Letrozole vs Clomid for Ovulation Induction in PCOS

Polycystic Ovary Syndrome (PCOS) is associated with two of the following criteria:

a. No ovulation (anovulation) or less frequent ovulation

b. High male hormone (androgen)

c. Polycystic appearance of the ovaries: large number of small follicles

Clomid is an oral medication that modulate or mask the estrogen receptor leading to release of internal FSH from the brain

Polycystic Ovary
Letrozole is an oral medicine that reduces estrogen production from the ovary through antagonizing the function of the aromatase enzyme, responsible for making estrogen. The brain respond by releasing FSH.

Which one is better?

In a recent good quality study, 750 infertile women, aged of 18-39 years, with a diagnosis of PCOS were studied. The women were randomly allocated to CC vs. letrozole for 5 treatment cycles. CC 50mg every day for 5 days (days 3-7 of cycle), or B) letrozole 2.5mg every day for 5 days (days 3-7 of cycle), for a total of 5 cycles or 25 weeks. The dose will be increased in subsequent cycles in both treatment groups for non-response or poor ovulatory response up to a maximum of 150 mg of CC a day (×5 days) or 7.5mg of letrozole a day (×5 days). 27.5% of women who received letrozole (Femara) had a live birth, compared with 19.5% of women treated with clomiphene. One quarter were clomid resistant and never ovulated.

Letrozole was associated with lower multiple pregnancy rates.

Letrozole appears to improve live birth and pregnancy rates in subfertile women with anovulatory PCOS, compared to clomiphene citrate.

Letrozole should be considered as a first line agent for induction of ovulation in women diagnosed with PCOS.

In general it is advised that oral medication are tried first in PCOS before proceeding to injection medications (gonadotropins). Gonadotropins induce multiple ovulation and increase the risk for multiple pregnancy. If oral medications fail to induce ovulation or no pregnancy ensues, it is preferable to proceed to IVF with single embryo transfer and not injectable medications – IUI to avoid twins and higher
order multiple pregnancy.