ejaculatory latent time (IELT), the satisfaction of sexual intercourse on the Rosen scale, the number of patients satisfied with the results of treatment. In group 1, the duration of IELT increased by 1.85 times, eradication of the disease reached 78.2%, high results were observed in the absence of complaints in 91.1% of patients, but in respect of the SPE, the efficacy was not high - only 56.4%. In the 2nd group, high eradication cure was noted – 86.9%, almost complete absence of complaints and high efficiency with respect to the SPE - 79.7%, increase in IELT - by 2.54 times. Conclusions: 1. Varicocele (especially bilateral) is a comorbid factor of CP, causing venous hyperaemia of the prostate, and may be one of the causes of SPE. 2. Operation Marmar reduces venous hyperaemia of the prostate, reduces the score of IPSS, improves IELT in patients with comorbid pathology (varicocele + CP) and can be recommended for patients with secondary PE and varicocele.

Poster #91

WNT4 PLAYS A CRITICAL ROLE IN REGULATING TESTICULAR DESCENT

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Presented By: Carolina Jorgez, PhD

Introduction: Undescended testis (UDT) is the most common urological birth defect affecting 6% of male births. Despite successful surgical correction, approximately 13% of unilateral UDT males experience infertility. The WNT signaling pathway plays an important role in genitourinary development. WNT4 had been previously associated with ambiguous genitalia, and we hypothesize that WNT4 plays a significant role in testicular decent.
Methods: A Wnt4 gubernaculum specific knock-out mouse was created by crossing Retinoic Acid Receptor ß2-cre mice to Wnt4-flox mice to generate Wnt4f/f;cre+ (Wnt4-cKO) male. Detailed phenotypic analyses of Wnt4-cKO was conducted. Fertility was determined by 6 month paired mating of a Wnt4-cKO male to a wild type (WT) female.
Results: All Wnt4-cKO mice (n=12) present with smaller left unilateral UDT with equal number of mice having inguinal vs. abdominal. The abdominal UDT have a Sertoli cell only phenotype. The inguinal UDT have a combination of normal and abnormal seminiferous tubules (ST). The abnormal ST had an increase in vacuolization, and fewer and mis-localized germ cells. Half of the mice with inguinal UDT have no sperm in the left epididymis, and the ones with sperm have 33% fewer sperm ($p=0.01$) with a 96% decrease in motility ($p<0.0001$) than WT mice. The ST of the descended right testis seems normal and the sperm count, and motility is not different than WT mice. The left gubernaculum of Wnt4-cKO is longer and thinner with increased collagen and reduced muscle content (trichrome staining) compared to the right contralateral descended one. Fertility studies in 8 (5 with abdominal and 3 with inguinal UDT) Wnt4-cKO mice indicate variable fertility with one mice being infertile (abdominal UDT) and one (inguinal UDT) having the same number of litters than the WT, but half of the pups. Overall the fertility of Wnt4-cKO male was reduced since they produced 23 litters and 88 pups in the same time than 8 WT mice produced 48 litter and 395 pups. Wnt4-cKO mice are sub-fertile when compared to WT mice with a significant decrease in numbers of pups and litters.
Conclusion: Conditional loss of Wnt4 in the gubernaculum leads to unilateral UDT. Although these mice have a normal descended testis, they still have fertility defects. This model could lead to a better understanding of the why males with early surgical intervention for unilateral UDT may still suffer fertility issues.

Poster #92

IMPACTS OF COOLING AND CRYOPRESERVATION ON HUMAN SPERM CAPACITATION, AS MEASURED BY CAP-SCORE™

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Presented By: G. Charles Ostermeier, II, PhD

Introduction: Studies with fresh human sperm have shown that GM1 localization patterns (Cap-Score™) quantify capacitation status. Using an outcome of clinical pregnancy, Cap-Score prospectively predicted a man's fertility and determined his probability of generating a pregnancy. Here, we evaluate the impacts of cooling and cryopreservation/thawing on capacitation using Cap-Score.
Methods: Semen was collected, liquefied and split into control and experimental treatments. Control samples were processed normally for Cap-Score. For the cooling experiments, samples were extended in TEST Yolk Buffer (TYB) and cooled overnight in a Styrofoam box with a cold pack (n=5). For the cryopreservation experiments, samples were frozen in TYB with glycerol (Cryo; n=10). After storage in LN2, the samples were thawed at 37°C for 3 min, mixed and then placed back into the water bath for another 3 min. Post-treatment, samples were washed, exposed to non-capacitating (NC) or capacitating (CAP) conditions, incubated for 3 hrs and then Cap-Score was determined after an overnight fix.
Results: An increase was observed in the control CAP when compared to the control NC treatment in the cooling experiment (40±4 vs 24±4%; $p<0.01$). There was no difference between the control CAP and the experimental CAP with cooled sperm (40±4 vs 40±2; $p=0.87$). In the cryopreservation experiment, an increase was again seen in the control CAP over the control NC (33±3 vs 19±2; $p<0.01$). Cap-Score was unchanged for Cryo CAP when compared to control CAP (34±1% vs 33±3%; $p=0.75$). No difference was observed between the Cryo NC and Cryo CAP (33±3 vs 34±1; $p=0.82$). The Cryo NC was greater than the control NC (33±2 vs 19±2%; $p<0.01$).
Conclusion: Despite exposure to TYB or TYB with glycerol, the Cap-Score male fertility assay could still be performed. Semen extension in TYB and overnight maintenance at reduced temperature had no detectable impact on Cap-Score. In contrast, cryopreservation/thawing in TYB with glycerol induced capacitation-like membrane changes in sperm incubated under non-capacitating conditions, supporting reports in the literature of the "cryocapacitation" phenomenon. However, no differences were observed in Cap-Score between fresh sperm or sperm after freezing/thawing and then incubation with stimuli for capacitation. Identification of impacts on capacitation could optimize protocols intended to preserve male fertility as well as improve IUI and IVF outcomes. Support: Androvia LifeSciences

Poster #93

DIRECT AND SPECIFIC INTERACTION BETWEEN THE MITOCHONDRIAL TRANSLOCATOR PROTEIN (TSPO) AND CHOLESTEROL USING CLICKABLE PHOTOREACTIVE CHOLESTEROL ANALOGUE

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The mitochondrial translocator protein (TSPO) is five helix transmembrane protein localized to the outer mitochondria membrane. Radioligand binding assays and chemical crosslinking identified TSPO as a high affinity cholesterol binding protein. In this function TSPO may serve as a place to segregate free cholesterol from structural membrane