formulations: A = norethindrone acetate 1 mg/20 μg ethinyl estradiol (EE); B = levonorgestrel 100 μg/20 μg EE; C = desogestrel 150 μg/30 μg EE; D = levonorgestrel 150 μg/30 μg EE; E = norgestimate 250 μg/35 μg EE; F = norethindrone 1 mg/35 μg EE. Blood samples were obtained daily during the seven day PFI of the third consecutive months of OC use. Serum follicle-stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E_2), progesterone (P), activin-A, inhibin-A, and inhibin-B were quantified by specific immunoassays. Data were analyzed by repeated measures ANOVA and Student's t-test.

Results: The P and inhibin-A levels remained suppressed during the PFI with all six formulations. At baseline (day 1 of PFI), formulations A and B were associated with statistically significantly higher levels of FSH and LH than formulations C, D, E, or F; subjects taking formulation A had higher baseline E_2 levels than the other five OC formulations; there were no differences in levels of inhibin-B among the six formulations of OC's. Subjects taking formulation D had LH levels suppressed throughout the PFI. FSH and inhibin B levels reached a plateau in all cases by days 4 and 5, respectively.

Baseline (day 1 of PFI)	A	B	C	D	E	F	p-Value
Mean serum FSH (mIU/ml) ± S.D.	4.2 ± 2.1	4.2 ± 2.8	2.4 ± 1.9	2.1 ± 2.7	2.7 ± 2.6	1.6 ± 1.3	<0.05
Mean serum LH (mIU/ml) ± S.D.	3.8 ± 2.4	4.8 ± 3.7	1.6 ± 1.0	1.3 ± 0.5	1.9 ± 1.1	1.6 ± 0.7	<0.05
Mean serum E_2 (pg/ml) ± S.D.	61 ± 32	42 ± 29	25 ± 8	30 ± 10	31 ± 8	42 ± 15	<0.05
Mean serum inhibin-B (pg/ml) ± S.D.	17 ± 33	9 ± 13	23 ± 32	17 ± 29	29 ± 51	8 ± 12	N.S.

Conclusion: 1) Different OC formulations vary in their suppressive effects on E_2, FSH, and LH; 2) Varying rates of return of pituitary and ovarian activity were observed between the six OC formulations; 3) Different clinical settings, such as a prior poor response or PCO may benefit from different OC formulations and/or different timing of initiation of COH.

P-443

Step Up Compared with High Fixed Dose Gonadotropin Administration Protocols for Controlled Ovarian Stimulation in Obese Patients Without Polycystic Ovaries: Prospective Randomized Study. [1,2]P. E. Egbase, [1]H. Nasser, [1]M. Al-Sharhan, [2]J. G. Grudzinskas. [1]IVF Centre, Maternity Hospital Kuwait; [2]Department of Obstetrics & Gynecology, The Royal London Hospital, UK.

Objective: Obesity (BMI > 30) produces a variety of alterations in the reproductive systems in human. This study examined the follicular growth, embryology and clinical outcome in step up compared with high fixed dose gonadotropin administration protocols in obese patients (BMI > 30) without polycystic ovaries (PCO).

Materials and Methods: 84 obese (BMI>30) patients and aged <35 years who had normal basal serum FSH and LH levels, regular normal menses and no ultrasound evidence of PCO treated with conventional IVF or ICSI for the first time were prospectively randomized (computer aided) to two gonadotropin administration protocols for controlled ovarian stimulation (COS) after long protocol luteal phase pituitary down regulation. In group 1 (n=42), the step up protocol was employed starting with 2 ampules (75 iu per amp) for seven day and subsequently increased by one ampule every other day if the size of the leading follicle monitored by ultrasound had not increased by an average of 1 mm per day. In group 2 (n=42), a fixed dose of 4 ampules (high fixed dose gonadotropin protocol) was administered irrespective of the number or rate of follicular growth. In both groups, patients received trigger dose of HCG (10,000 iu) when the leading follicle was ≥18 mm.

