

Abstract Details

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Abstract title:

Dual Triggering versus hCG final maturation in patients over 38 years old, our experience in IVI Santiago

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Study question:

The addition of gonadotropin-releasing hormone agonist (GnRH-a) to the hCG final triggering in low responder patients enhance the percentage of mature oocytes (MII) ?

Summary answer:

In patients with advanced maternal age and low ovarian reserve, the use of dual triggering do not increase the percentage of mature oocytes

What is known already:

In the recent years, the use of the dual triggering in ovarian stimulation has been increased in patients with high rates of immature oocytes in previous cycles in order to obtain higher number of MII and fecundation rate. Also, it has been described higher number of good quality embryos with this technic for oocyte´s maturation induction. These Hypothesis are still controversial

Study design, size, duration:

This is a retrospective study in patients older than 38 years old with low ovarian reserve measured as AMH < 1 ng/ml, ICSI cycles and normal semen or moderate oligoastenoteratozoosperm (OAT). It was divided in 2 groups. The first group has 40 cycles in which the induction was made with hCG and the other group has 58 cycles inducted with dual triggering. Data where obtained between January 2014 and March 2018.

Participants/materials, setting, methods:

This clinical study was performed in IVI Santiago, a private reproduction Clinic with authorization of Ethics Committee of Santiago de Chile. Our patients had no previous ovary pathology like surgery or endometriosis or ovarian cysts. There was no hormonal stimulation in previous cycles. Couples had normal sperm or OAT moderate. We divide them in two groups:

Group A: Triggering with hCG 6500 UI

Group B: Triggering with dual triggering: hCG 6500 UI and a-GnRH 20 UI

Main results and the role of chance:

There was no statistical difference between both groups in the selection criteria like Age, days of stimulation, or AMH value. We couldn´t determinate a statistical difference in number of aspirated

oocytes triggered with DT vs hCG 4.45+2.26 (3.85; 5.04) vs 5.1+3.36 (4.03; 6.17), in the number of mature oocytes retrieved with dual trigger: 3.2+1.66 (2.74-3.67) vs hCG alone 3.9+2.01 (3.11-4.69). There was also no statistical difference on fecundation rate in DT 2,36+1.76 (1.93- 2.80) vs hCG 2.83+2.47 (2.18- 3.47), or good blastocysts formation DT 0.91+0.96 (0.66-1.17) vs hCG alone 1.02+1.35 (0.59-1.46). With these results we can conclude that there is no benefit in adding a-GnRH to hCG to final induction for oocyte maturation in patients with advance maternal age and low ovarian reserve.

Limitations, reasons for caution:

A limitation of this study was the low statistical power, because we had only 98 cycles studied in this period. Whether dual triggering favors embryo implantation or not is still controversial. In this study the implantation rate was not an objective because we included cycles with and without PGT-A

Wider implications of the findings:

Our results agree with the study of Ding et al, who did not find significant difference in number of oocytes, MII or fecundation rate. High-quality RCTs are warranted to define more-eligible evidence of the efficacy of dual triggering in the GnRH antagonist cycle for IVF in low responders.

Trial registration number:

1806-SCL-051-ES

Keywords:

Mature oocyte
Double Triggering
Poor ovarian reserve
advanced maternal age
Ovarian stimulation