this study was to characterize patients diagnosed with ACC at a single center between 2014-2019.
METHODS: We retrospectively reviewed data regarding demographics, tumor characteristics and functionality, treatment and survival.
RESULTS: The study cohort included 27 subjects (56% females), followed for 27±10.6 months. The mean age at diagnosis was 49.4±9 years. Co-morbidities at presentation included hypertension (63%), diabetes mellitus (22%) and dyslipidemia (26%). 74.1% of tumors were functioning – of which 85% were cortisol-secreting and 15% androgen-secreting. Aldosterone was secreted additionally in 15%. ENSAT stage at diagnosis was stage 1 in 15%, stage 2 in 35%, stage 3 in 12% and stage 4 in 38%. Eighty-nine % of patients underwent surgery. Treatment with mitotane was initiated in 82% of patients, reaching a mean maximal dose of 3.3 ±0.4 grams/day. Chemotherapy and/or radiation were given in 37% and 22%, respectively. Several patients (14.8%) had a second primary cancer, diagnosed before ACC in 75%. Progression was observed in 48% of patients, with a progression-free survival of 8.3±6.6 months. Thirty-five % of patients died during follow up, time to death was 12.8±0.4 months. Twenty two % of patients survived over 30 months after diagnosis. KI67 above 20% or stage above 2 negatively affected survival.
CONCLUSIONS: ACC remains a rare disease with a poor prognosis. However, it is a heterogeneous disease, with some patients achieving survival of over 30 months after diagnosis. Further characterization of this population may improve our understanding of the biology and treatment of this rare disease.

Genetics and Development (including Gene Regulation)

GENETICS AND DEVELOPMENT AND NON-STEROID HORMONE SIGNALING I

Associations of GPR174 and ITM2A Genes on X Chromosome with Early Onset Autoimmune Thyroid Disease in Korean.

Nayeong Lee, MD[1], Wonkyoung Cho, PhD[1], Hyeri Shin, MD[2], Yoonji Lee, MD[3], Seulki Kim, MD[3], Seonhwa Lee, MD[4], yujung choi, MD[4], Moon Bae Ahn, MD[3], Incheol Baek, PhD[2], Shin-Hee Kim, MD[5], Kyoungsoon Cho, PhD[6], Min-Ho Jung, PhD[4], Taigyu Kim, PhD[7], Byung-Kyu Suh, MD[3].
[1]Department of Pediatrics, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of, [2]The Catholic University College of Medicine Hematopoietic Stem Cell Bank, Seoul, Korea, Republic of, [3]Department of Pediatrics, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of, [4]Department of Pediatrics, Yeouido St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of, [5]Department of Pediatrics, Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of, [6]Department of Pediatrics, Bucheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of, [7]The Catholic University College of Medicine Microbiology, Seoul, Korea, Republic of.

SUN-724

Background: Autoimmune thyroid diseases (AITDs) are female predominant and the biology of sexual dimorphism is not clearly understood. Recently, *GPR174 and ITM2A* on X chromosome have been newly suggested as autoimmune thyroid disease susceptible loci.
Methods: Fourteen single nucleotide polymorphisms in immune related genes on X chromosome were analyzed in 108 Korean children (girls =90, boys =18) with AITD [Hashimoto disease (HD) = 40, Graves′ disease (GD) = 68, thyroid-associated ophthalmopathy (TAO) = 37, and non-TAO =60] with gender ratio matched normal control 106 controls (female = 43, male = 63).
Results: In AITD, the frequencies of GPR174 rs3810711 T allele (OR=6.0, c*P*=0.000), GRP174 rs3827440 T allele (OR=6.0, c*P* =0.000), ITM2A-GPR174 rs5912838 A allele (OR=2.7, c*P* =0.001) were increased and of GPR174 rs3810711 CC genotype (OR=0.2, c*P* =0.000), GRP174 rs3827440 CC genotype (OR=0.2, c*P* =0.000), ITM2A-GPR174 rs5912838 CC genotype (OR=0.4, c*P* =0.000)were lower than controls. In GD, the frequencies of GPR174 rs3810711 T allele (OR=8.4, c*P* =0.000), GRP174 rs3827440 T allele (OR=8.4, c*P* =0.000), ITM2A-GPR174 rs5912838 A allele (OR=3.3, c*P*=0.000) were increased and GPR174 rs3810711 CC genotype (OR=0.1, c*P* =0.000), C allele (OR=0.5, c*P* =0.044), GRP174 rs3827440 CC genotype (OR=0.2, c*P* =0.000), C allele (OR=0.5, c*P* =0.044), ITM2A-GPR174 rs5912838 CC genotype (OR=0.4, c*P* =0.000) were lower than controls. In HD, the frequencies of GPR174 rs3810711 T allele (OR=3.9, c*P* =0.003), GRP174 rs3827440 T allele(OR=3.9, c*P* =0.003) were increased and GPR174 rs3810711 CC genotype (OR=0.3, c*P* =0.004), rs3827440 CC genotype (OR=3.9, c*P* =0.003) were lower than controls. In thyroid-associated ophthalmopathy, the frequencies of GPR174 rs3810711 T allele (OR=7.9, c*P* =0.000), GRP174 rs3827440 T allele (OR=7.9, c*P* =0.000), ITM2A-GPR174 rs5912838 A allele (OR=3.1, c*P*=0.001) were increased and of GPR174 rs3810711 CC genotype (OR=0.1, c*P* =0.000), GRP174 rs3827440 CC genotype (OR=0.1, c*P* =0.000), ITM2A-GPR174 rs5912838 CC genotype (OR=0.3, c*P* =0.014)were lower than controls.
Conclusions. Our results suggest that polymorphisms of *GPR174 and ITM2A* genes on X chromosome might contribute to the pathogenesis of AITD.

Reproductive Endocrinology

MALE REPRODUCTIVE HEALTH - FROM HORMONES TO GAMETES

Effects of Testosterone Replacement on Glycemic Control and Other Cardiovascular Risk Factors in Hypogonadal Men with Uncontrolled Type 2 Diabetes (Stride Study): Design, Implementation and Baseline Data

Preethi Mohan Rao, MBBS, CCST Diabetes and Endocrinology[1], Enis Mumdzic, Specialty Registrar in Endocrinology and Diabetes[1], Daniel Marcus Kelly, BSc, PhD[2], Thomas Hugh Jones, BSc, MBChB,MD, FRCP(London), FRCP(Edinburgh)[3].
[1]Barnsley Hospital NHS Trust/University of Sheffield, Sheffield, United Kingdom, [2]University of Sheffield, Sheffield, United Kingdom, [3]Barnsley Hospital / University of Sheffield, Barnsley S Yorkshire, United Kingdom.

SAT-051

Up to 40% of men with type II diabetes are testosterone deficient. There is growing evidence that testosterone therapy has a beneficial effect on glycemic control, insulin