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Isfahan University of Medical Sciences *School of Medicine*

Thesis for Medical Doctorate Degree

Title:

**Comparative study of aromatase inhibitor (letrozole) as the
first line treatment of poly cystic ovarian syndrome (PCOS)
infertility with Clomiphene citrate: a prospective
randomized clinical trial**

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Abstract

Objective: the purpose of this study was to determine the efficacy of letrozole on ovulation and pregnancy induction in comparison with clomiphene citrate In PCOS patients.

Methods: the study was based on prospective randomized clinical trial comparing the efficacy of letrozole as the first line management of the PCOS patients in comparison to clomiphene citrate in a private clinic in Isfahan during 2007-2009. The study included 101 patients dividing to 2 equal groups. The patients in the clomiphene group (Group A) received clomiphene citrate 100 mg for 5 days starting from day 3 of their menstrual cycle. In letrozole group 5 mg letrozole was given for 5 days from day 3 of their menstrual cycle (Group B). Patients evaluated for regular menstruations, pregnancy, abortion and ectopic pregnancy for 3 months. Finally data were analyzed by SPSS ver 15.

Results: pregnancy occurred in 29 of 50 patients in letrozole group (58%) and 24 of 51 patients in clomiphene group (47%). The difference was not statistically significant (P value = 0.23). 30 patients in clomiphene group and 36 patients in letrozole group showed regular menses after or during the treatment course. No significant difference between the two groups was observed (P value = 0.21).

Conclusion: Our findings suggest letrozole and clomiphene citrate are equally effective for induction of ovulation and achieving pregnancy in patients with PCOS.

Key words: clomiphene, letrozole, PCOS.

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