

# USE OF AROMATASE INHIBITORS (LETROZOLE) AS AN OVULATION INDUCING AGENT IN PATIENTS WITH CLOMID RESISTANT POLYCYSTIC OVARIAN SYNDROME

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## INTRODUCTION:

Patients with polycystic ovary syndrome have traditionally been treated with clomiphene citrate as a first line ovulation induction agent. Those patients who find themselves resistant to clomiphene citrate have been treated with injectable gonadotropins (1). Unfortunately, there are risks associated with injectable gonadotropins which include cost, risk of multiple pregnancies, ovarian hyperstimulation syndrome (2). These risks have prompted a search for an alternative ovulation-inducing agent. Some preliminary data exist concerning letrozole, an aromatase inhibitor, as an alternative to clomiphene citrate (3,4).

## ABSTRACT:

### Objective:

The treatment of choice for ovulation induction in patients with type II anovulatory infertility is clomiphene citrate. In patients resistant to clomid, injectable gonadotropins are the next treatment. There are multiple side effects and risks associated with injectable gonadotropins. Preliminary studies suggest that letrozole, an aromatase inhibitor, can be used as an alternative to clomid for ovulation induction. The objective of the study was to reconfirm the role of aromatase inhibitors in patients with PCOS resistant to clomid.

### Methods:

Fourteen patients with PCOS under age 35 who were unresponsive to clomid 150mg daily for five days were included. Letrozole was administered for at least 2 cycles in a dose of 2.5mg daily from days 3 to 7. Ovulation was triggered with hCG 10,000 units followed by timed intercourse or intrauterine insemination.

### Results:

Ovulation induction was successful in 10 (71.4%) subjects. All the patients had an endometrial thickness greater than or equal to 8.5mm. Six (42.9%) patients reported a positive pregnancy test. One patient experienced a miscarriage. Fetal heart tones were identified in the remaining 5 (35.7%) patients.

### Conclusion:

Our data suggest a benefit of letrozole as an ovulation inducing agent in patients resistant to clomid.

## OBJECTIVE:

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## MATERIALS AND METHODS:

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## CONCLUSION:

Our data suggest a benefit of letrozole as an ovulation inducing agent in patients resistant to clomid. Letrozole is an oral medication without the risks of hyperstimulation and multiple pregnancies.

## BIBLIOGRAPHY:

1. Loverro G, Shoham Z, Weissman A. Polycystic ovarian disease: obesity and insulin resistance. In: Kempers RD, Cohen J, Haney AF, Younger JB, eds. Fertility and reproductive medicine. Amsterdam, New York, Oxford, Shannon, Singapore, Tokyo, 1998:263-72.
2. Kilic-Okman T, Kucuk M, Altaner S. "Comparison of the effects of letrozole and clomiphene citrate on ovarian follicles, endometrium, and hormone levels in the rat. Fertil Steril.2003; 80: 1330-32.
3. Mitwally MF, Casper RF. Use of an aromatase inhibitor for induction of ovulation in patients with an inadequate response to clomiphene citrate. Fertil Steril 2001; 75: 305-9.
4. Fisher SA, Reid RL, Van Vugt DA, Casper RF. A randomized double-blind comparison of the effects of clomiphene citrate and the aromatase inhibitor letrozole on ovulatory function in normal women. Fertil Steril 2002;78:280-5.

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