

THE OUTCOME OF GNRH ANTAGONIST PROTOCOL VERSUS LONG GNRH AGONIST PROTOCOL FOR FIRST CYCLE OF IN VITRO FERTILIZATION AND EMBRYO TRANSFER (IVF/ET)

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Purpose: GnRH antagonist protocol has been mentioned as a possible alternative way to traditional long GnRH agonist protocol with similar pregnancy outcome as well as less dosage of gonadotropin treatment. To evaluate the theoretical advantage of GnRH antagonist in ovulation induction, we compared the outcome of non-selective population in first cycle of IVF/ET.

Materials and methods: A total of 44 patients who received antagonist protocol and 39 patients receiving long protocol in their first cycle of in vitro fertilization were enrolled in this retrospective comparison study. For patients receiving long protocol, patients were stimulated with r-FSH starting on day 1 after being pituitary down regulation with GnRH agonist (0.5-2mg/day). GnRH-agonist was given in middle luteal phase of previous menstruation cycle. For patients receiving GnRH antagonist protocol, 0.125mg of GnRH antagonist was given when leading follicle reached more than 1.2cm and endometrial thickness was more than 8 mm after at least 5-day gonadotropin stimulation. In all patients, follicle growth was stimulated by r-FSH in variable dose and duration based on the follicle growth condition and serum level of E2. Ovulation was triggered when dominant follicle reached 17mm detected by ultrasound scan. Oocytes were inseminated with either IVF or ICSI based on clinical needs. A maximum of four embryos were transferred on day 2 to day 3 after oocyte retrieval. Urine pregnancy test was performed 2 weeks after embryo transfer and an ultrasound scan was carried out 3 weeks after those patients with positive pregnancy test. The main outcome measure was the clinical ongoing pregnancy rate.

Results: Patients assigned to antagonist group were significantly older (34.2 ± 3.1 y/o vs. 31.9 ± 3.2 y/o, $p=0.01$) and had less early antral follicle count (8.9 ± 3.1 vs. 10.1 ± 4.8 , $p=0.01$) in comparison to long protocol group. Serum level of E2 (1659.5 ± 852.4 vs. 2761.5 ± 1679.3 , $p=0.02$) on the day of hCG were lower in antagonist group. Clinical pregnancy rate (48% vs. 47%) and ongoing pregnancy rate (40% vs. 30%) were all compatible in two groups.

Conclusion: Pre-treatment grouping basing on patients' age and early antral follicle counts justified the purpose of choosing antagonist protocol as the index protocol in first cycle of in vitro fertilization and embryo transfer. The outcome was comparative with long protocol.