Decreasing the dose of hCG used to trigger final oocyte maturation in IVF programs is regarded as an useful intervention in ovarian hyperstimulation syndrome (OHSS) prevention. On the other hand, lowering excessively the hCG dose could negatively affect oocyte maturation, leading to a poor cycle outcome. Several investigations have assessed the value of using low doses of urinary hCG to trigger ovulation in high responder patients. The value of a reduced dose regimen of recombinant-hCG (r-hCG) in triggering final follicular maturation has not yet previously evaluated and formed the basis for this study. The purpose of this study was to test whether a reduced dose of r-hCG is sufficient to trigger final oocyte maturation in a group of patients developing a hyper response during a long pituitary down-regulation protocol for ART.

Methods
The IVF outcome of 60 high responder patients receiving half (125 µg) of the standard r-hCG dose was retrospectively evaluated. IVF was obtained by intracytoplasmic sperm injection (ICSI). A group of 60 normoresponder patients with comparable baseline parameters (age, basal FSH, BMI) and receiving the full dose of r-hCG (250 µg) served as control subjects.

Results
The number of oocytes retrieved was significantly higher in the 125 µg group than in the 250 µg group (11.0 ± 3.7 vs. 8.7 ± 4; p = 0.002). Comparably, patients receiving the reduced r-hCG dose had a higher number of mature (MII) oocytes in comparison to the standard dose group (9.0 ± 4 vs. 6.6 ± 3.3; p < 0.001). No case of moderate or severe OHSS was detected in high responder patients receiving the reduced r-hCG dose.

Conclusions
This study suggests that a low r-hCG regimen is not compromising final oocyte maturation in high responder women undergoing to ICSI. There is a need to undertake further studies to define the value of halving the standard r-hCG dose in OHSS prevention.