

A Randomized Comparison of the Ovulation Induction and Hormone Profile
between the Aromatase Inhibitor Anastrozole and Clomiphene Citrate in
Women with Infertility

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Abstract

BACKGROUND: IN the present study we evaluated and compared the effects of ovulation and hormonal dynamics induced by anastrozole and clomiphene citrate in women with infertility.

MATERIALS AND METHODS: Thirty-three infertile patients, aged 25-41 years, were enrolled. Patients received either anastrozole 1 mg daily (AI group) or clomiphene citrate 100 mg daily (CC group) from cycle day 3 to day 7. Number of mature follicles (> or =18 mm), endometrial thickness, pregnancy rate and serial hormone profiles (follicle-stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E(2)), testosterone and progesterone) were measured on cycle day 3, day 8, day 10, the day of intrauterine insemination (IUI), day 7 after IUI and day 14 after IUI.

RESULTS: Baseline parameters were similar in the two groups, including age, body mass index, infertility duration and day-3 serum hormones except FSH. The mean FSH value on day 3 was significantly different (4.3 mIU/ml in the AI group vs. 6.3 mIU/ml in the CC group; $p < 0.05$). The women receiving anastrozole had fewer ovulatory follicles (1.2 in the AI group vs. 1.8 in the CC group; $p < 0.05$) and a thicker endometrium (10.6 mm in the AI group vs. 7.8 mm in the CC group; $p < 0.05$). The levels of progesterone and testosterone were similar during ovulation stimulation cycles in both groups. On the other hand, the AI group had a significantly higher LH level but a significantly lower E(2) level in the stimulation cycle.

CONCLUSION: Anastrozole has a high pregnancy rate, although it induces fewer ovulatory follicles compared with clomiphene citrate. The two drugs gave different responses of FSH, LH and E2 during stimulation cycles.

Key words : Aromatase inhibitors; Anastrozole; Clomiphene citrate; Ovulation; Infertility