Comparison of Letrozole Versus Tamoxifen Effects in Clomiphen Citrate Resistant Women with Polycystic Ovarian Syndrome

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Abstract

Background

The objective of this prospective randomized study was to make a comparison between the effects of letrozole and tamoxifen (TMX) in ovulation induction in clomiphene (CC)-resistant women with polycystic ovarian syndrome (PCOS).

Methods

The study comprised a total of 60 infertile women (180 cycles) with CCresistant PCOS selected from the clinics affiliated to the Department of Obstetrics and Gynecology of Tanta University. Patients were randomized to treatment with 2.5 *mg* of letrozole daily (30 patients, 90 cycles) or 20 *mg* of TMX daily (30 patients, 90 cycles) for 5 days from day 5 of menses and 10000 *IU* hCG when mature follicles become =18 *mm* in diameter. The chi-square and t-test were used for comparing two groups and $p < 0.05$ was considered significant.

Results

The total number of follicles (=18 *mm*) in the letrozole group was more than TMX group. The endometrial thickness at the time of hCG administration was significantly higher ($p < 0.05$, at 95% CI) in the letrozole group than that of TMX group (10.2±0.7 *vs*. 9.1±0.2 *mm*). Ovulation occurred in 23.33% of cycles in the letrozole group and in 8.89% in the TMX group, whereas pregnancy occurred in 5.56% of the letrozole group and 2.22% of the TMX group.

Conclusion

Both letrozole and TMX should be considered as optional therapies for CC-resistant women. In addition, letrozole was superior to TMX in achieving a higher pregnancy and ovulation rate and also lesser side effects in comparison to tamoxifen.

Keywords: Clomiphene resistance, Infertility, Letrozole, Oligomenorrhea, Ovulation induction, Polycystic ovarian syndrome, Tamoxifen