**RANDOMIZED CONTROLLED TRIAL COMPARING HIGHLY PURIFIED (HP-hCG) AND RECOMBINANT HCG (r-HCG) FOR TRIGGERING OVULATION IN ART.** D. De Ziegler, M. Bellavia, M. E. Streuli, M. H. Birkhäuser. "Dept of Ob Gyn II, Reproductive Endocr. and Infertility, Université Paris Descartes – Hôpital Cochin, Paris, France; "Maternity, CHUV (Centre Hospitalier Universitaire Vaudois), Lausanne, VD, Switzerland; "Frauenklinik, Universitätsspitäl Basel, Basel, BS, Switzerland; "Hôpital Cantonal Universitaire, Geneva, GE, Switzerland; "Frauenklinik Inselspital, Bern, Switzerland.

OBJECTIVE: To compare the safety and efficacy of triggering ovulation in ART with hCG of highly purified (HP-hCG) or recombinant origin (r-hCG).

DESIGN: Multi-centre (n=4), prospective, controlled, randomised, non-inferiority, parallel group, investigator blind study.

MATERIALS AND METHODS: ART patients, 18 to 39 years, BMI between 18 and 30 kg/m2, normal hormonal profile (FSH<10 IU/L, regular menstrual cycles, infertility attributable to a tubal factor, grade I or II endometriosis, male factor or unexplained infertility and with no more than 3 prior ART attempts were included in the study. All patients underwent COS using HP-FSH (Fostinon, IBSA SA, Switzerland) in a long-GnRH-a protocol. Ovulation was triggered, using either 10.000 IU of HP-hCG (Chorimon Go/ nasiHP, IBSA SA, Switzerland), or 0.250mg of r-hCG alpha (Ovitrelle, Merck Serono, Switzerland). The primary efficacy criterion was the total number of oocytes retrieved. The secondary criteria included oocyte quality – notably, the fertilisation rate – or that of the embryo, as implantation rate (IR) and clinical pregnancy rate (cPR).

RESULTS: 72 and 75 women got included in the HP-hCG and r-hCG groups, respectively. There were no relevant differences at baseline between the 2 populations. Results show no differences in ART outcome between women receiving HP-hCG or r-hCG. But, with 13.3±6.8 vs 12.5±5.8 (NS) oocytes retrieved, IR of 22.5% vs 17.2% (NS), cPR of 31.9 % vs 26.7% (NS) and live birth rates of 27.8% vs 22.7% (NS) in HP-hCG vs. r-hCG there was a consistent trend toward better outcome in the HP-hCG group. There were no differences in terms of tolerability between the 2 populations.

CONCLUSION: This 1st RCT on HP-hCG and r-hCG concludes that these are equally effective and safe. A trend toward obtaining more oocytes and higher cPR and live birth rates in the HP-hCG group suggests that hCG of human origin may provide subtle practical benefit on oocyte quality and ART outcome.

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**P-204**

**Tuesday, October 23, 2012**

**DRAMATIC PROGRAM-WIDE REDUCTION IN THE INCIDENCE OF SEVERE OVARIAN HYPERSTIMULATION SYNDROME (OHSS) REQUIRING PARACENTESIS WITH SELECTIVE USE OF GONADOTROPIN-RELEASING HORMONE (GNRH) AGONIST TRIGGER.** S. Beall, G. Betz, J. Segars, F. Chang, K. Richter. Program in Reproductive and Adult Endocrinology, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, MD; 4Shady Grove Fertility Reproductive Science Center, Rockville, MD.

OBJECTIVE: To compare rates of severe OHSS requiring paracentesis before and after the use of a GnRH agonist trigger protocol in high risk in vitro fertilization (IVF) patients.

DESIGN: Retrospective historical comparison.

MATERIALS AND METHODS: All patients undergoing oocyte retrieval (OR) for IVF from January 2008 through December 2011 were analyzed. Pituitary suppression was by either GnRH agonist (leuprolide acetate (LA)) or antagonist (ganirelaxin acetate (GA)). Before 2010 oocyte maturation was induced with human chorionic gonadotropin (hCG). Beginning in 2010 patients at risk for OHSS were given a GnRH agonist trigger (Ganirelix or Lanrelix) to reduce OHSS, and LA was used. All patients underwent a standard protocol of ovarian stimulation with gonadotropins. Patients successfully triggered with LA received hCG 1500IU at OR. The frequency of OHSS requiring paracentesis was evaluated. Statistical analysis was by Chi-Square or Mann-Whitney U test as appropriate.

RESULTS: In 2008 and 2009, 9,277 OR procedures, all using hCG trigger, were performed. Paracentesis for OHSS was required after 181 of these (1.9%). In 2010 and 2011, 10,381 OR procedures were performed (2,499 of which were triggered with LA), with 36 subsequently requiring paracentesis (0.83%). This represented a statistically significant relative reduction in the frequency of severe OHSS requiring paracentesis of 57.7% (P<0.0001).

CONCLUSION: Selective use of LA to stimulate oocyte maturation before OR in high risk patients (approximately one quarter of the entire patient population) resulted in a dramatic program-wide decline in the incidence of severe OHSS requiring paracentesis. Leuprolide is a safer alternative to hCG in patients at high risk for OHSS.

Supported by: This work was supported in part by the Program in Reproductive and Adult Endocrinology, NICHD, NIH, Bethesda MD, USA.
OBJECTIVE: To investigate the clinical relevance of the overstimulation in the oocyte quality in terms of embryo implantation using an egg donor shared model in order to avoid bias number of oocytes and endometrial receptivity.

DESIGN: Observational case-control study.

