

## Day two post retrieval 1,500 IUI hCG bolus, progesterone-free luteal support post GnRH agonist trigger - a proof of concept study.

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**Context:** Small dose of hCG (1,500 IU) on the day of oocyte retrieval, followed by daily progesterone administration, is currently the preferred way to secure adequate luteal support following GnRH agonist trigger.

**Objective:** In the current proof-of-concept study, we explored the possibility that a bolus of 1,500 IU hCG, given two days after oocyte retrieval, may be sufficient to sustain adequate luteal support without additional progesterone treatment.

**Methods:** The study which is retrospective in nature, was conducted at the Department of Obstetrics and Gynecology, IVF Unit, Rambam Health Care Campus.

**Patients and Interventions:** From February 2015 to August 2016 we obtained 44 pregnancies following GnRHa trigger followed by day 2 hCG (1,500 IU) support-only (study group). Data from these 44 cycles were compared with the latest 44 pregnancies obtained following hCG (6,500 IU) trigger followed by conventional progesterone luteal documented (control group).

**Main Outcome Measure:** The primary outcome measure was the live birth rate.

**Results:** Live birth rate was comparable between the two groups with 59.1% and 75% in the study and control groups, respectively (P value= 0.15).

**Mean progesterone levels** (14 days post oocyte retrieval) in the study and control groups were 197nmol/l and 173nmol/l, respectively (NS). **Mean E2 levels** (14 days post oocyte retrieval) in the study group was 6,937pmol/l, significantly higher (P<0.001) than in the control group (3,276pmol/l).

**Conclusions:** We conclude that bolus of 1,500 IU hCG, administered 2 days after retrieval, can provide excellent support, without the need to further supplement with progesterone, thus avoiding the discomfort and burden associated with progesterone.

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