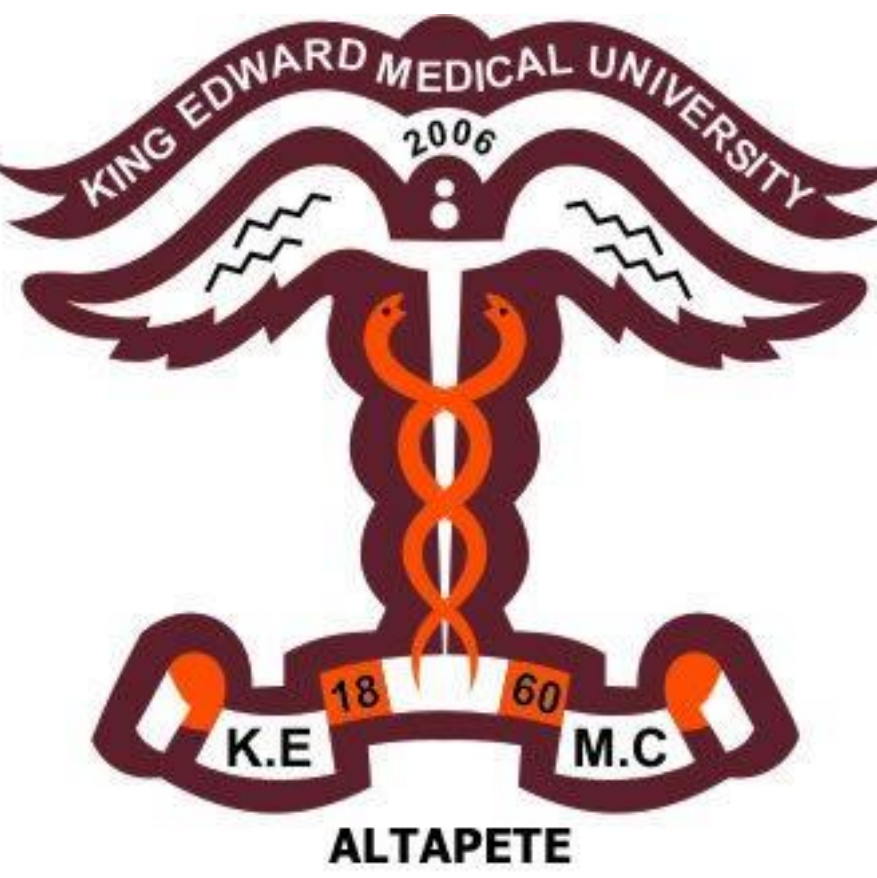




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THE COMPARISON OF EFFICACY OF LETROZOLE ALONE VERSUS LETROZOLE PLUS CLOMIPHENE CITRATE ON OVULATION INDUCTION IN PATIENTS WITH POLYCYSTIC OVARIAN SYNDROME

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INTRODUCTION

Polycystic ovarian syndrome (PCOS), a leading cause of female infertility, results from genetic and environmental factors. Ovulation induction is key in PCOS-related infertility. Clomiphene citrate (CC) is a standard treatment but has notable resistance rates. Letrozole offers better success and fewer multiple pregnancies. However, the combined use of letrozole and CC in the same cycle remains insufficiently studied.

OBJECTIVES/AIMS

To compare the efficacy of Letrozole against the combination of Letrozole and Clomiphene Citrate on the induction of ovulation in patients diagnosed with the Polycystic Ovarian Syndrome.

METHODS

A randomized controlled trial was conducted at Lady Willingdon Hospital, Lahore, involving 56 PCOS patients (aged 19–35) seeking pregnancy. Group A received letrozole (2.5 mg/day, days 5–9), while Group B received letrozole plus clomiphene citrate for three cycles. Ovulation was monitored via transvaginal ultrasound, and pregnancy outcomes were documented.

Results

The combination therapy (Group B) resulted in a significantly higher pregnancy rate compared to letrozole alone (Group A) (67.9% vs. 32.1%, $p = 0.007$). Age and duration of marriage did not significantly differ between the groups. While the number of cycles required to achieve pregnancy did not differ significantly, Group B showed a trend toward achieving pregnancy earlier.

Table 2: Stratification of Demographics in Groups

Variables	Group A (N=28)	Group B (N=28)
Age (Years)		
16-20	6 (21.4%)	0 (0%)
21-25	3 (10.7%)	11 (39.3%)
26-30	8 (28.6%)	10 (35.7%)
31-35	11 (39.3%)	7 (25.0%)
Duration of Marriage (Years)		
<3	15 (53.6%)	13 (46.4%)
3-5	11 (39.3%)	9 (32.1%)
5-7	2 (7.1%)	5 (17.9%)
>7	0 (0%)	1 (3.6%)
Pregnancy Achieved		
Yes	9 (32.1%)	19 (67.9%)
No	19 (67.9%)	9 (32.1%)

Table 3: Number of Cycles at Pregnancy Achieved

Number of Cycles	Total (N=28)
After 1 st Cycle	9 (32.1%)
After 2 nd Cycle	12 (42.9%)
After 3 rd Cycle	7 (25.0%)

Table 4: Stratification of the number of Cycles at Pregnancy Achieved

Number of Cycles	Group A (N=9)	Group B (N=19)
After 1 st Cycle	4 (44.4%)	5 (26.3%)
After 2 nd Cycle	3 (33.3%)	9 (47.4%)
After 3 rd Cycle	2 (22.2%)	5 (26.3%)

Table 5: Independent Sample t-test to compare Group A and B

Variables	Group A Mean ± S.D.	Group B Mean ± S.D.	p-value
Age	2.85 ± 1.17	2.85 ± 0.80	1.00
Duration of Marriage	1.53 ± 0.63	1.78 ± 0.87	0.227
Pregnancy achieved	1.67 ± 0.47	1.32 ± 0.47	0.007
Number of Cycles	1.77 ± 0.83	2.00 ± 0.74	0.484

Conclusion: This research concluded that the combination of CC and letrozole has a more beneficial and effective role than letrozole alone in inducing ovulation among PCOS patients seeking pregnancy. This combined therapy offers a low-risk, cost-effective alternative for infertility treatment with higher rates of ovulation. Further studies should be conducted to evaluate the adverse effects and rate of live births associated with the combined use of CC and letrozole.