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# P147. Novel multiple consecutive stimulation protocol - shortening duration of infertility treatment

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Context
In infertility treatment there are many cases when patients need to accumulate oocytes or embryos for fertility preservation, for planned preimplantation genetic testing, or due to low ovarian reserve (patients would benefit from shortening duration of their treatment).
Objective
Our objective in the this study is to develop an effective multiple stimulation protocol that would allow patients to undergo consecutive cycles. This would enable them to collect the desired number of oocytes or embryos in a short period of time.
Methods
Study included women aged over 37 who in previous attempts obtained few or no transferrable embryos.
Patient(s)
The preliminary stage of the study included 16 patients that underwent 2 (14 patients) or 4 (2 patients) consecutive stimulations. Mean age: 40.4 yo (SD 2.1) & mean basal AMH level: 1.78 ng/ml (SD 0.87 ng/ml).
Intervention
Initial stimulation was performed with contraception priming and gonadotropin dosage was based on patients basal AMH level. As per standard procedure luteinizing hormone (LH), estradiol (E2) and progesterone (PRG) levels were monitored and on day 7 decision was made about extending the stimulation. Ovulation was triggered with triptorelin 34 hours prior to scheduled oocyte retrieval (OR).
Retrieved oocytes were fertilized using ICSI procedure and cultured for 5-6 days. The decision to start the consecutive stimulation cycle was made based on the number of top quality embryos obtained.
Hormonal parameters were assessed at the start of cycle 2. Gonadotropin dosage was again based on patient's AMH level. Patients did not receive any medication to block premature LH surge due to the level of endogenous progesterone up to day 12 from the previous OR.
The reminder of the second cycle was managed as in the first one. Based on the number of embryos obtained decision was made to continue consecutive stimulations.
Main Outcome Measures
Primary outcome: number of top quality blastocysts in each cycle. Secondary: comparison of the number of obtained oocytes (COC), mature oocytes, fertilization and cleavage rates in each cycle.
Results
Mean number of blastocysts were 1.6 and 1.4 in 1st and 2nd cycle, COC – 9.0 & 8.9, MII - 6,6 & 7,1.
Conclusions

This appears to be a promising method of shortening duration of treatment for patients who need to accumulate embryos or face the pressure of time in their attempts to start a family. We are continuing this study and working on optimizing the protocol.

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