in AA and CA with or without BPH. Methods: To examine the impact of race on BPH, we examined prostate tissue from 66 men. We utilized 21 normal transition zone controls from radical prostatectomies, 8 normal transition zone controls from organ donors, and 37 BPH samples divided between CA and AA men. Using multispectral quantitative multiplex IHC, we examined the steroid hormone related protein expression of ERα, ERβ, CYP7B1, and AKR1C1 on each FFPE tissue section. We quantified the optical density of each protein of interest as well as examined colocalization and coexpression through cell and tissue segmentation. Results: In CA men, there is a dysregulation of ERα:ERβ homeostasis with BPH relative to normal as an increase in ERα and a decrease in ERβ expression was observed. Furthermore, an increase in CYP7B1, an enzyme that degrades ERβ ligands, was also observed. In AA men, we observed no difference between normal and BPH states, however in both normal and BPH prostate tissues, ERα and ERβ were increased relative to CA men. In addition, there is a decrease in AKR1C1, the enzyme that metabolizes DHT to an ERβ ligand. Conclusions: Our study supports the concept that differences in hormone pathways exist between AA and CA men. Understanding how these racial differences in steroid metabolism enzymes as well as ERs between CA and AA men with BPH could enhance treatment strategies for men with BPH.

Neuroendocrinology and Pituitary PITUITARY TUMORS I

CircVPS13c Promotes Tumor Growth and Invasiveness in Pituitary Adenoma by Downregulating IFITM1

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SAT-315

CircVPS13C promotes tumor growth and invasiveness in pituitary adenoma by downregulating IFITM1 Background and objectives

Invasive nonfunctioning pituitary adenoma (NFPA) remains the major cause of hypopituitarism and infertility. Increasing evidences suggest that circular RNAs (circRNAs) exert crucial functions in regulating gene expression in a wide range of tumors. The present study was designed to explore the role of circRNAs in proliferation and invasion of NFPA.

Methods

The expression profile of circRNAs was compared with circRNA array between NFPA (n=10) and normal pituitary tissues (n=4), invasive (n=5) and noninvasive (n=5) NFPA samples. A total of 249 circRNAs were shown to be significantly upregulated in human invasive NFPA tissues, comparing to the noninvasive ones. CircVPS13C was identified for further study, whose oncogenic effect were explored with in vitro and in vivo experiments.

Results

CircVPS13C was markedly upregulated in NFPA samples and positively correlated with NFPA invasiveness.

Diabetes Mellitus and Glucose Metabolism

CLINICAL AND TRANSLATIONAL GLUCOSE METABOLISM AND DIABETES

Difference in Risk Factors Between Adults with Early Onset (<40 Years Old) Versus Late Onset (≥40 Years Old) Diabetes Mellitus Type 2 at the University of Santo Tomas Hospital from January 2015-December 2017

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MON-634

INTRODUCTION: Diabetes will remain a threat to global health. The global burden of type 2 diabetes mellitus is significant and rising, with most of the increase occurring in the last two decades. While most of the rise in the prevalence of Type 2 diabetes mellitus occurs in the middle-aged and the elderly, it is becoming more common in younger patients. No longer just a disorder of mature age, there is now a well-recognized trend toward younger people presenting with the disease.

METHODS: This was a cross sectional study of medical records of adult patients at the University of Santo Tomas Hospital who met the inclusion criteria from January 2015 to December 2017. The subjects were divided into early onset (<40 years of age) and the late onset (≥40 years of age) group. Mean, standard deviation, counts and percentages were used to summarize data. The mean values of continuous variables between the two groups were analyzed using the independent sample t-test while categorical variables were analyzed using Chi square test. Logistic regression analysis was used to determine the association of age of onset and duration of diabetes to its complications.
RESULTS: The mean age for the early onset group was 34 years old, while that of the late onset group was 51 years old. No gender predilection was observed in both groups. The subjects of the early onset group were mostly obese as compared to the late onset group who were mostly overweight. Both groups were mostly smokers, and had a positive family history with an almost equal proportion of females having a history of gestational diabetes. The early onset group had higher hba1c and worse lipid profiles upon diagnosis. The most common comorbid illnesses observed in both groups include hypertension, dyslipidemia, fatty liver and metabolic syndrome. In terms of macrovascular complications, the frequency of myocardial infarction was higher in the late onset group. For the microvascular complications, the proportion of retinopathy was higher in the early onset group while the frequency of neuropathy was higher in the late onset group. Lastly, for both groups, the duration of diabetes was associated with microvascular complications such that for every year increase in the duration of diabetes, patients were more likely to develop retinopathy and neuropathy.

