

## ABSTRACT

### CLOMIPHENE CITRATE VS LETROZOLE IN THE TREATMENT OF ANOVULATORY INFERTILITY: A RANDOMIZED CONTROLLED TRIAL.

#### Introduction

Ovulatory dysfunction accounts for 20-25% of the cases of infertility. The main treatment modality for anovulatory infertility is ovulation induction. Clomiphene citrate (CC) (a selective oestrogen receptor modulator) and letrozole (LET) (an aromatase inhibitor) are the drugs of choice but a debate is ongoing as which is the best choice for first line treatment.

#### Objective

Compare the treatment outcome of anovulatory infertile females by clomiphene citrate and letrozole.

#### Method

A prospective randomized controlled trial including two groups of anovulatory subfertile patients was carried out in a tertiary care centre and subjects were selected following inclusion and exclusion criteria. Patients were randomized to either clomiphene citrate 50 mg (n=127) or letrozole 2.5 mg (n=121) daily from the 2nd to 6th day of the menstrual cycle. Follicle number on day 12, endometrial thickness, pregnancy rates and multiple pregnancies were assessed. The data were analyzed using MINITAB 14.

#### Results

Mean age of the clomiphene citrate and letrozole treated patients groups were not significantly different ( $30.7 \pm 3.98$  and  $31.28 \pm 4.16$   $p=0.312$ ). The number of mature follicles ~~number~~ on day 12 was not significantly different in two treatment groups (CC:  $1.323 \pm 0.935$  and LET:  $1.175 \pm 0.797$ ) However, the mean endometrial thickness of the letrozole treated patients ( $0.7691 \pm 0.0887$  cm) was significantly higher than the clomiphene treated group ( $0.695 \pm 0.134$  cm). The clinical pregnancy rate of the letrozole group was higher than the clomiphene treated group (49% vs. 38%) and there was no difference in the miscarriage rates (both 16%).

#### Conclusions

Letrozole treatment has enhanced the endometrial thickness compared to the clomiphene citrate treatment with higher clinical and ongoing pregnancy rates. Even though the both treatments resulted no difference in mature follicle number, the higher

pregnancy rates with letrozole may be due to its favorable effects on endometrial thickness and the endometrial receptivity owing to known less anti estrogenic properties of letrozole compare to clomiphene citrate.

