P-611 Innovative controlled ovarian stimulation (COS) for polycystic ovary syndrome (PCOS) produces high-quality oocytes and no ovarian hyper stimulation syndrome (OHSS)

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Study question: How can we find an ovarian stimulation method that does not cause hyper stimulation syndrome but can produce a high pregnancy rate at one cycle?
Summary answer: This newly developed method for PCOS has a higher accumulative clinical outcome for one trial and no OHSS.
What is known already: Almost all conventional treatments for PCOS have managed to avoid OHSS by reducing the number of growing follicles, which are associated with high Estradiol levels and stimulate the production of vessel endothelial growth hormone (VEGF), leading to increased vessel permeability. Low dose FSH administration, In vitro maturation (IVM), Ovarian Drilling and Coasting have been performed to achieve this. However, their actual clinical outcome is still unsatisfactory.
Study design, size, duration: Evaluation of the efficiency of this method was conducted retrospectively at St. Mother Clinic. The embryonic development and the clinical outcome were studied for 34 PCOS patients during the period between November 2018 and December 2019.
Participants/materials, setting, methods: We started injections of FSH (150iu/ml), then we did ultrasound follicle monitoring. GnRH antagonist shots were started when the leading follicle reached 18mm and continued until the largest follicle was 22-24mm and the E2 value was over 4000pg/ml. Letrozole (2.5mg) and leuprorelin acetate (1.88mg) was injected as trigger. Two tablets each of Letrozole, Cabergoline and GnRH antagonist were given for 5 consecutive days after the oocyte retrieval. All embryos were cryopreserved.
Main results and the role of chance: Number of patients and cycles were 34 and 59. Average number of cryopreserved blastocysts was 6.12 (1-16). The frequencies of OHSS (mild, moderate, severe) were 29.4% (10/34), 0% (0/34), 0% (0/34). Average days between oocyte collection and withdrawal hemorrhage was 5.44(5-7). Cryopreservation rate was 100.0% (34/34). Clinical pregnancy rate and miscarriage rate was 42.3% (25/59) and 16.0% (4/25). The cumulative pregnancy rate was 73.7% (25/34). The four remaining unsuccessful cases still have 10,6,3 and 7 frozen embryos. So, there is a high possibility that they become successful, that would bring the cumulative pregnancy rate up to 82.3% (28/34).
Limitations, reasons for caution: This COS for PCOS seems promising, however it is premature to conclude that this method is established. This method requires caution monitoring for hormone level, follicle size and number and coagulant function. It also accompanied with the risk of ovarian hemorrhage on aspiration of a great number of oocytes.
Wider implications of the findings: This COS seems viable for PCOS cases. It could control the cohort of antral follicles with different doses of Letrozole to find the optimal COH method and it could become the first option for COS of PCOS.
Trial registration number: N/A