

Letter



rLH versus uHCG supplementation in poor ovarian responders

To the Editor

Despite similar primary and secondary outcomes (number of eggs retrieved and pregnancy rate, respectively), the authors of a recent study published in *RBMOnline* (Mak et al., 2017) stress that live birth rate (LBR) was 3.6 times higher in the urinary HCG group than in the recombinant LH group.

We challenge this conclusion because:

1. LH activity supplementation was done not only with two different products (rLH and uHCG), but also with two different levels of LH and FSH activity. In the uHCG group, 150 IU uHCG can be considered to have much higher activity than 150 IU LH as HCG is about 3–6 times more potent than LH *in vitro* (granulosa cell c-AMP production stimulating progesterone synthesis) (Casarini et al., 2012) and *in vivo* (ovulation triggering dose) (European Recombinant LH Study Group, 2001). In the rLH group, patients receiving 150 IU rLH via daily Pergoveris also received 300 IU rFSH, in addition to daily rFSH (450 IU starting dose), resulting in a higher total daily rFSH dose (750 IU) than in the uHCG group (450 IU).
2. The study was powered based on a delta of 2 eggs retrieved (fresh cycle) and underpowered to measure any differences in reproductive outcomes, showing similar pregnancy rates (15% vs 11%) and similar LBR (8% vs 11%) per fresh embryo transfer (ET) cycle with rLH versus uHCG.
3. Post-hoc analysis of LBR per total number of ET cycles (fresh plus frozen) is biased as at least one patient received more than one frozen ET, and reproductive outcome after frozen ET is determined by factors other than LH activity (e.g. effect of vitrification/warming on embryo quality, endometrial quality, etc.)

Conflict of interest

All authors are employees of Merck KGaA, Darmstadt, Germany. From October 1st 2015, Thomas D'Hooghe has become Vice-President and Head of Global Medical Affairs Infertility for the Multinational Pharmaceutical company Merck (Darmstadt, Germany). He continues on a part time basis his academic appointment as Professor of Reproductive Medicine at the University of Leuven (KU Leuven) in Belgium.

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