

# Dual trigger and in-vitro fertilisation outcomes: A single hospital experience

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## ABSTRACT

**Introduction:** Dual triggering involves administering a gonadotropin-releasing hormone agonist and human chorionic gonadotropin (GnRHa and hCG, respectively) during downregulated in vitro fertilisation–intracytoplasmic sperm injection (IVF-ICSI) cycles downregulated by a GnRH antagonist. Dual triggering enhances the fertilisation and clinical pregnancy rates in women with poor ovarian response (POR). This study aimed to compare the laboratory and clinical outcomes of the single and dual trigger approaches. **Materials and Methods:** This study was a retrospective study that involved 124 patients who underwent IVF treatment from 1 January 2023 to 31 December 2023 at a single tertiary centre [Hospital Canselor Tuanku Muhriz Advanced Reproductive Centre (ARC HCTM)]. The patient demographics, embryology outcomes, and pregnancy outcomes were obtained and analysed. **Results:** The baseline characteristics of the two groups (hCG and dual trigger) were not significantly different. The mature oocytes (MII), fertilised embryos (2PN), blastocysts, top-quality blastocysts, discarded oocytes or embryos, and transferred embryos of the two groups were also not significantly different. However, significantly more oocytes were recovered from the dual trigger group ( $9.12 \pm 8.99$  vs.  $6.79 \pm 5.12$ ,  $P = 0.0039$ ). The hCG and dual trigger groups did not have significantly different rates of biochemical pregnancy (60% vs. 41.6%;  $P = 0.338$ ), clinical pregnancy (16.7% vs. 12%;  $P = 0.574$ ), or miscarriage (50% vs. 33.3%;  $P = 0.489$ ). **Conclusion:** The results suggested that both protocols effectively support oocyte maturation and embryo development in assisted reproductive technology. However, the analysed parameters demonstrated that neither protocol was clearly superior. Hence, further research involving larger sample sizes and more comprehensive outcome measures is recommended to support our results and provide definitive guidance for clinical practice.