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THE USE OF COENZYME Q10 AND DHEA DURING COH AND IVF CYCLES IN PATIENTS WITH DECREASED OVARIAN RESERVE (DOR). I. Gat,[a] S. Blanco Mejia,[b] H. Balakier,[a] C. L. Librach,[a] A. Claessens,[b] E. A. J. Ryan.[b] [a]Create Fertility Centre, Toronto, ON, Canada; [b]Toronto West Fertility Center, Etobicoke, ON, Canada.

OBJECTIVE: Treatment of patients with diminished ovarian reserve (DOR) is one of the biggest challenges in assisted reproductive therapeutics. Dehydroepiandrosterone (DHEA) and Coenzyme Q10 (CoQ10) are supplements that have been purported to have a beneficial effect in these patients. Our objective was to compare the effect of combining DHEA and CoQ10 supplementation with DHEA alone in COH and IVF cycles in patients with DOR.

DESIGN: Clinical retrospective study.

MATERIALS AND METHODS: We extracted data from patients charts treated by DHEA (25mg tid) with/without CoQ10 (600mg daily) in a private infertility clinic between Feb. 2006 to June 2014. Pre-stimulation parameters analyzed included age, BMI, day 3 FSH and antral follicular count (AFC). Ovarian response parameters analyzed included total dose of gonadotropins, peak serum estradiol (E2), follicles number > 16 mm on day of triggering and fertilization rate for IVF cycles. Clinical outcomes analyzed included clinical and ongoing pregnancy rates per cycle initiated.

RESULTS: 797 COH cycles and 253 IVF cycles were included. Of these, 330 COH cycles involved both DHEA and CoQ10 (D+C) and 467 cycles of DHEA (D) alone; 78 IVF cycles involved D+C and 175 D. In both COH and IVF groups, AFC was significantly higher with D+C compared to D alone (7.4±5.7 vs. 5.9±4.7 and 8.2±6.3 vs. 5.2±5, respectively, p 16 mm on the trigger day during COH cycles (3.3±2.3 vs. 2.9±2.2, respectively, p=0.01), but no difference was observed in IVF cycles (5.5±3.5 vs.5.9±4.6, p=0.4). There was lower gonadotropin consumption during D+C IVF cycles compared with D cycles (3,414±1141 IUs vs. 3,877±1143 IUs respectively, p=0.032) without difference in the COH comparison. For COH cycles there was no difference in clinical or ongoing pregnancy rates in the D+C vs. D groups (8.1 vs. 10.9, p=0.2 and 6.2 vs. 8.2, p=0.3, respectively). Similarly, there was no difference regarding clinical or ongoing pregnancy rates in the D+C vs. D groups in the IVF cycles (25.1 vs. 29.5, p=0.5 and 21.1 vs. 23.1, p=0.7, respectively).

CONCLUSIONS: Combined DHEA and CoQ10 supplementation significantly increases the AFC compared to DHEA alone, which lead to a higher ovarian responsiveness during both COH and IVF, but without a difference in pregnancy rate.

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EARLY GNRH-ANTAGONIST INITIATION DOES NOT IMPROVE PREGNANCY RATES OF PCOS CASES UNDERGOING IVF/ICSI: A PROSPECTIVE RANDOMIZED STUDY. C. S. Atabekoglu,[a] E. Kocbulut,[a] E. G. Pabuccu,[b] B. Ozmen,[a] B. Berker,[a] M. Sonmezer.[a] [a]Obstetrics and Gynecology, Ankara University School of Medicine, Ankara, Turkey; [b]Ufuk University School of Medicine, Ankara, Turkey.

OBJECTIVE: Is to assess the effect of early GnRH antagonist initiation on the hormonal environment and pregnancy outcomes of Polycystic Ovary Syndrome (PCOS) patients undergoing in vitro fertilization cycles due to unexplained infertility.

DESIGN: Prospective randomized, pilot study.

MATERIALS AND METHODS: Twenty-four women participated in a prospective randomized trial. Diagnosis of PCOS was based on Rotterdam Criteria (1). Inclusion criteria were: age < 38 year, no more than two previous failed IVF attempts, body-mass index between 18-29 kg/m2, no endometriosis or previous poor response to ovarian stimulation. Following 1 month of oral contraceptive pill usage, all participants were stimulated with daily recombinant FSH at doses ranging from 150 IU to maximal of 200 IU according to ovarian reserve and/or body mass index values, starting on day 2 of the cycle. Patients received GnRH-antagonist, starting either on day 2 (n = 12, early antagonist group) or on day 6 of stimulation (n = 12, flexible antagonist group). Primary outcome was to compare the serum progesteron (P) levels on the day of hCG administration between groups. Secondary outcome was to compare implantation and clinical pregnancy rates.

