gulf region.

**Objective:** The objective of this study was to describe the clinical and surgical characteristics of patients with thyroid cancer in the UAE population.

**Methods:** Retrospective analysis was performed on all adult patients attending thyroid cancer clinic at Sheikh Khalifa Medical City (SKMC) in Abu Dhabi, UAE over ten years from 2008 to 2018. All patients with a confirmed histological diagnosis of thyroid cancer who had surgical intervention with long-term follow up data on cancer outcome have been included. Categorical variable analysis and descriptive analysis were used to identify factors associated with increased risk of developing thyroid cancer.

**Results:** Total number of 203 patients with confirmed diagnosis of thyroid cancer were included. Most of the patients were female (72.9 %, n=148). Mean age at the time of diagnosis was 40±13 years. Papillary thyroid carcinoma was the most common thyroid cancer observed (95.6%, n=194) followed by follicular thyroid carcinoma (2%), medullary thyroid carcinoma (1.5%) and mixed medullary-papillary
(0.9%). Classical variant and follicular variant of papillary thyroid carcinoma were the two most commonly observed histological subtypes of thyroid cancer with prevalence of 54.7% and 21.7% respectively. 91.1% (n=185) of patients had total thyroidectomy and 8.9%(n=18) had hemithyroidectomy. Female gender has been observed to be associated with higher prevalence of thyroid cancer (OR 2.78, 95% CI 1.18–4.50, p=0.001). Smoking status did not show any significant association with developing thyroid cancer. Recurrent thyroid cancer was observed in 9.4%(n=19). Most of recurrence happened as local metastasis 89.5%(n=17). The mean time of recurrence was 24 months (range, 7–64 months).

Conclusions: Our data demonstrate that in the UAE population, papillary thyroid cancer is the most common type of thyroid cancer. Female gender is observed to be associated with higher risk of thyroid cancer. Recurrence rate of thyroid cancer noted to be 9.4%. Further studies are required to investigate factors associated with recurrence and cancer free survival rates.

Cardiovascular Endocrinology

PATHOPHYSIOLOGY OF CARDIOMETABOLIC DISEASE

CARF Through Its Lipid Lowering Effect May Play a Pivotal Role in the Development of Non-Alcoholic Fatty Liver Diseases

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SAT-646

Background: Mobile health apps have 3.7 billion downloads yearly. The interest in patient-generated data is increasing yearly. Diabetes and cardiovascular apps occupy a significant part of the eHealth space. However, diabetic patients could have both diabetes (DM) and hypertension (HTN), and hypertensive patients may have prediabetes or diabetes as well. Do these eHealth apps meet the needs of the patient with both diabetes and hypertension?

Purpose: Do Diabetes apps ask questions about blood pressure control and do Hypertension apps ask questions about diabetes management?

Methods: Using the search term “diabetes,” and similarly, using the search term “blood pressure” (BP), Google Play Store was accessed for two lists of the most downloaded, free DM and BP Android apps. Inclusion criteria: 1) downloads > 100,000, 2) free, 3) medication adherence (push notification), 4) FBS/HbA1c, 5) lipids. For the diabetes apps, we evaluated them for Diabetes Self-Management Education Support Guidelines (DSMES), in addition to renal and CV complications. For the BP apps, we evaluated them for BP, ACC/AHA guidelines, weight, BMI, Diet, Na+ intake, K+ intake, exercise log, alcohol intake, and medication log. Exclusion criteria: purely educational apps, no data on downloads or rankings. Results: 10 diabetes mobile apps in descending order were: 1) mySugr, 2) Onetouch Reveal, 3) Ontrack Diabets, 4) Diabetes, 5) Health2Sync - Diabetes Care, 6) Diabetes Connect, 7) Glucose Buddy Diabetes Tracker, 8) Diabetes:M, 9) Blood Glucose Tracker, and 10) OneDrop Diabetes Management. We found 10/10 tracked FBS/HbA1c: 18.2%-81.8% had DSMES; 1/10 log entry of “heart palpitation,” 0/10 renal complications; 7/10 medication reminders. 10 blood pressure apps in