

TABLE 1. Cycle characteristics of patients undergoing OI/IUI to IVF conversions (n = 182), stratified by GnRH antagonist therapy

Cycle parameter	GnRH antagonist	No GnRH antagonist
Age	34.7 ± 3.9	34.0 ± 3.8
Day 5 E2 (pg/ml)	509 ± 339	420 ± 316
Follicle no. day of hCG	16.9 ± 6.1	15.6 ± 5.0
E2 day of hCG (pg/ml)	1903 ± 793	1900 ± 747
No. retrieved oocytes	15.9 ± 7.3*	14.1 ± 6.5
No. mature oocytes	13.2 ± 5.6*	11.4 ± 5.7
Egg to follicle ratio	0.97 ± 0.36	0.91 ± 0.33
No. fertilized embryos	9.8 ± 4.8*	7.6 ± 5.0
Fertilization rate	0.64 ± 0.23*	0.74 ± 0.18
No. transferred embryos	2.32 ± 0.86	1.91 ± 0.88
Pregnancy rate	65.1% (28/43)*	48.2% (67/139)

*Statistically significant difference.

CONCLUSIONS: For patients identified at time of oocyte retrieval, GnRH antagonist use in OI/IUI to IVF conversions was associated with increased pregnancy rates and a favorable effect on intermediate cycle parameters even when controlling for age and E2 levels on day of HCG. Addition of a GnRH antagonist should be considered in OI/IUI cycles converted to IVF. *Supported by:* None.

P-531

GnRH ANTAGONIST PREVENTS PREMATURE LUTEINIZATION IN INTRAUTERINE INSEMINATION CYCLES: A RATIONALE FOR ITS USE. J. Martinez-Salazar, M. Cerrillo, G. Quea, A. Pacheco, J. A. Garcia-Velasco. IVI-Madrid, Madrid, Spain; Rey Juan Carlos University, Madrid, Spain.

OBJECTIVE: There is a great controversy on whether the use of GnRH antagonist are beneficial for patients undergoing intrauterine insemination (IUI), as some but not all authors showed increased cycle outcome. The aim of our study was to determine the prevalence as well as the effect of premature luteinization (PL) in patients undergoing intrauterine insemination, and explore the possibility of improving the outcome of these patients by preventing previous PL with GnRH antagonists.

DESIGN: Prospective, observational study.

MATERIALS AND METHODS: Between June 2004 and December 2006, we evaluated 709 patients undergoing IUI. COH was started on day 3 with r-FSH (Puregon, Organon, Spain). Gonadotropin starting doses were calculated based on BMI and age of the patient, (75 to 100 IU). GnRH antagonist was started when at least one follicle reached ≥ 14 mm. r-hCG was given when at least one follicle ≥ 18 mm was observed. Two IUI 12 and 36 hours after rhCG injection were scheduled. Serum hormonal determinations (estradiol, FSH, LH and progesterone -P4) were performed on stimulation day 1 and on the day of hCG administration. PL was defined as progesterone levels ≥ 1.2 ng/mL or if LH levels duplicated from day 3 to r-hCG day. Pregnancy was defined as the presence of gestational sac on transvaginal ultrasound.

RESULTS: 709 patients undergoing IUI were evaluated. Incidence of PL was 10.1%. In those patients without PL, pregnancy rate was 17.4% whereas patients with PL due to either elevated P4 and/or two-fold LH showed comparable PR (22%). In order to elucidate which patients would benefit most from PL prevention, we divided patient with PL in two groups: a) those with an increased P4, who showed a PR (11.5), and b) patients with elevated serum LH -probably peaking LH- but no P4 elevation, who had high pregnancy rate (30.4%). 22 patients who had elevated P4 in the previous unsuccessful cycle repeated a new cycle with the administration of GnRH antagonist, and PR was 18.1%. In spite of GnRH antagonist, 6 patients in this group (27%) again showed high serum P4 levels. 26 patients who had elevated serum LH in the previous cycle, repeated again with the GnRH antagonist, and their PR was 23%; still, 3 patients showed high P4 levels.