RESULTS: Demographic characteristics of the groups were similar in terms of age, BMI, previous history and ovarian reserve. Serum P concentrations were not differed among groups both during early follicular phase and on the day of hCG. Other outcome measures including mature oocyte yield, fertilization-implantation and clinical pregnancy rates were also comperable among groups (p <0.05), except maximal endometrial thickness that was detected significantly higher in flexible antagonist group (p=0.04).

CONCLUSIONS: Early administration of GnRH antagonist, compared with standart flexible antagonist protocol does not seem to affect serum P concentrations and implantation rates in PCOS patients undergoing IVF/ICSI. Higher mature oocyte yield with early antagonist initiation is noteworthy and this result was attributed to early follicular synchronization. However, this beneficial effect needs to be justified with larger trials.

Cycle outcomes of groups.

	Early antagonist group	Flexible antagonist group	p value
Day 2 P (ng/ml)	1	0.82	0.057
P on hCG day (ng/ml)	1.2	1	0.386
Peak Endometrial echo (mm)	9.15	11.5	0.043
MII oocyte (n)	15.5	11	0.155
Fertilization (%)	47	54.5	0.311
G1 cleavage embryo (n)	3	3	0.561
Implantation (%)	36	20.7	0.210
Clinical pregnancy (%)	50	41.7	0.682
Live births (n)	5	4	0.824
Abortions (n)	2	1	0.642

Reference:

1) Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome.Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Fertil Steril. 2004 Jan;81(1):19-25.

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CORIFOLLITROPIN ALFA COMBINED WITH GNRH AGONIST TRIGGERING APPEARS TO BE SAFE AND EFFICIENT OPTION IN OOCYTE DONATION CYCLES. A PROSPECTIVE LONGITUDINAL STUDY. D. Kyrou,[a] R. Najdecki,[a] E. Pagou,[a] E. Katsoula,[a] E. G. Papanikolaou.[a,b] [a]Assisted Reproduction Unit, Assisting Nature, Thessaloniki, Greece; [b]3rd Obstetrics and Gynecology Department, Thessaloniki, Greece.

OBJECTIVE: To explore whether differences existed between the use of (Elonva®) and gonadotrophin releasing hormone (GnRH) agonist for triggering and the traditional stimulation schema with recombinant FSH and human chorionic gonadotrophin (hCG) for triggering in terms of efficacy, safety and patient friendliness in oocytes donation cycles.

DESIGN: This prospective longitudinal study including donation cycles was conducted between January 2010 to April 2014.

MATERIALS AND METHODS: Forty donors underwent two consecutive antagonist stimulation schemes; the traditional one with recombinant FSH and hCG triggering and the patient friendly with long-acting-FSH and GnRH agonist for triggering. The first IVF cycle was triggered with rec hCG (Ovitrelle®) and the second one with GnRH agonist (Buserelin®). The primary outcomes were OHSS rate, and delivery rate per donor. Secondary outcomes were mean of COCs and MII oocytes. Donors were asked to fill in a questionnaire regarding the experience after the two different protocols.

RESULTS: Overall, 40 oocyte donors performed 80 stimulation cycles, triggered for the first cycle with hCG and the second with GnRH agonist. There was no difference between the two modalities regarding the number of oocytes (18.9 ± 10.5 with recFSH+hCG-triggering vs. 17.4 ± 8.1 with corifollitropin alfa +GnRH-agonist triggering, p=0.51); the number of MII (14.5 ± 8.8 with recFSH+hCG-triggering vs. 13.1 ± 6.4 with corifollitropin alfa+GnRH-agonist, p=0.41) and the number of transferred embryos (2.17 ± 0.5 with recFSH+hCG vs. 2.1 ± 0.6 with corifollitropin alfa+GnRH-agonist, p=0.43). However, the luteal phase duration was significantly lower after Agonist (5,6 days) compared to hCG (10.9) days, p<0.05. One case of moderate OHSS (3.5%) was noticed after hCG triggering whereas no case of OHSS occurred after Agonist. The clinical pregnancy rate per donor was 72.5% (29/40) after hCG as compared with 67.5% (27/40) after Agonist, p<0.05. Similarly the delivery rates were equal 57.5% (23/40) in both groups. In the questionnaire, donors rated the follicular phase compliance