Conclusion: Apoptosis appears to occur in human non-viable embryos, granulosa-luteal cells and late secretory endometrial stromal cells. Interestingly, none of the apoptosis related genes were detected in immature and non-fertilized oocytes. This suggests that fertilization initiates apoptosis related gene expression in human embryos. In nonviable embryos, Bax and Fas genes were greatly expressed, yet the BCL-2 gene was completely suppressed. Therefore, embryo quality is related to the up regulation and down regulation of gene expressions. Through further study of the mechanism of apoptosis in human embryos, we may gain insight into improving embryo viability and quality.

O-093
Plasmatic and Follicular Fluid Levels of a New GnRH Antagonist (Cetrorelix) Used in IVF Patients With a Simple Single Administration Protocol in the Late Follicular Phase in Stimulated and Spontaneous Cycles. F. Olivennes, S. Alvarez, R. Fanchin, P. Bouchard, J. Salat-Baroux, R. Frydman. Dept of Ob-Gyn, A. Béclère Hospital, Clamart, France; Dept Ob-Gyn, Tenon Hospital, Paris, France; Dept of Endocrinology, St Antoine Hospital, Paris, France.

Aim of the Study: To study plasmatic and follicular fluid levels in a new GnRH antagonist (Cetrorelix) used with a single injection administered in the late follicular phase.

Patients: Stimulated cycles: 78 infertile couples with women under 38 years old with tubal, idiopathic or endometriosis (stage I and II) related infertility. Male factors were excluded. Spontaneous cycles: patients with male infertility and indication of ICSI selected since female fertility is not altered.

Treatments Procedures: Stimulated cycles: IVF with hMG started on day 2 of the menstrual cycle. The Cetrorelix (ASTA Medica-Frankfurt-Germany) was administered in a single injection of 3 or 2 mg for the 78 patients. Spontaneous cycles: a single injection of 1 mg cetrorelix was done when 1 follicle of 14 mm was detected. Triggering of ovulation was performed with 10.000 UI of hCG when usual criterias for oocytes maturation were observed. Natural progesterone was administered vaginally for luteal support. Plasmatic Cetrorelix levels during the IVF cycle and follicular fluid Cetrorelix level at the time of oocyte retrievals were assessed using radio immuno assays.

Results: In the stimulated cycles, the mean plasmatic level in the 3 mg group was 0.98 ± 0.40 ng/ml on the day of retrieval and 0.79 ± 0.32 ng/ml on the day of the transfer. In the 2 mg group these figures were respectively 0.71 ± 0.30 ng/ml and 0.61 ± 0.34 ng/ml on the days of retrieval and transfer respectively. The follicular fluid mean level was 0.79 ± 0.39 ng/ml and 0.83 ± 0.35 ng/ml for the 3 and 2 mg group respectively. The IVF results were with normal range as for oocytes (5.3 ± 4.4), fertilization rate (77.9%) and embryos (5.3 ± 3.6). Overall, 30 clinical pregnancies (34.1% per retrieval) were obtained. In the spontaneous cycles preliminary results show 1 pregnancy on the 4 first patients and full data will be presented at the time of the meeting. The tolerance was excellent.

Conclusion: A 3 mg single injection of Cetrorelix in the late follicular phase was able to prevent LH surge. The Cetrorelix concentration shows a rapid decrease after a single administration with very low level at the time of embryo transfer. Follicular fluid concentration reflected plasmatic levels as expected. Comparisons with the multiple dose protocol of administration remain to be done. The spontaneous cycle assisted with an antagonist administration could represent an interesting alternative to stimulated cycles. The GnRH antagonist has a bright future in IVF. This single dose protocol offers simplicity and efficacy to the patient.

O-094

Objective: To compare the clinical efficacy of gonadotropins administered subcutaneously or intramuscularly.

Design: Prospective randomized study of women undergoing IVF treatment in a tertiary referral center.

Materials and Methods: Seventy-one patients, undergoing total of 162 IVF treatment cycles, were randomized to receive either subcutaneous (n = 41) or intramuscular (n = 30) administration of gonadotropins. Up to three cycles of ovarian stimulation with gonadotropins (Normegon, Organon, Cambridge, U.K.) administered either subcutaneously or intramuscularly for ovarian stimulation were assessed. The main outcome measures were the number of oocytes retrieved and the cumulative pregnancy and live birth rates.

Results: The mean number of oocytes retrieved was 10.5 for each group. The number of days of stimulation was significantly shorter for the subcutaneous group (11.7 ± 1.9 days) than the intramuscular group (12.8 ± 2.3 days). Also, the mean total number of ampules of Normegon used for ovarian stimulation was higher for the intramuscular group (49.9 ± 26.7) than the subcutaneous group (45.9 ± 25.0) although the differences were not statistically significant. There were no significant differences in the total number of follicles, fertilization rate, total number of embryos produced or cumulative embryo score between the two groups. The cumulative conception rates after three IVF cycles were 59.3% and 64.5% after subcutaneous and intramuscular administration respectively. The cumulative live birth rates after three cycles of treatment were 47.6% and 53.9% for the subcutaneous and intramuscular groups, respectively.

Conclusions: This study suggests that the clinical efficacy between subcutaneous and intramuscular administration of gonadotropins are comparable.