PD07-07
IS SPERM MORPHOLOGY ASSESSMENT OF PATIENTS UTILIZING IN VITRO FERTILIZATION USEFUL IN PREDICTING ANEUPLOIDY?

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INTRODUCTION AND OBJECTIVES: It is generally accepted that semen quality, as judged by the volume, motility, and morphology of spermatozoa, predicts both in vitro and in vivo fertilization. Kruger et al. demonstrated that microscopic assessment of sperm morphology plays an integral role in evaluating the male. This study aims to determine whether there is a correlation between specimens with extremely low percentages of structurally normal sperm and embryonic aneuploidy in couples that pursue IVF with Comprehensive Chromosomal Screening (CCS).

METHODS: Couples who underwent IVF and utilized aneuploidy screening (preimplantation genetic screening (PGS)) from July 2010 – October 2015 were included. At least 100 sperm in four different areas of the slide were evaluated according to Kruger’s strict criteria (Kruger et al: a: normal; b: maldispersed; c: abnormal). Female and male partner ages were binned (A: <35; B: 35-38; C: 38-41; D: 41-43; and E: >43). Male age group E was subdivided, the proportion of patients with an abnormal morphology count increased with age (a: 36.2%; b: 44.1%; c: 50.7%; d: (55-60); and e: >60). Aneuploidy rate for each female age group was calculated, with 95% confidence intervals calculated by Clopper-Pearson method. Chi-square and ANOVA were used to test significance, established at p < 0.05.

RESULTS: Subjects (n=268) consisted of females (24.6-43.9 yo) with male partners (23.8-62.9 yo) who underwent 288 autologous fresh IVF cycles with PGS. CCS was performed on 1836 embryos, of which 656 were found to be aneuploid. The percentage of male patients with male partners (23.8-62.9 yo) who underwent 288 autologous fresh IVF cycles with PGS. CCS was performed on 1836 embryos, of which 656 were found to be aneuploid. The percentage of male patients with aneuploidy was similar between all five male age groups (A: 61.7%; B: 66.2%; C: 59.7%; D: 75.2%; E: 59.7%). When male age group E was subbinned (a: 43; b: 43-50; c: (50-55); d: (55-60); and e: >60) An eunopeid rate for each female age group was calculated, with 95% confidence intervals calculated by Clopper-Pearson method. Chi-square and ANOVA were used to test significance, established at p < 0.05.

CONCLUSIONS: No correlation was identified between spermatospermic specimens and increased incidence of embryonic aneuploidy. Male partners with specimens found to have abnormal Kruger morphology should be reassured that they do not have an increased incidence of producing chromosomally abnormal embryos.

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PD07-08
CHANGES IN TESTICULAR VOLUME AND FUNCTION AFTER TESTOSTERONE REPLACEMENT VS. RESTORATION: ANALYSIS OF A RANDOMIZED, DOUBLE BLIND, PLACEBO-CONTROLLED TRIAL OF ENCLOMIPHENE CITRATE VS. ANDROGEL™ 1.62% IN MEN WITH SECONDARY HYPOGONADISM

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INTRODUCTION AND OBJECTIVES: Testicular volume (TV) loss and impaired spermatogenesis are frequently observed after exogenous testosterone (T) replacement. For that reason, selective estrogen receptor modulators (SERM) are used to treat hypogonadal infertile men. The TV changes with SERM or exogenous T replacement have not been prospectively studied. Our objective was to investigate changes in testicular volume, male hormones and seminal parameters in men receiving testosterone gel (Androgel 1.62%, AG) vs. a novel SERM (Enclomiphene citrate, EC) vs. placebo (PBO).

METHODS: This is an IRB approved analysis of data from a randomized, double-blind, placebo-controlled trial on EC vs. AG for treatment of secondary hypogonadism (SHGD). After randomization, all patients had TV measurements performed by prader orchidometer (OM) at baseline and after 3 months of treatment. At selected sites, testicular ultrasounds (US) were also performed. US measurements were repeated 3 times in 3 dimensions and TV was derived using the Lambert formula. Hormone and semen analyses were compared before and after 3 months of treatment.

RESULTS: Of 186 men, 74 had US performed. EC 25 mg dose resulted in a 40% increase in TV by US vs. 8% decrease in AG (p < 0.05) and 10% increase in PBO (p < 0.05). Similar findings in TV were seen for OM. There was no decrease in sperm concentration after 3 months of EC, while a 50% decrease was observed after AG (p < 0.05). AG men who had decreased TV by US or OM experienced higher rates of decreased sperm concentration compared to those who had no loss or increase in TV (70% vs. 38%, respectively, p < 0.05). Gonadotropins (GTP) were increased in EC and decreased in AG (p < 0.05). Increases in T were comparable in the treatment groups.

CONCLUSIONS: In men with SHGD treated for 3 months, EC resulted in a significant increase in GTP, T, TV and preservation of sperm concentration. AG resulted in a significant increase in T but a decrease in GTP, TV, and total sperm concentration.
INTRODUCTION AND OBJECTIVES: Anastrozole, an aromatase inhibitor, is used in the empiric treatment of subfertile males to increase endogenous testosterone levels, elevate testosterone-to-estradiol ratios and improve semen parameters. However, controversy exists in regard to the effect on prostate specific antigen (PSA) levels by pharmacological agents which increase testosterone levels. In addition, the effects of anastrozole on the prostate and PSA are unknown. Therefore, we sought to study the effect of the increased endogenous testosterone levels seen with anastrozole, on serum PSA levels in subfertile men.

METHODS: Patients presenting with infertility and diagnosed with hypogonadism were treated with anastrozole for a minimum of three months. Serum follicle stimulating hormone (FSH), luteinizing hormone (LH), total testosterone (T), estradiol (E), testosterone-to-estradiol ratio (T/E), bioavailable testosterone (BT) and PSA levels were recorded at baseline and measured at 3 months and at 5 months during therapy when available. Paired t-test was used to compare baseline and post-treatment laboratory parameters.

RESULTS: A total of 50 male patients were included in the study, mean age 35.9 ± 11.7 (SEM). Mean baseline testosterone was 270.2 ± 117.9 ng/dl, mean T/E ratio was 10.5 ± 0.9 and mean baseline PSA was 2.16 ± 0.72 ng/ml. LH, T/E ratios, total testosterone and bioavailable testosterone levels increased significantly on anastrozole therapy. Slight but insignificant increase in PSA values was observed at 3 months of anastrozole treatment (0.78 ± 0.07, p = 0.35). For 33 men, follow up laboratory evaluation was obtained at 5 months of anastrozole therapy and no significant change in PSA levels was observed (0.80 ± 0.89, p = 0.47). No patient had a significant increase in PSA velocity or change in digital rectal examination requiring prostate biopsy.

CONCLUSIONS: The increase in testosterone levels and improved T/E ratios observed with the use of anastrozole in the treatment of hypogonadal, subfertile males does not result in significant increases in PSA levels at 5 months of therapy. Although there does not appear to be any short term adverse effects, further study of the long-term effects of anastrozole on serum PSA is warranted.