

## ORAL PRESENTATIONS

Monday, October 17, 2011

The following seven papers are candidates for the ASRM Scientific Program Prize Paper Awards. Seven additional candidates will be presented during the Prize Paper Candidates' Session on Tuesday morning.

### SCIENTIFIC PROGRAM PRIZE PAPER ORAL ABSTRACT PRESENTATIONS I

**O-1** Monday, October 17, 2011 11:15 AM

**ADVANCED PATERNAL AGE NEGATIVELY IMPACTS REPRODUCTIVE OUTCOME.** M. Katz-Jaffe, J. Crocker, J. Parks, W. Schoolcraft. National Foundation for Fertility Research, Lone Tree, CO; Colorado Center for Reproductive Medicine, Lone Tree, CO.

**OBJECTIVE:** Increasing evidence supports an association between advanced paternal age and an adverse impact on fertility. The aim of this study was to investigate the significance of paternal age to both in vivo and in vitro reproductive success, including embryo development and implantation potential.

**DESIGN:** Research Study.

**MATERIALS AND METHODS:** Young outbred males ( $n = 10$ ) with proven fertility were mated every month for 11 consecutive months with superovulated, young outbred females ( $n = 123$ ). In vivo fertilized zygotes ( $n = 3,156$ ) were cultured, in vitro, to the blastocyst stage for grading, cell counts or embryo transfer. Pregnant females ( $n = 37$ ) were sacrificed on day 16 of fetal development to confirm implantation, miscarriage and/or fetal development.

**RESULTS:** There were no differences observed for any in vivo or in vitro reproductive endpoint until the paternal age of 12 months old. From 12-15 months old, the proportion of in vivo fertilized zygotes was significantly decreased (35% vs. 78% in <12 months;  $P < 0.01$ ), with a direct increase in unfertilized oocytes (51% vs. 10% in <12 months;  $P < 0.01$ ). Blastocyst development and cell numbers showed a significant decrease at  $\geq 12$  months old ( $P < 0.05$ ). Transfer of these in vitro blastocysts ( $n = 72$ ) resulted in a trend towards lower implantation rates (30.9% vs. 43.3% in <12 months; ns) and a significant increase in pregnancy loss from males  $\geq 12$  months old (61.5% vs. 0% in <12 months;  $P < 0.01$ ). In addition, natural conceptions ( $n = 25$ ) revealed significantly smaller fetuses (11.36mm vs. 14.73mm <12 months;  $P < 0.01$ ) and placental weight (0.10g vs. 0.13g <12 months;  $P < 0.01$ ) relative to advanced paternal age.

**CONCLUSION:** This study has examined, over time, the direct contribution of paternal age to in vivo and in vitro reproductive outcome. Results indicate that in an outbred murine model there was an abrupt reproductive deterioration at paternal mid-life, with an adverse effect observed during natural conception, in vitro blastocyst development, implantation potential and fetal viability.

**O-2** Monday, October 17, 2011 11:30 AM

**A RANDOMIZED CLINICAL TRIAL TO DETERMINE OPTIMAL INFERTILITY THERAPY IN COUPLES WHEN THE FEMALE PARTNER IS 38-42 YEARS: PRELIMINARY RESULTS FROM THE FORTY AND OVER INFERTILITY TREATMENT TRIAL (FORT-T).** R. H. Reindollar, K. L. Thornton, D. Ryley, M. M. Alper, J. L. Fung, M. B. Goldman. Obstetrics & Gynecology, Dartmouth-Hitchcock Medical Center, Lebanon, NH; Boston IVF, Waltham, MA.

**OBJECTIVE:** To determine the most effective treatment for older women with unexplained infertility.

**DESIGN:** Randomized clinical trial.

**MATERIALS AND METHODS:** A 3-arm RCT stratified by the female's age (38-41, 42-43) was conducted. Inclusion criteria were 6 mo. attempted conception, no pelvic pathology, regular menstrual cycles, acceptable ovarian reserve (CD 3 & 10 FSH < 15 mIU/mL; CD 3 E2 < 100 pg/mL), and normal semen analysis. Exclusion criteria were previous treatment or not a candidate for IVF. Patients were randomized to initiate treatment with either clomiphene (CC/IUI, FSH/IUI, or immediate IVF. The proportion of women in each arm with a clinically recognized pregnancy was evaluated after the first 2 treatment cycles.

