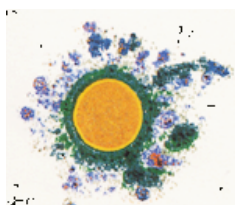


Pulsatile application of FSH/LH in a PCO patient: A new approach to reduce or prevent severe ovarian hyper stimulation syndrome (OHSS)

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INTRODUCTION:

Reducing the incidence of severe OHSS, particularly in PCO patients, is a challenge. Natural cycle or in vitro maturation (IVM) is a promising method to avoid OHSS but pregnancy rates are lower than with conventional IVF. Favorable experience with primary hypothalamic amenorrhea led to the idea of pulsatile application of FSH/LH in a PCO patient. The goal was to avoid over-recruitment of new follicles by applying small amounts of FSH/LH subcutaneously every 90 min.

MATERIALS AND METHODS:

A 35-year-old patient with PCO (Rotterdam criteria) and st.p. bilateral salpingectomy was treated.

1.) IVF/ICSI: Agonist long protocol: E 2: 6272 pg/ml on day before 5000 IU HCG. 46 eggs were retrieved. Two good quality embryos were transferred on day 3; 5 were cryopreserved. The endometrium was suboptimal and pregnancy was not achieved.

Kryo cycle: 5 embryos thawed day 3, 1 for transfer. No pregnancy

2.) IVM: 20 eggs, 6x ICSI. 2 Embryos with suboptimal quality were transferred. No pregnancy.

3.) IVF with pulsatile FSH/LH: After 2 cycles of oral contraception, triptoreline acetate 3.75 was given i.m. Two weeks later E2 1 pg/ml and computer-assisted pump was applied which injected FSH and some days later FSH/LH every 90 minutes (16 times daily) a small amount of gonadotrophins subcutaneously:

Day 0- 5: 52.5 IU FSH/day.

Sonography day 0: 10 antral follicles <5mm

Day 6 -7: 56 IU FSH/day plus 7.5 IU LH.

Due to minimal response in E2 levels, follicle growth

Day 12 Sonography: right ovary: total of 15 follicles, largest follicle 13mm

Left ovary: 7 follicles, largest 13mm.

Endometrium 9mm, 3 layer.

Day 14: largest follicle 17mm. total 25-30 follicles.
6 p.m. stop hormone pump

Endometrium 11mm, 3 layer, E 2: 3876pg/ml
(note: E2 medication since day 8 !)

8 p.m. 10 000 HCG (36 hours prior to ovum pick up).

Day 17: 27 eggs retrieved from all visible follicles. Follicles were 1x flushed using STEINERFlush (mechanical flushing pump) and STEINERValve (electric 3 way valve), invented by the author. Single lumen needle.



Pulsatile FSH Pump

STEINERFlush and
STEINERValve

Video at www.ivfettflex.com

12 x ICSI. Start progesterone 3x 200 mg vaginally. Two good quality 8-cell embryos transferred on day 3, 1 blastocyst vitrified..

Hkt 40, therefore additional 3x luteal support 1500 HCG every 3rd day was possible without risk of OHSS. Pregnancy testing negative.

CONCLUSION:

Pulsatile application of gonadotrophins might be a new