

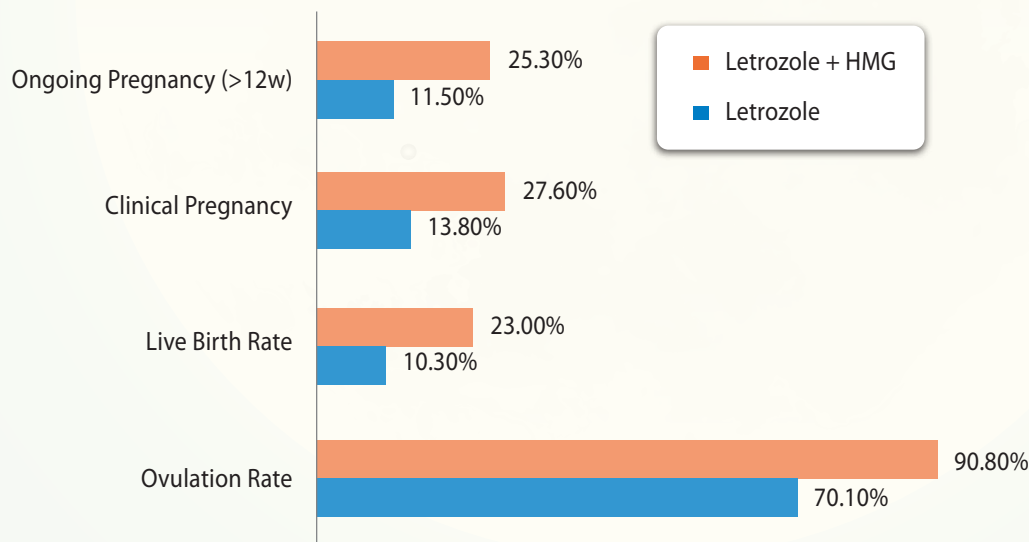
Ovulation Induction Using Sequential Letrozole / Gonadotrophin in Infertile Women With PCOS: A Randomized Controlled Trial

Summary

Sequential letrozole/human menopausal gonadotrophin (HMG) is more effective than letrozole alone in inducing ovulation and promoting pregnancy, with no increase in side effects, and so provides a promising option for the treatment of patients with PCOS infertility.

Study Design	Prospective observational study	
Participants	Age group	Intervention
<p>174 women with PCOS infertility</p>	<p>18–40 yrs</p>	<p>Letrozole (n=87) vs Letrozole + HMG (n=87)</p>

Reproductive outcomes



There was no statistical variation with respect to adverse events.

Ref: Dai X, Li J, Fu T, et al. Ovulation induction using sequential letrozole/gonadotrophin in infertile women with PCOS: a randomized controlled trial. *Reprod Biomed Online*. 2023;46(2):352-361. doi:10.1016/j.rbmo.2022.08.002

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Drug Review

Anovulation & Infertility

- ♀ Anovulation is a common cause of infertility. It's caused by hormonal imbalances, and the main sign of it is having irregular periods. Anovulation can often be treated with lifestyle changes and/or medication.
- ♀ In general, infertility is defined as not being able to get pregnant (conceive) after one year (or longer) of unprotected intercourse. Because fertility in women is known to decline steadily with age, some providers evaluate and treat women aged 35 years or older after 6 months of unprotected intercourse.

Guideline Recommendations



Letrozole Should be considered as first line therapy for OI in Patients with PCOS & BMI > 30 because of increased LBR Compared to Clomiphene Citrate .



Letrozole should be first line pharmacological therapy to improve fertility outcome in women with PCOS & an anovulatory infertility with no other infertility factors.



Letrozole as the first line treatment due to its higher ovulation pregnancy & Live birth rate as well as lower multiple pregnancy rate.



Letrozole are first line treatment of anovulatory infertility in women with PCOS

Hope for Anovulatory Infertility of PCOS Patient

- ♀ Letrozole is an orally-active aromatase inhibitor, with good potential for ovulation induction. Many researchers have studied this drug as an option for ovulation induction.
- ♀ Inhibition of aromatase enzyme leads to decrease in estrogen levels, resulting in more follicle stimulating hormone (FSH) release, which results in follicular growth.
- ♀ Aromatase enzyme inhibitors also cause a local increase of ovarian androgens which increases the follicular sensitivity to FSH and stimulation of insulin-like growth factor (IGF)-I. FSH and IGF-I are both essential for follicular maturation.

Evidence Based Result

- ♀ Better pregnancy outcomes and higher live births compared to CC in PCOS patients
- ♀ Effective even in patients with CC-resistant PCOS
- ♀ No anti-estrogenic effects on endometrium & cervical mucus (reduces hot flushes & other perimenopausal symptoms)
- ♀ Mono-follicular development and lower multiple pregnancies
- ♀ Safety established in clinical studies
- ♀ Maintains physiological FSH levels and lowers multiple pregnancy rates

Ref.: 1. <https://www.sciencedirect.com/science/article/pii/S1110569018300554> 2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3148573/> 3. <https://www.ijrcog.org/index.php/ijrcog/article/view/7154>