

Outcome of GnRH antagonist cycled in high responder patients undergoing IVF. Jacob Farhi, Ariel Weissman, Hana Nahum, Zohar Steinfeld, Marek Glezerman, David Levran. Wolfson Medical Ctr, Holon, Israel.

Objective: The use of down-regulation protocols with a GnRH agonist is known to be associated with an increased risk of OHSS. It has been suggested that application of a GnRH antagonist protocol in patients at high risk for OHSS may result in an attenuated response without compromising cycle outcome. Our aim was to evaluate the efficacy of the GnRH antagonist ‘Cetrorelix’ in patients who had previously exhibited a high response to the standard long protocol.

Design: Observational study.

Materials and Methods: The study population consisted of 38 high responder patients defined during previous IVF cycles in which ³²⁰ oocytes were retrieved and E2 level exceeded 4000 pg/mL on hCG day or coasting was applied due to an increased risk of OHSS. The GnRH antagonist protocol consisted of ovarian stimulation with FSH at a dose of 1.5-3 ampules per day for 5 days followed by stimulation with hMG in a dose adjusted to the ovarian response. Cetrorelix was administered in the multiple-dose protocol once the lead follicle reached 14mm. For each patient, GnRH antagonist cycle characteristics were compared to a previous long GnRH agonist cycle in which the same starting dose of FSH was used.

Results: Compared to matched long protocol cycles, the use of a GnRH antagonist multiple dose protocol resulted in a similar duration of gonadotropin stimulation (11.9 ± 3.0 vs 10.9 ± 3.2 days), total number of gonadotropin ampules injected (25.4 ± 7.9 vs. 26.6 ± 10.3), E2 level on hCG day (2718 ± 899 vs 2513 ± 972 pg/mL), number of oocytes retrieved (15.7 ± 5.8 vs 13.1 ± 5.4) and a similar fertilization rate (65 ± 23% vs 63 ± 22%). The use of GnRH antagonist did not eliminate the need for coasting (n=4) compared to cycles with the long protocol (n=10).

Conclusion: Our preliminary results suggest that application of a GnRH antagonist protocol in high responder patients does not lead to an attenuated response compared to the long protocol once the same gonadotropin starting dose is being used. Thus, in order to obtain softer stimulation in high responders, one should focus on the gonadotropin starting dose rather than on the GnRH analogue regimen applied.

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A randomized, prospective study of microdose leuprolide versus oocyte donation in poor response patients. Laura S. Kanzaspolky, Ester Polak de Fried. CER Medical Institute, Buenos Aires, Argentina.

Objective: Oocyte donation is the main indication for the poor responding patient. Not all the patients agree to accept donated oocytes. This current investigation compares ART outcome and ongoing pregnancy rate using a microdose GnRH agonist protocol in the treatment of “poor responders” undergoing IVF with “poor responders” undergoing oocyte donation.

Design: A randomized prospective study.

Material/Methods: One hundred three patients with a poor response during previous gonadotropin stimulated cycles were randomized to treatment with 300 IU rFSH and 300 IU hMG, in combination with follicular phase microdose leuprolide acetate 40 µg (Group A, 55 patients), or oocyte donation with our standard protocol (Group B, 48 patients). Demographics parameters of the two groups were analyzed for age, duration of infertility, day 3 FSH, LH and E2, diagnosis, number of previous attempts, weight, height and body mass index.

In both groups were analyzed : fertilization rate, number of embryos transferred, implantation rate and ongoing clinical pregnancy rate. In Group A the cancellation rate was also evaluated. Statistical analysis was done using T test, chi Square or Fisher’s exact tests.

Results: No statistical significant differences were presented in the demographic parameters between the two groups. No cancellation rate was present in Group A for inadequate follicular development (≤ 3 follicles ≥ 16 mm.), and the mean number of oocytes retrieved was 4.89 ± 3.14. For groups A and B fertilization rates were 78.75 % and 88% (p<0.001); mean number of embryos transferred 2.64 ± 1.33 and 2.2 ± 0.5 (NS); implantation rates 12.8% and 25.69% (p<0.028); and ongoing pregnancy rates 27.27% and 45.8% (p<0.040), respectively.

