

CONCLUSION: The difference in birth weight between MS-IVF and COH-IVF singletons we found in this study is remarkable. Since IVF laboratory procedures are the same for both groups, and differences in patient characteristics are minimal, we hypothesize that this difference is attributable to the lack of ovarian hyperstimulation in MS-IVF, leading to a better implantational environment compared to COH-IVF.

Supported by: A grant from the University Medical Center Groningen and from Zon-Mw, the Netherlands.

Tuesday, October 18, 2005
4:30 p.m.

O-199

The Risk of Cytogenetic Abnormalities in the Late First Trimester in Pregnancies Conceived By Couples With Infertility. S. S. Patel, M. D. Pisarska, L. C. Kao, R. Jalian, J. Williams III. Cedars-Sinai Medical Center, Los Angeles, CA; Cedars-Sinai Medical Center; David Geffen School of Medicine at UCLA, Los Angeles, CA; David Geffen School of Medicine at UCLA, Los Angeles, CA.

OBJECTIVE: Although an increased risk of genetic abnormalities has not been documented amongst infants conceived with assisted reproductive technologies (ART), there is evidence that there is a higher miscarriage rate in pregnancies conceived through ART and these losses are attributed to cytogenetic abnormalities. There has been controversy whether these cytogenetic abnormalities are the result of the ART procedure itself or the infertility that is overcome with these procedures. Thus the objectives of our study were: 1) to determine if there is an increased risk of cytogenetic abnormalities in the first trimester of live fetuses conceived by infertile couples compared to a fertile population; and 2) to determine if there was a difference in cytogenetic abnormalities in the first trimester of live fetuses conceived with ART compared to other means of fertility treatments.

DESIGN: Retrospective case-control study.

MATERIALS AND METHODS: Analysis of all patients who presented to our institution for CVS prenatal diagnosis was conducted. Patients were classified as either receiving infertility treatment or conceiving spontaneously. All women under age 35 were excluded. Multiple gestations were excluded. Depending on the operator's judgement, CVS was performed via either a trans-abdominal or trans-vaginal approach, by one of two highly experienced perinatologists. All procedures were performed on ultrasound documented viable gestations between 9 and 12 weeks. Data was analyzed using the Fisher's exact test and the T-Test.

RESULTS: A total of 1098 patients undergoing prenatal diagnosis secondary to advanced maternal age were studied. There were 949 pregnancies conceived spontaneously (control group) and 147 pregnancies conceived using fertility treatment (infertility group). There was a statistically significant difference in the ages of the two groups, 39.8 +/- 2.5 years for the infertility group and 39.0 +/- 2.7 years for the control group ($p < 0.05$). There was no statistically significant difference in cytogenetic abnormalities between the 2 groups, 13/147 (8.8%) in the infertility group compared to 60/949 in the control group ($p = NS$). Subgroup analysis was performed on the infertility group to determine if ART plays an independent role on cytogenetic abnormalities in the first trimester. Thus, pregnancies conceived with ART were compared to pregnancies conceived with controlled ovarian hyperstimulation (COH)/IUI. There was no statistically significant difference in the ages between these 2 groups, 39.4 +/- 2.8 years for the COH/IUI group and 39.9 +/- 2.5 years for the ART group. There were 8/68 (11.8%) cytogenetic abnormalities in the COH/IUI group and 5/79 (6.3%) cytogenetic abnormalities in the ART group. This difference was not statistically significant.

CONCLUSION: Our study demonstrates that pregnancies achieved in couples with infertility and those treated with ART are not prone to a higher incidence of cytogenetic abnormalities in the late first trimester, where the high rate of early embryonic pregnancy loss has passed. Although there may be a higher rate of cytogenetic abnormalities early in the first trimester, survival is diminished resulting in a low rate of cytogenetic abnormalities at CVS.

Supported by: None.

Tuesday, October 18, 2005
4:45 p.m.

O-200

Prospective Randomized Trial of Autologous Endometrial Coculture Versus Traditional IVF. L. Barmat, S. Somkuti, J. Schinfeld, L. Hoover, M. Wikarczuk, S. Smith. Abington Memorial Hospital, Abington, PA.

