O-214
WITHDRAWN

Tuesday, October 18, 2005
6:00 p.m.

O-215
A Prospective Randomized Trial Evaluating the Effect of Luteal Phase Estradiol Supplementation on the Success of IVF Treatment.

Tuesday, October 18, 2005
6:15 p.m.

OUTCOME PREDICTORS-LABORATORY: ART

Tuesday, October 18, 2005
3:45 p.m.

O-216

Choosing the Optimal Incubator Environment for Day 3 Culture: Triple Gas vs. 5% CO2 in Air, A Prospective, Randomized Trial.

K. M. Silverberg, T. Turner, T. Minter, C. Schuster, R. Fields, T. C. Vaughn. Texas Fertility Center, Austin, TX; Austin IVF, Austin, TX.

OBJECTIVE: Despite 20 years of experience in IVF, significant controversy persists regarding the optimal incubator environment in which to culture embryos prior to Day 3 transfer. Most of this controversy centers around the percentage of oxygen (O2) in the gas mixture. This study was designed to compare the outcome of embryos grown in triple gas (5% CO2/5% O2/90% N2) (Group 1) to those grown in 5% CO2 in air (Group 2).

DESIGN: Prospective, randomized trial in a large private infertility practice.

MATERIALS AND METHODS: Patients underwent stimulation with GnRH-agonists and recombinant FSH according to our usual stimulation protocols. Transvaginal oocyte retrieval was performed 36 hours after the administration of hCG. Oocytes were inseminated in Sage fertilization medium with 0.5% HSA and cultured to Day 3 in Sage cleavage media with 10% SPS. Patients were randomly assigned to have their embryos grown in either triple gas or 5% CO2 in air. The highest quality embryos were transferred fresh on Day 3, while high quality supernumery embryos were cryopreserved on Day 2. Remaining embryos that achieved blastulation were cryopreserved on Day 5 or 6. Statistical analysis was performed using t-test and chi square analysis.

RESULTS: 126 patients were stimulated with GnRH-agonists and gonadotropins between October 1, 2004 and February 28, 2005. There were no differences between the 2 groups in terms of patient age (35.9 vs. 35.4), days of stimulation (11.3 vs. 11.2), total gonadotropin dose (3750 IU vs. 3787 IU), peak estradiol level (2573 pg/mL vs. 2424 pg/mL), or total number of follicles > 10 mm on the day of hCG administration (15.8 vs.15.8). Similarly, there were no differences in the number of oocytes retrieved (17.4 vs. 15.4), the number of 2PN embryos obtained (10 vs. 8.3), the number of embryos that achieved at least 6 or 8 cells on Day 3 (6.8 vs 5.1, 4.1 vs. 2.8), the number of embryos transferred (2.6 vs. 2.5), or the number of embryos frozen (1.7 vs. 1.1). However, the ongoing/delivered pregnancy rate was significantly greater in Group 2 (56.5% vs. 48.4%, p<0.01).

CONCLUSION: The pregnancy rate for embryos transferred following 3 days of culture in 5% CO2 in air was greater than that for embryos cultured in triple gas. While it appeared that embryos grown in triple gas and 5% CO2 in air performed similarly, as there was no demonstrable laboratory difference in embryonic development or quality, a statistically significant difference in pregnancy rate was observed.

Supported by: None

Tuesday, October 18, 2005
4:00 p.m.

O-217

Gene Expression Profiling of Viable IVF Blastocysts. D. S. Cram, G. M. Jones, B. Song, G. Kokkali, K. Pantos, A. O. Trounson. Monash IVF, Clayton, Victoria, Australia; Monash University, Clayton, Victoria, Australia; Center for Human Reproduction, Genesis Hospital, Athens, Greece.

OBJECTIVE: The vast majority of embryos generated by assisted reproduction technology fail to implant. This failure must be ascribed to the embryo rather than the uterus as it is not uncommon to attain a single implantation following the transfer of more than one embryo of good morphological quality. Current embryo selection criteria are inadequate and confounded by the practice of transferring more than one embryo so that