INCREASED PREGNANCY RATES WITH METFORMIN AND CLOMIPHENE CITRATE IN NON-OBESE PATIENTS WITH POLYCYSTIC OVARIAN SYNDROME: PROSPECTIVE RANDOMIZED STUDY

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Objective:
Metformin is an insulin-sensitizing agent which has proved to be effective in counteracting hyperinsulinaemia in obese patients with polycystic ovarian syndrome (PCOS). However, the effect of this drug has not been studied in non-obese, hyperinsulinaemic PCOS patients. The objectives of this study were to investigate the benefit of using metformin and clomiphene citrate (CC) concomitantly as a starting regimen for non-obese patients with PCOS, and to determine whether this regimen results in an increased pregnancy rate compared to CC alone.

Design:
Prospective randomized study in a private practice.

Materials/Methods:
One hundred non-obese (BMI <25 Kg/m2) women who were 18-35 years of age with PCOS were included. PCOS diagnosis was confirmed by a history of oligohypomenorrhea and/or anovulation, ultrasonographic appearance and reversed LH/FSH ratio >2. All patients had received no medications for at least 3 months prior to recruitment. Blood samples were obtained in the early follicular phase of the cycle for all patients. FSH, LH, TSH, prolactin and estrogen were assayed using commercially available kits. Patients were randomized for either CC 50mg/day from day 3 to day 7 of the cycle and metformin 1000 mg/daily (group I) or CC 50mg/day from day 3 to day 7 of the cycle (group II). Mean age of the patients in group I was 25.63 ± 3.92 and 28.18 ± 4.77 for group II. Patients were followed up for at least 4 months.

Results:
Patients in both groups were comparable regarding pretreatment LH, FSH, TSH, prolactin and estradiol levels. All patients were euthyroid and euprolactinaemic. Fifty nine percent (31/53) of patients in group I conceived within 4 months of treatment compared to 8% (4/47) in group II (p<0.001).

Conclusions:
We report for the first time a significantly higher rate of pregnancy in non-obese anovulatory PCOS patients on metformin and CC than CC alone. We recommend the use of this regimen as a starting treatment in these patients.

Supported by:
None