OBJECTIVE: One factor that may contribute to the poor success rates in IVF may be the suboptimal culture conditions in which fertilization and early embryonic growth occur. This may result in embryos with compromised growth rates and reduced viability. Therefore, in an effort to more closely mimic the in vivo preimplantation environment the culture of embryos on a layer of cells has been developed (coculture). In April 2002, the FDA recommended that nonhuman coculture cell lines not be used in human IVF due to the concern of xenologous viral transmission. Therefore, in an attempt to alleviate these concerns and to improve IVF success rates, our objective was to determine if embryo development and clinical outcome is improved by autologous endometrial coculture (AEECC).

DESIGN: Prospective randomized clinical trial.

MATERIALS AND METHODS: Patients had to meet the following inclusion criteria: maternal age < 39, day 3 FSH < 11, no more than one prior failed IVF cycle, no evidence of hydrosalpinx, normal semen analysis or male factor excluding nonobstructive azospermia cases. Patients enrolled in the study were randomized to either AEECC or traditional IVF. All patients underwent a luteal phase endometrial biopsy on cycle day 5-10 post LH surge. The endometrium was sent for histologic analysis, culture and in those patients randomized to AEECC group processing for coculture use. This entailed enzymatic digestion with collagenase and differential sedimentation at unit gravity to separate out the two populations of uterine cells (stroma and glandular cells). These cells were then grown in the lab for approximately 5 days and cryopreserved by standard techniques. Patients' controlled ovarian stimulation protocols included highly purified urinary FSH (Bravelle) and GnRH agonist (Lupron). Data analyzed using Student's t-Test and Fisher's exact where appropriate. Continuous variables reported as mean (standard error).

RESULTS: There were 37 patients included in the study. Twenty patients were randomized to traditional IVF (control) and 17 to AEECC. There were no differences in the mean (se) ages of the two groups: 33.1 (0.8) vs. 32.2 (0.7), $p = 0.44$. The groups (control vs AEECC) were very similar in all parameters analyzed: day 3 FSH 8.8 (0.3) vs 8.1 (0.4), $p = 0.89$, oocytes collected 15.4 (1.5) vs 16.1 (1.9), $p = 0.77$, 2PN 7.9 (1.0) vs 9.8 (1.4), $p = 0.27$, number of embryos transferred 2.7 (0.2) vs 2.6 (0.2), $p = 0.71$, blastomeres/embryo 6.2 (0.2) vs 5.9 (0.3), $p = 0.42$, blastomeres/embryo transferred 7.4(0.2) vs 7.0 (0.3), $p = 0.31$, cycle day of endometrial biopsy 19.5 (1.0) vs 21.1 (1.0), $p = 0.27$. The implantation, pregnancy, and twin gestation rates (no triplets in data) for control and AEECC were 47.8 % (8.1) vs 32.8% (8.3), $p = 0.21$ and 78.9 % vs 70.6%, $p = 0.71$, 36.8% vs 11.8%, $p = 0.13$.

CONCLUSION: This is the first prospective randomized clinical trial of AEECC versus traditional IVF. The preliminary data on this ongoing study has demonstrated no significant differences between the two groups in all clinical parameters analyzed.

Supported by: Ferring Pharmaceuticals Inc.

Tuesday, October 18, 2005
5:15 p.m.

O-201

Presence of Factor V Leiden (FVL) and Prothrombin (FII) Mutations are not Associated with Negative Outcomes After IVF Procedures When Treated With Low-Molecular Weight Heparin (LMWH). G. Fassolas, A. Massaguer, V. Maia Filho, C. Wang, E. L. Motta, P. C. Serafini. Centro Reproducao Huntington Brazil, Sao Paulo, Brazil.

OBJECTIVE: Evaluate the outcome of IVF in prophylactically treated women showing mutations of FVL and FII.

DESIGN: Retrospective study

MATERIALS AND METHODS: Blood samples were obtained before starting IVF treatment in the following 202 women: 20 to 45 (32.9±4.6) yrs., suffered from infertility, and had standard indication for IVF. Inherited