CONCLUSION: The mean age of Filipinos with early onset diabetes were at least 5 years younger as compared to Caucasians. Moreover, they were more obese, had worse lipid profiles and higher Hba1C levels. Among the macrovascular and microvascular complications, a higher proportion of the late onset group had peripheral neuropathy and had history of myocardial infarction while retinopathy was more prevalent in the early onset group. Lastly, for every year increase in the duration of diabetes, patients were more likely to develop retinopathy and neuropathy.

Neuroendocrinology and Pituitary
CASE REPORTS IN UNUSUAL PATHOLOGIES IN THE PITUITARY

Childhood-Onset, Adamantinomatous Craniopharyngioma and Successful Pregnancy: Results of KranioPharyngEOM 2000/2007
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SUN-289
Background: Hypopituitarism is associated with an increased risk of pregnancy complications, such as abortion, anemia, pregnancy-induced hypertension, placental abruption, premature birth, and postpartum hemorrhage. The advance of assisted reproductive techniques makes it possible to improve the pregnancy rate in hypopituitary patients. Data on female fertility, pregnancy, and outcome of offspring after childhood-onset, adamantinomatous craniopharyngioma (CP) are rare.

Study design: Observational study on pregnancy rate and outcome of offspring after childhood-onset CP in adult, female patients recruited in KRIANIOPHARYNGEOM 2000/2007.

Patient cohorts: Since 2000, 451 CP patients (223 f / 228 m) have been recruited with high grade of completeness. 263 CP patients (128 f / 135 m) have reached adult age. 6 of 128 adult, female CP patients (5%) reported on 9 pregnancies giving birth to 10 healthy newborns.

Results: The median age at time of CP diagnosis was 14.9 years. Complete surgical CP resections were achieved in 3 patients. No patient underwent postoperative irradiation. 5 natural pregnancies occurred in 3 CP patients presenting with postoperative normal pituitary function. 4 pregnancies were achieved in 3 CP with hypopituitarism under assisted reproductive techniques (after in median 4.5 cycles, range: 3-6 cycles). Median maternal age at pregnancy was 30 years, ranging from 22 to 41 years. 6 of 10 babies were delivered by caesarean section. Gestational age at delivery was in median 38 weeks, ranging from 34 to 43 weeks; median birth weight was 2,920 gram (range: 2,270-3,520 gram), the rate of preterm delivery (<38 weeks of gestation) was 33%. The rate of breastfeeding was 56%. Enlargements of CP cysts occurred in 2 women during pregnancy. Other severe complications during pregnancy, delivery and postnatal period were not observed.

Conclusions: Pregnanecies after CP are rare (5%) and almost half of the patients (45%) achieved pregnancies after assisted reproductive techniques, which are effective and safe in CP patients. With regard to existing deficiencies of hypothalamic-pituitary axes, close monitoring and care by an experienced reproductive physician is necessary. Furthermore, MRI monitoring especially of CP cysts is recommended during pregnancy. Severe perinatal complications, birth defects, and postnatal morbidity of the mothers and their offspring were not observed. Most CP patients complained about their initial lack of information on potential fertility under assisted reproductive techniques.

Bone and Mineral Metabolism
BONE AND MINERAL CASE REPORTS II

New Diagnosis of Hypophosphatasia in a 79-Year-Old Woman with Low Bone Density
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MON-341
Introduction: Hypophosphatasia is a rare metabolic bone disease caused by one of several mutations in the ALPL gene which encodes tissue nonspecific alkaline phosphatase (ALP). It is usually diagnosed in childhood and can have a heterogenous clinical presentation depending on the extent of enzyme deficiency. Here we report the oldest known patient with hypophosphatasia.

Clinical Case: A 79-year-old woman with a history of medullary thyroid cancer (MTC) in remission, was referred to our metabolic bone disease clinic for the evaluation and treatment of osteopenia. She had suffered from numerous musculoskeletal complaints for several years and had received a diagnosis of polymyalgia rheumatica. However, her symptoms persisted despite a six month trial of prednisone. Although she had developed dental caries at a young age, she denied premature tooth loss. Her family history was significant for arthralgias and vertebral disc disorders in multiple family members, including both her