

## Comparing the Effects of Clomiphene-HMG and Letrozole-HMG on Ovulation Induction in Infertile Women

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### Abstract

**Introduction:** Clomiphene Citrate has been one of the effective medications in the treatment of infertility but it has undesirable side effects, such as flushing, decreased cervical mucus production, impaired postcoital test (PCT) and multiple pregnancies. Letrozole is a newer drug and it improves cervical mucus production, increases endometrial thickness and reduces the risk for multiple pregnancies. Comparing the efficacy of clomiphene citrate versus letrozole for ovulation induction in patients with Polycystic Ovarian Disease (PCOD) was the objective of this study.

**Materials and Methods:** This clinical trial study was done on 100 infertile, 20-35 year-old women with PCOD attending Vali-e-Asr Infertility Clinic from April 2003 to April 2007. The cases were candidates for intrauterine insemination (IUI) and signed a consent form to participate in the study. The cases were assigned to two groups through simple random sampling, the first group receiving clomiphene citrate plus HMG and the second one Letrozole plus HMG. Endometrial thickness, number of mature follicles, pregnancy rates, history of abortion and multiple pregnancies were recorded and compared in the two groups.

**Results:** Comparing the two groups, the number of mature follicles ( $p=0.000$ ), the risk for ovarian hyperstimulation (40% versus 14%,  $p=0.003$ ) and abortions rates (37.5% versus 11.11%,  $p=0.048$ ) were significantly higher in the clomiphene group. Differences in endometrial thickness and pregnancy rates (eight subjects in the clomiphene versus nine in the letrozole group) were of no statistical significance in the two groups.

**Conclusion:** It seems that letrozole is a good substitute for clomiphene citrate, especially in patients at risk of abortion or ovarian hyperstimulation syndrome (OHSS), or in those who cannot tolerate clomiphene citrate. Further studies are needed to be done to fully suggest letrozole as the first line treatment for controlled ovarian hyperstimulation syndrome.

**Key Words:** Clomiphene, hCG, HMG, IUI, Letrozole, Ovarian Hyperstimulation Syndrome (OHSS), Ovulation induction, PCOD.

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