Conclusions: Oocyte donation is still the better indication for poor responder patients. In the other hand microdose protocol, infrequently used in many countries, for the treatment of poor responders appears to be effective

because no cycle cancellation was occur, and acceptable ongoing pregnancy rate was present. This should be a most popular indication for poor responder women who refuse oocyte donation, to have the opportunity to achieve a pregnancy with their own oocytes.

ART: PGD, MICROMANIPULATION, LAB TECHNIQUES

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Fertilization and pregnancy rates when TESE and PESA are carried out 24 hours before or the day of ICSI. Maria L. Arenas, Roberto Santos, Samuel Hernandez, Genaro Garcia, Eric Saucedo, Pasquale Patrizio. Inst para el Estudio de la Concepcion Humana, Monterrey, Nuevo Leon. Mexico; Dept Obstetrics- Gynecology Div of Human Reproduction, Univ of Pennsylvania, Philadelphia, PA.

Objective: To determine fertilization and pregnancy rates in patients with surgical retrieval of epididymal and testicular spermatozoa incubated either 4 or 24 hours before intracytoplasmic sperm injection (ICSI).

Design: Prospective study.

Materials and Methods: A total of 40 patients requiring surgical sperm retrieval because of non-obstructive and obstructive azoospermia were evaluated. Fifteen patients underwent testicular sperm extraction (TESE) and 25 epididymal aspiration (PESA). In the TESE group 7 patients with non-obstructive azoospermia. Epididymal and Testicular spermatozoa were incubated either 4 or 24 hours before ICSI. 10 (TESE) and 12 (PESA) patients were done 24 hours before ICSI. Fertilization and clinical pregnancy rates were evaluated in each group.

Results: Fertilization rates with epididymal sperm retrieved the day of ICSI or 24 hours earlier were 55.31% and 63.49% respectively. Pregnancy rates were 46.15% (4 hours) and 50% (24 hours) respectively. Fertilization rates with testicular sperm were 40.81% at 4 hours and 52.12% with 24 hours of incubation. Pregnancy rates were 40% (4 hours) and 40% (24 hours). There were no statistical differences in the outcome between groups.

Conclusion: Epididymal or testicular sperm procurement performed 24 hours before egg retrieval does not improve fertilization nor pregnancy rates when compared to procedures performed on the same day.

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The impact of ICSI technique on implantation and delivery rates. Amin Khabani, Karl R. Hansen, Angela C. Thyer, Nancy A. Klein, Lynette Scott. Univ of Washington, Seattle, WA.

Objective: Since the introduction of ICSI, there have been minimal refinements to the injection technique. Various methods of breaking the oolemma and sperm placement have been employed, such as entry with aspiration, aspiration of cytoplasm to mix sperm and oocyte, and stroking the membrane to break it. The position of needle entry and sperm placement (in relation to the meiotic spindle) and the ICSI operator (relating to individual technique) have been suggested to correlate with clinical outcome. This study analyzed the data from a single ICSI operator over a three-year period where two different techniques were employed.

Design: Retrospective analysis, university based ART program

Methods: The fertilization (FR), clinical pregnancy (CPR), delivery (DR) and implantation (IR) rates were compared between the two techniques. The techniques employed were as follows: A—polar body always at 6 or 12 o’clock, needle entry straight in at 90 degrees, withdrawal, re-entry with aspiration of cytoplasm, and deposition of sperm in the mid region of the oocyte; B—polar body always at 6 o’clock, needle entry straight in at 90 degrees, partial withdrawal, redirect needle to 11 o’clock which stretches the membrane and gently breaks it, no cytoplasm aspiration, and deposition of sperm to the periphery of the oocyte at 10-11 o’clock. The data were stratified by maternal age and day of embryo transfer.

Results: The results are shown in Table I, below:

	A		Total	B		Total
	<40	≥ 40		<40	≥ 40	
Age						
N	278	73	351	155	62	217
FR (%)	80	78	79	78	81	79
CPR (%)	41	25	38	54*	37	49*
DR (%)	35	22	32	50*	32	45*
IR (%)	26	15	23	36*	17	30

B vs. A, P<0.01