MATERIALS AND METHODS: A retrospective analysis was performed with data from 1535 oocyte donation cycles collected during the years 2006-2009. Only 553 recipients who received 7 to 10 oocytes were included in the analysis. We established 2 groups according to the number of oocytes obtained from the donor: “Normal Stimulation Group” when the recipient did not share the donor and therefore the stimulation resulted in the collection of 7-10 oocytes and “High Stimulation Group” when the recipient shared the donor and therefore, 15 or more oocytes were collected. We compare clinical outcomes: clinical pregnancy rate, implantation rate, biochemical pregnancy rate, miscarriage rate, maturation rate, and embryo quality. Univariate comparisons were performed using Pearson’s chi-square test for categorical data and the T-student test for continuous measures. Multivariate analysis was performed using logistic regression for categorical dependent variables and linear regression for continuous dependent variables. All of the multivariate analysis were adjusted by probably confusions factors, like was donor’s age. ROC curve was performed to add predictor factor to analysis.

RESULTS: Both groups were comparable according to clinical outcomes. ROC curve showed all the variables analyzed with area under curve less than 0.5 without statistical differences.

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<tr>
<th></th>
<th>High Stimulation</th>
<th>Normal Stimulation</th>
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<tbody>
<tr>
<td>Implantation Rate (%)</td>
<td>31.82</td>
<td>30.82</td>
</tr>
<tr>
<td>Clinical Pregnancy Rate (%)</td>
<td>50.12</td>
<td>47.72</td>
</tr>
<tr>
<td>Miscarriage Rate</td>
<td>14.64</td>
<td>17.71</td>
</tr>
<tr>
<td>Live Birth Rate</td>
<td>44.85</td>
<td>41.18</td>
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CONCLUSION: Oocytes obtained under high levels of estradiol retain the ability to generate normal embryos. The oocyte quality impairment in over-stimulated cycles doesn’t exist or is not clinical relevant.

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P-207 Tuesday, October 23, 2012

CHARACTERISTICS PREDICTIVE OF FAILED LEUPROLIDE ACETATE (LA) TRIGGER AMONG PATIENTS UNDERGOING GONADOTROPIN-RELEASING HORMONE (GnRH) ANTAGONIST SUPPRESSION FOR VITRO FERTILIZATION (IVF). S. Beall, a K. Moon, a E. Widra, b A. DeCherney, a F. Chang, b K. Richter, a Program in Reproductive and Adult Endocrinology, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, MD; aShady Grove Fertility Reproductive Science Center, Rockville, MD.

OBJECTIVE: To characterize patient characteristics associated with failure to mount an adequate endogenous luteinizing hormone (LH) surge in response to LA trigger for IVF.

DESIGN: Retrospective cohort study.

MATERIALS AND METHODS: Autologous IVF cycles from 2010 were reviewed. 806 patients were triggered with LA following gonadotropin suppression with GnRH antagonist suppression. Serum LH and progesterone (P) concentrations were obtained 8-14 hours (mean 11.1) following LA trigger. An inadequate response was defined as serum LH<15 IU/L and P<3 ng/mL, or no oocytes obtained after aspiration of the first several follicles at oocyte retrieval. These patients were re-triggered with hCG to salvage the cycle. Patient characteristics including age and BMI (available for all cycles) and baseline follicle-stimulating hormone (FSH) and LH measured on cycle day 3 (available for 797 and 759 cycles respectively) were compared between successful and failed LA triggers by t test or Fisher’s exact test as appropriate.

RESULTS: Of 806 patients triggered with LA, 22 had an inadequate response and were re-triggered with hCG. Mean patient age (33.4 vs 34.1 years, P=0.48), BMI (25.1 vs 24.0, P=0.37), baseline FSH (6.4 vs 6.7 IU/L, P=0.63) and baseline LH (5.9 vs 5.2 IU/L, P=0.31) were all similar between successful and unsuccessful LA triggers. However, BMI<22 was significantly more common among failed vs successful LA triggers (63.6% vs 39.0%, P=0.026), and baseline LH<2 IU/L was significantly more common among failed vs successful LA triggers (20.0% vs 3.1%, P=0.004). Failure rates for BMI<22 vs higher BMI were 4.4% vs 1.6%, while failure rates for LH<2 IU/L vs higher LH were 1.8% vs 2.2%.

CONCLUSION: Low baseline LH is associated with a dramatic increase in LA trigger failure rates, and low BMI is associated with a more moderate increase in failure rates. Thus LA trigger may be less appropriate for such patients.

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THE EFFECTS OF RESVERATROL ON AN OVARIAN HYPERSTIMULATION SYNDROME MODEL IN RATS. M. Oktam, a S. Ozgur, b O. Erdem, c S. Elbeg, c C. Cenksoy, c A. Helvaci, c Obstetrics & Gynecology, Gazi University Faculty of Medicine, Ankara, Turkey; cPathology, Gazi University Faculty of Medicine, Ankara, Turkey; cBiochemistry, Gazi University Faculty of Medicine, Ankara, Turkey.

OBJECTIVE: The effect of resveratrol on an ovarian hyperstimulation syndrome (OHSS) model in rats.

DESIGN: Randomized controlled, animal study.

MATERIALS AND METHODS: Female Wistar rats (22 days old) were divided into four groups: group 1 (control group; n=6) received 0.1 mL of intraperitoneal (IP) saline from days 22-26; group 2 (mild-stimulated group; n=6) received 10 IU of pregnant mare serum gonadotropin (PMSG) on day 24 and 10 IU of hCG 48 hours later (day 26); group 3 (OHSS group; n=6) was given 10 IU of PMSG for 4 consecutive days from day 22 and 30 IU hCG on the fifth day to induce OHSS; group 4 (resveratrol group; n=6) was treated the same as group 3, but received 60 mg/kg Resveratrol 2 hours before the