

Introduction

PCOS is a syndromic disease presents in women in a myriad of ways, a spectrum of clinical signs and symptoms. Clinical or biochemical hyperandrogenism, oligo- an ovulation and polycystic morphology are the generally accepted diagnostic criteria. Those women have an increased risk of metabolic and reproductive disorders, such as type 2 diabetes mellitus, obesity and dyslipidemia. Oligo/an ovulatory women without clinical or bio- chemical evidence of hyperandrogenism tend to be the least affected by the sequela of PCOS, so the accurately diagnosing women may assist clinicians in predicting life-long risks and interventions to patients on a more individualized basis. Assessing the effect of combined metformin and myo-inositol as compared to metformin alone in terms of ovarian response of infertile PCOS women undergoing ovulation induction cycles is the main scope of this study.

Aim of the Work

The aim of this work was to assess the effect of combined metformin and myo-inositol as compared to metformin alone in terms of ovarian response and improvement in insulin resistance parameters in infertile PCOS women undergoing ovulation induction cycles.

Patients and Methods

Randomized controlled study will be conducted for a minimal total number of 60 eligible study patients (30 per group). Women will be recruited from a routine infertility clinic.

Group A: (30patients) will receive Glucoph age tablet (Metformin 500 mg) twice daily and Inofolic (Myo-inositol 600 mg + Folic acid 0.24mg) orally twice daily for 3 months.

Group B: (30patients) will receive Glucoph age tablet (Metformin 500mg) twice daily for 3 months.

Inclusion criteria:

1- Age grouplessthan35years.

2- Any gravidity and parity.

3- Patients with polycystic ovarian syndrome with the Rotterdam criteria. (1)

4- Abnormal HOMA-IR test.

Exclusion criteria:

1- Diabetes mellitus.

2- Thyroid diseases.

3- Hyper prolactinemia.

3- Other endocrinopathies

Results

Table 1a: Comparison between the two studied groups according to positive pregnancy (before treatment)

Positive pregnancy	Group I (n = 30)		Group II (n = 30)		c ²	p
	No.	%	No.	%		
Before treatment						
Negative	25	83.3	28	93.3	1.456	FEp= 0.424
Positive	5	16.7	2	6.7		

Table 1b: Comparison between the two studied groups according to positive pregnancy (After treatment #)

Positive pregnancy	Group I# (n = 25)		Group II# (n = 28)		c ²	p
	No.	%	No.	%		
Aftert reatment						
Negative	18	72.0	25	89.3	2.578	FEp= 0.162
Positive	7	28.0	3	10.7		

Table 2: Comparison between the two studied groups according to ovarian response

Ovarian response	Group I (n = 30)		Group II (n = 30)		c ²	P
	No.	%	No.	%		
Before treatment						
No	25	83.3	27	90.0	c ² = 0.577	FEp= 0.706
Yes	5	16.7	3	10.0		
After treatment	(n = 25)#		(n = 28)#			
No	9	36.0	22	78.6	9.859*	0.002*
Yes	16	64.0	6	21.4		

FET: Fisher Exact test

p: p value for comparing between the two studied groups

*: Statistically significant at p ≤ 0.05

Group I: Myo-inositol 600 mg + Metformin 500 mg+Folic acid

Group II: Metformin 500 mg

Conclusion

The ovarian response was significantly higher in metformin plus myo-inositol group than in the metformin alone group. Though there was an increased pregnancy rate in metformin plus myo-inositol group but no statistically significant difference was found between the two group.