A nuvista pharma initiative

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Clinical Resource center

Ovarian response can be predicted in women with PCOS who have ovulation induction with Letrozole

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Study Design A descriptive cohort study

Intervention Letrozole (5 mg/day)

Population

88 infertile women with PCOS

Age 20–37

Mean BMI 27 ± 5 (kg/m²)

Treatment groups

Patients given Letrozole as the first treatment agent (n=21)	Patients took clomiphene citrate (CC) and started Letrozole the following month	Patients were treated with Letrozole and given Letrozole again (n=34)

Outcomes

Follicle response - 86%	Response dropped to 76%	Follicle response - 94%

- Ovulation success was consistent across age groups and body weight categories.
- Pregnancy occurred in 13% of women who developed follicles.

- Follicle response was higher in patients with-
  - FSH levels >6.25 Iu/L
  - AMH values <11.89 ng/mL
  - Total testosterone <0.96 ng/mL

Summary

- Letrozole offeres a high success rate in follicular development among PCOS patients, especially when guided by AMH, FSH, and testosterone levels.
- Follicle development is higher in women with lower FSH, androgen and AMH values.
- The predictable & favorable hormonal response profile of Letrozole makes it a compelling choice over Clomiphene, especially as first-line therapy.

Ref: Akgul OK, Guraslan H. Ovarian Response can be Predicted in Women with PCOS who have Ovulation Induction with Letrozole. J Coll Physicians Surg Pak. 2023;33(2):217-221. doi:10.29271/jcpsp.2023.02.217

The first line therapy for ovulation induction in women suffering from anovulatory infertility

Zoleta®
Letrozole USP 2.5 mg
From Hope to Happiness

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

- ACOG: 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.
- thebmj: Letrozole as the first line treatment due to its higher ovulation pregnancy & Live birth rate as well as lower multiple pregnancy rate.
- ENDOCRINE SOCIETY: 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

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