**RESULTS:** 154 couples treated at BIVF or BWH were randomized. There were no statistically significant differences for any major covariates.

Characteristic	Mean $\pm$ SD or N (%)		
	CC/IUI	FSH/IUI	Immediate IVF
	(N = 51)	(N = 52)	(N = 51)
Age at randomization (y)	40 $\pm$ 1.3	41 $\pm$ 1.2	40 $\pm$ 1.4
Female partner > 41y	11 (22)	11 (21)	9 (18)
Caucasian	40 (78)	43 (83)	44 (86)
BMI (kg/m <sup>2</sup> )	25 $\pm$ 4.8	25 $\pm$ 4.2	23 $\pm$ 4.2
No prior deliveries	34 (67)	41 (79)	35 (69)
Current/past smoker	14 (27)	13 (25)	16 (31)
Hx of OC use	43 (84)	43 (83)	40 (78)

After 2 cycles of treatment, 51 couples underwent 87 CC/IUI cycles; 52 couples underwent 91 FSH/IUI cycles; and 51 couples underwent 85 immediate IVF cycles. The per cycle clinical pregnancy rates were 6.9% (6/87) in the CC/IUI arm, 7.7% (7/91) in the FSH/IUI arm, and 24.7% (21/85) in the immediate IVF arm. Comparing the CC/IUI and FSH/IUI arms to the IVF arm, the clinical pregnancy rates were 7.3% (13/178) v. 24.7% (21/85) ( $P = 0.0008$ ); the live birth rates were 5.1% (9/178) v. 15.3% (13/85) ( $P = 0.0172$ ).

**CONCLUSION:** A randomized clinical trial to compare 2 cycles of superovulation/IUI to immediate IVF for the treatment of unexplained infertility in the older female patient demonstrated that the per cycle pregnancy and live birth rates were superior in the immediate IVF arm.

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**O-3** Monday, October 17, 2011 11:45 AM

**THE IMPACT OF TESTOSTERONE SUPPLEMENTATION ON SEXUAL FUNCTION IN ELDERLY MEN.** L. W. Roth, R. S. Schwartz, R. B. Meacham. Department of Obstetrics and Gynecology, University of Colorado, Aurora, CO; Division of Geriatric Medicine, University of Colorado, Aurora, CO; Division of Urology, University of Colorado, Aurora, CO.

**OBJECTIVE:** To evaluate the effect of testosterone supplementation on sexual function in men over 60.

**DESIGN:** IRB-approved prospective, randomized, double-blind, placebo-controlled trial.

**MATERIALS AND METHODS:** Men 60 years old or greater with borderline low testosterone (T) were treated with low dose testosterone gel (25mg/d), conventional dose testosterone gel (50mg/d), or placebo gel for 1 year. Testosterone levels were measured and the Sexual Health Inventory for Men (SHIM), a validated questionnaire to evaluate erectile dysfunction (ED), was administered at baseline, 6 months, and 1 year. ANOVA was used to compare means; analysis was performed using Excel.

**RESULTS:** There were 56 subjects in the placebo group (P), 56 subjects in the low dose T group (T25), and 55 subjects in the conventional dose T group (T50). There was no difference in age ( $P = 65$ , T25 = 65, T50 = 64 years;  $P = 0.5$ ) between the 3 groups. There was no difference in total or free T between the groups at baseline. Additionally, all three groups demonstrated mild to moderate ED based on SHIM scores ( $P = 15.9$ , T25 = 16.1, T50 = 17.5;  $P = 0.54$ ) at baseline. Over the course of the study, total and free T did not change in the placebo group but increased significantly in both treatment groups. There was no change in SHIM scores in any group (data shown in table).

	Group	Baseline	6 months	12 months	p value
Total T (ng/dL)	P	294	304	284	0.28
	T25	292	516	457	0.000004
	T50	303	532	596	0.0000004
SHIM score	P	15.9	16.3	16.9	0.85
	T25	16.1	16.2	16.1	1
	T50	17.5	17	17.2	0.95

**CONCLUSION:** Testosterone supplementation is often used to treat sexual dysfunction in men with borderline low or low testosterone. In this