Title: Follicular aspiration vs. coasting for OHSS prevention

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Key words: follicular aspiration, in vitro fertilization (IVF), intra cytoplasmic sperm insemination (ICSI), coasting

Study question: is there any difference between follicular aspiration prior to HCG and coasting in terms of OHSS risk reduction, pregnancy and cancelation rates in COS cycles?

Summary answer: There was no difference between follicular aspiration prior to HCG and coasting in terms of OHSS risk reduction, pregnancy and cancelation rates in COS cycles.

What is known already: follicular aspiration causes intrafolloicular hemorrhage, granulosa cells aspiration, and corpora lutea function alteration in follicles. Follicular aspiration prior to HCG injection should protect more against OHSS occurrence than when done 35-36 hours after HCG. Many studies concluded it was not reducing severe OHSS occurrence in women at high risk, but it showed lower mean number of oocytes obtained.

In comparison, Coasting is postponing the HCG trigger until estradiol (E2) level decreases into a safer level. small follicles will undergo selective regression reducing the granulosa cell mass and vasoactive substances causing OHSS.

Study design, size, duration: prospective study including 39 patients from October 2010 to January 2011.

Participants/ materials, setting, methods: A total of 39 patients undergoing IVF/ICSI cycles at risk of OHSS, 20 patients had coasting and 19 patients had follicular reduction IVF at King Abdulaziz Medical city, Riyadh, KSA.

Main results: Six (30%) women developed OHSS in coasting group and two (10.5%) women developed OHSS in follicular group, p-value=0.235. The pregnancy rates in the cycles were similar for both groups, 4/20 (20%) in coasting group and in 3/19 (15.8%) in follicular group, p-value =1.000. The cancelation rate of the cycles were similar for both groups, 6/20 (30%) in coasting group and in 1/19 (5.3%) in follicular group, p-value =0.09. The median number of follicles punctured was significantly lower in the follicular group 16 follicles (IQR =21-12) compared to coasting group 16 follicles (IQR = 21-12), p-value =0.001. The results were similar in both groups with regards to number of retrieved, fertilized and cleaved oocytes. Similar number of embryo transferred amongst both groups.

Limitations, reasons for caution: Our study was limited to the small patients number included

Wider implications of the findings: Since there is no difference between the two methods in OHSS prevention and coasting is more convenient and safe to the physician and patient in
terms of avoiding additional cost for follicular reduction procedure and time consumed, plus avoiding pain and complications from the procedure and sedation exposure respectively.

**Study finding/competing interest:** There was no difference between follicular reduction prior to HCG and coasting in terms of OHSS reduction, pregnancy and cancelation rates in IVF/ICSI cycles.