Results: Patients in both groups were matched for age, cause and duration of infertility and BMI. The total gonadotropin ampules were statistically significantly lower in the step up protocol (36 ± 11.8 vs. 46.2 ± 8, p<0.05) although the duration of administration was statistically significantly longer (14.8 ± 2 vs. 11.3 ± 2, p<0.05). The percentage of follicular synchrony (number of follicles in the cohort with sizes within 2 mm of the leading follicular size) on the day of HCG was statistically significantly higher in the high fixed dose protocol (83.2% vs. 54.7%, p<0.05). There were no statistical significant differences in the number of oocyte retrieved, fertilization and cleavage and implantation rates. The clinical pregnancy rates were also similar (group 1 vs 2 being 47.1% vs. 53.2%).

Conclusion: The step up and high fixed dose gonadotropin administration protocols are equally effective in controlled ovarian stimulation in obese patients.

P-444

The Intercycle Variability in Patients Treated With Repeated Cycles of Gonadotropins Is Due to Intrinsic Factors and Is Not Eliminated by Recombinant Gonadotropins. K. M. Silverberg, R. A. Ormand, L. J. Hansard, T. C. Vaughn. Texas Fertility Center, Austin, TX.

Objective: Significant variability in patient response to repeated cycles of gonadotropins is a well-recognized phenomenon in infertility therapy. Previous studies have attributed most of this variability to the low (3–5%) purity and wide range of acceptable FSH concentration (−20 to +25%) found in the older urinary products. This suggests that observed variability should be substantially reduced or eliminated with the use of recombinant FSH. This study was designed to evaluate cycle to cycle variability in patient response following treatment with repeated cycles of recombinant FSH.

Design: Prospective, comparative trial.

Materials and Methods: All patients receiving recombinant gonadotropin (FSH) therapy combined with intrauterine insemination (IUI) from January, 1998, through May, 1999, were included for analysis. Eighty-nine patients received at least 2 cycles of treatment with recombinant FSH (Gonal-F, Serono Laboratories) and thirty-three patients received at least 3 cycles of therapy. Patients were monitored with serial transvaginal sonograms and serum estradiol (E_2) levels. Human chorionic gonadotropin (hCG) was administered when at least one follicle exceeded 19 mm in average diameter, and IUIs were performed on the subsequent 2 days following hCG. Both demographic and outcome parameters were assessed using ANOVA and paired t tests where appropriate.

Results: A comparison of cycle outcome parameters is listed below.

	Days of stim	Tot dose (IU)	# Amps	# Foll > 18 (mm)	# Foll > 14 (mm)	E_2 @ hCG (pg/mL)	Lut phase (days)
Cycle 1	8.6	1471.8	19.6	1.87	3.7	920.4	12.0
Cycle 2	9.0	1728.4	23.0	2.24	4.3	1055.4	12.9
Cycle 3	8.8	1877.3	25.0	2.09	4.3	1044.4	12.7
p Value	0.8	<0.01	0.01	0.08	<0.05	0.1	0.1

Statistically significant differences were observed in terms of total dose of gonadotropin required, total # of ampules administered, and number of follicles >14 mm on the day of hCG administration. There were also trends toward differences in number of follicles ≥18 mm, peak E_2 level and luteal phase length.

Conclusion: Significant cycle to cycle variability is present in patients treated with recombinant gonadotropins. In light of the significant purity and consistency present in these products, the intercycle variability observed in patients stimulated with repeated cycles of gonadotropins appears more likely to be due to intrinsic factors, rather than to gonadotropin variability.

IMAGING

Wednesday, October 25, 2000

P-445

Sonohysterography (SHG): A Prospective Study to Determine Patient Acceptability of SHG Over Hysterosalpingography (HSG) in the Assessment of Uterine Structural Abnormalities and Tubal Patency. G. S.