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[P-447] Comparison of blastocyst formation between standard and clomiphene citrate (CC) stimulated in vitro fertilization (IVF) cycles.

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Objective: Many studies have shown that single blastocyst transfer can achieve pregnancy rates comparable to that of multiple embryo transfer. Nonetheless, controlled ovarian hyperstimulation (COS) with daily injection of gonadotropins designed to produce large numbers of eggs is the most commonly employed protocol in human IVF. The aim of current study is to determine whether a less expensive, minimal stimulation IVF protocol using clomiphene citrate (CC) in combination with a small addition of human menopausal gonadotropin (hMG), yielding only a modest number of eggs, will produce blastocysts with success rates similar to standard protocols which are designed to yield many eggs. Design: Prospective and randomized. Materials and Methods: Patients enrolling for IVF were randomized into two groups. Both groups received one cycle of oral contraceptives (OCP's) before commencement of IVF stimulation. Group 1, clomiphene citrate protocol (CC-IVF): daily clomiphene citrate 50 mg was initiated orally on day 3 after OCP's until gonadotropin releasing hormone agonist (GnRHa) nasal spray (Synarel) was administered. hMG 150 IU subcutaneous (SQ) every 48 hours was begun on day 8. Group 2, microdose GnRHa (Lupron) flare protocol (Lupron-IVF): Lupron 25 mcg SQ was begun on cycle day 3 after OCP's followed by daily recombinant follicle stimulating hormone (rFSH) 150-225 IU plus human menopausal gonadotropin (hMG) 75-150 IU SQ on day 5 after OCP's. Final oocyte maturation was triggered by GnRHa nasal spray (Synarel) in the CC-IVF protocol, and by 250 mcg recombinant hCG in the Lupron-IVF protocol. Follicular development was monitored by transvaginal ultrasound as well as plasma estradiol and LH levels. All monitoring and oocyte retrievals were performed by the same physician and all IVF procedures were performed by the same embryology team within the same period of the time. Statistical analysis was

performed using t-test and chi square analysis. Results: As displayed in the table dramatically less gonadotropin was used in the CC-IVF cycles than the Lupron-IVF cycles. While the average numbers of oocytes obtained and subsequent number of blastocysts were higher in Lupron-IVF cycles, the blastocyst formation rate was similar between the CC-IVF cycles and the Leupron-IVF cycles. Conclusion: The minimal stimulation protocol with clomiphene citrate and hMG produces fewer oocytes as compared with a standard protocol using daily injection of rFSH, hMG and GnRHa. However, the oocytes obtained from the minimal stimulation protocol have similar potential to generate blastocysts. Minimal stimulation simplifies IVF procedures, and reduces the incidence of hyperstimulation syndrome. Single blastocyst transfer with minimal ovarian stimulation will also reduce the risk of multiple pregnancy and its complications. Support: None

Comparision between CC-IVF and Lupron-IVF			
	CC-IVF n= 37	Lupron-IVF n= 31	P value
Age	38.243±5.866 (23-52 y.o).	34.548±4.682 (26-43 y.o).	<0.05
No. IU r-FSH	0	1913.3±396.5	
No. Amples hMG	6.5±0.9	18.4±1.2	<0.05
Estradiol day of r-hCG or Nasal Spray	892±522	2113.3±1062.9	<0.05
No. MII oocytes	2.4±1.6	8.2±4.7	<0.05
Maturation(%)	93.5	90	0.892
Fertilization(%)	87.4	80.6	0.729
No. Blastocysts	1.1±1.1	3.1±2.3	<0.05
Blastocyst Formation(%)	46.0	38.3	0.489