

Retrospective analysis of the role of Clomiphene Citrate in gonadotropin stimulated cycles in *in-vitro* fertilization(IVF) in a tertiary centre

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ABSTRACT

Introduction: The objective of the research was to compare the outcome of the cycle stimulation in terms of total gonadotropin usage, number of matured oocytes obtained, fertilization rate and top-quality embryos produced between Group A which consist of Clomiphene Citrate added to Gonadotropin (intervention group – 81 patients) and Group B which only consist of Gonadotropin (control group – 141 patients). **Methods:** We retrospectively reviewed the medical notes to look into the comparison outcomes using antagonist protocol between co-administration of clomiphene citrate in gonadotropin-stimulated IVF cycles and only gonadotropin-stimulated cycles in the year 2020. A student T-test has been used to evaluate the significance of the outcome of the components analysed. **Results:** Two hundred and twenty-two patients were included in this study whereby eighty-one patients were from group A and one hundred and forty-one patients from group B. Mean patients age is 34.72±3.24 and 34.39±3.38 from groups A and B respectively. Mean ± standard error means the total usage of gonadotropins (436.42±53.05 vs 1955.32±56.39, p<0.05), Number of oocytes retrieved (8.54±0.66 vs 10.32±0.56, p<0.05), Fertilization rate (0.55±0.04 vs 0.56±0.02, p>0.05) and top-quality embryos (0.59±0.09 vs 1.29±0.16, p<0.05) from group A and B respectively. **Conclusion:** Co-administration of Clomiphene Citrate in IVF improved the number of total oocytes retrieved, obtaining top quality embryos, and reducing total amount of gonadotropins in IVF cycles. No significant change was observed in the fertilization rate of oocytes.

The efficacy of Aspirelix in prevention of premature Luteinizing Hormone (LH) surge in flexible antagonist In-Vivo Fertilisation (IVF) protocol

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ABSTRACT

Introduction: Premature LH surge has been associated with unfavorable implantation and pregnancy outcomes in IVF cycles. Hence, GnRH agonists and antagonists have been introduced to eliminate the risk. This is a retrospective analysis of the efficacy of Aspirelix 0.25 mg (certorelix) in preventing premature LH surge in flexible GnRH antagonist IVF-embryo transfer (IVF-ET) cycles, in Assisted Reproductive Centre Hospital Universiti Kebangsaan Malaysia (ARC HUKM). **Methods:** All IVF patients stimulated with flexible GnRH antagonist protocol from January 2023 to May 2023 were included in this study. Stimulation began on day 2-3 of the menstrual cycle, and dosages of FSH ± LH were adjusted according to the patient's ovarian reserve, age, and BMI. GnRH antagonist (Aspirelix 0.25 mg) daily injections were initiated once a leading follicle, measured ≥ 12 mm; was visualized on the scan. LH levels were taken on trigger day, with a level of ≥ 10 IU/L being defined as an LH surge, and evidence of premature ovulation was observed on oocyte retrieval day. Patients with incomplete data were excluded from the study. **Results:** Three out of thirty patients (10%) had a premature LH surge, with two of them having evidence of ruptured follicles during oocyte retrieval. The patient's age, the total dosage of FSH usage, total days of IVF stimulation, and size of leading follicles during the initiation of Aspirelix were not statistically significant in determining the outcomes of the premature LH surge. **Conclusion:** Aspirelix has comparable efficacy to other GnRH antagonists in preventing premature LH surge in a flexible GnRH antagonist protocol.