

## Evaluating course of pregnancy in women with infertility due to PCOS and on Metformin

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### Abstract

**Introduction:** Polycystic Ovary Syndrome (PCOS), which affects 2-20% of women of reproductive age, is associated with insulin resistance, hyperandrogenic anovulation and consequently infertility. In addition, in case of getting pregnant, there is a higher risk of spontaneous abortion. This study was done to evaluate the effects of continuing metformin throughout the first trimester of pregnancy.

**Materials & Methods:** Seventy six PCOS patients who became pregnant while on ovulation induction medications and metformin were allocated to three groups in three different clinics during 2004-2005, as it follows: Group A, continuing metformin until the end of the 8<sup>th</sup> week, group B, until the end of the 12<sup>th</sup> week and group C, cessation of taking metformin immediately after confirmation of pregnancy (5-6<sup>th</sup> week of pregnancy). Pregnancy outcomes and complications were followed until the end of pregnancies. The data were analyzed by using SPSS (Version 9) and  $\chi^2$ , t-test, ANOVA, Kruskal Wallis, McNemar's test and logistic regression calculations. A p-value <0.05 was considered as the level of significance.

**Results:** The mean age of women in the two groups was 28.72±3.57 years, duration of infertility 3.38±2.19 years, BMI 25.7±5.28 and history of abortions 0.40±0.65. In comparison to the rates in previous pregnancies, significant reduction in spontaneous abortion rates were seen in group B from 40% to 8% using McNemar's test (p<0.01) and in group A from 32% to 4% (p=0.002). In group C, despite a lowered rate of spontaneous abortion (From 23.1% to 4.2%), the difference was not statistically significant. No fetal anomalies were seen in the two groups.

**Conclusion:** Taking metformin not only has therapeutic effects on infertility but also its consumption during the first trimester of pregnancy may have beneficial effects on the course of pregnancy without an increased risk of teratogenicity. Proving the beneficial effects of metformin during pregnancy and its harmlessness requires studies with larger sample sizes of PCOS patients with precise recording of data while considering its use before and during pregnancy and accurate recording of pregnancy outcomes.

**Key Words:** Infertility, PCOS, Metformin, Pregnancy, Spontaneous abortion, Fetal anomalies, Gestational diabetes.

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