CONCLUSIONS: PL is a frequent event that is associated with lower pregnancy rate in IUI cycles. We observed that the addition of a GnRH antagonist in this specific group of patients may improve PR in patients who showed PR in a previous unsuccessful cycle.

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EFFECT OF GONADOTROPIN RELEASING HORMONE (GnRH) ANTAGONISTS IN FOLLICLE STIMULATING HORMONE (FSH) STIMULATED INTRAUTERINE INSEMINATION (IUI) CYCLES. F. Sungar, A. Ozay, M. Atay, K. Elter, H. Ozornek. EUROFERTIL, Reproductive Health Center, Istanbul, Turkey.

OBJECTIVE: This retrospective trial was designed to proof whether the use of GnRH antagonists could prevent the occurrence of premature LH rises and/or increase the conception rate in women underwent IUI cycles.

DESIGN: Retrospective study.

MATERIALS AND METHODS: A total 98 patients were divided into two groups. All women were treated with an individualized low dose rFSH (Gonal F, Merck Serono, Switzerland) regimen started on day 2-3 of menstrual cycle. In group A (n = 56) GnRH antagonist (Cetrotide 0.25, Merck Serono, Switzerland) was added to therapy if at least one follicle >14 mm were measured at ultrasound. In group B (n = 42) no GnRH antagonist was used. Ovulation was triggered by 10.000 IU hCG (Pregnyl, Organon, Switzerland) when at least one follicle >18 mm was observed and a double IUI was performed 12 and 32 hours later. The primary efficacy outcome were the incidence of premature LH rises and conception rates. All results were analysed by using the Chi-square test and Student's t test and P<0.05 was considered statistically significant.

RESULTS: Baseline characteristics of the two groups were similar. Duration of antagonist use was 2.6 days. In group A, one patient and in group B, 5 patients had a premature LH rise. The difference was statistically significant (P<0.05). The conception rates were similar in groups A and B 19.6% vs. 19.0% respectively.

TABLE

	Group A (n = 56)	Group B (n = 42)	
Age	28,7	29,2	NS
Basal FSH (pg/ml)	6,3	5,8	NS
Basal LH (pg/ml)	6,3	5,5	NS
Length of stimulation (days)	9,6	8,2	P<0.03
Total dose of FSH (IU)	1018	913	NS
Number of dominant follicle	1,75	1,54	NS
Endometrium thickness (mm)	9,0	8,8	NS
Peak estradiol (pg/ml)	618	528	NS
Premature LH surge (%)	1,79	11,9	P<0.05
Conception rate (%)	19,6	19,0	NS

NS: non significant.

CONCLUSIONS: Treatment with GnRH antagonist effectively prevent premature LH rises in FSH stimulated IUI cycles but have no improving effect on conception rates.

Supported by: None.

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INTER-FOLLICULAR PARACRINE INFLUENCES ON DAILY PROPORTIONATE RISES IN SERUM ESTRADIOL (DPRE; %/DAY) DURING CONTROLLED OVARIAN HYPERSTIMULATION (COH). B. A. Stone, J. M. Vargyas, G. E. Ringler, C. M. March, R. P. Marrs. Reproductive Technology Laboratories, Los Angeles, CA; California Fertility Partners, Los Angeles, CA.

OBJECTIVE: Initial ANOVA of 1894 consecutive COH cycles of normal (N = 967) and poor (N = 927) responders established lower DPRES and lower oocyte yields with patient aging. As anticipated, gonadotropin demands also rose with advancing age, and were consistently higher in poor responders. DPRES in younger poor responders during COH were near those established for the natural follicular phase (near 42%/day), values for normal responders were higher (near 55%/day). This study examines elements of this unexpected divergence.

DESIGN: Multivariate (MLR) analysis of elements of 1894 COH cycles in a private ART clinic.

MATERIALS AND METHODS: DPRES were derived from the slope of the line relating ln-transformed E values against the day of stimulation. For each cycle, DPRES were computed between days 1 and 5, and between days 5 and 10 of stimulation. Stepwise MLR was then performed between the DPRES values and a string of quantifiable elements of the COH cycle.