

Can metformin reduce the incidence of gestational diabetes mellitus in pregnant women with polycystic ovary syndrome? Prospective cohort study

S. Khattab^{1,2}, I. A. Mohsen^{1,2}, I. Aboul Foutouh^{1,2}, H. S. Ashmawi^{1,2}, M. N. Mohsen^{1,3}, M. van Wely⁴, F. van der Veen⁴, & M. Af. Youssef^{1,2,4} .

¹Egyptian International fertility & IVF Center, Miser International Hospital

²Department of Obstetrics & Gynecology, Cairo University, Cairo, Egypt

³Department of Obstetrics & Gynecology, Beni seuf University, Egypt

⁴Department of Obstetrics & Gynecology, University of Amsterdam, Netherlands

Abstract

Background. Women with polycystic ovary syndrome (PCOS) are at a high risk to develop Gestational Diabetes mellitus (GDM). We hypothesized that metformin due to its metabolic, endocrine, vascular, and anti-inflammatory effects may reduce the incidence of GDM in PCOS women.

Patient and method. We carried out a prospective cohort study to determine the beneficial effects of metformin on PCOS patients during pregnancy. Three-hundred and sixty non-diabetic PCOS patients were included who were conceived on metformin by different treatment modalities. Two-hundred pregnant women continued on metformin at a dose of 1000–2000 mg daily throughout pregnancy (study group) and 160 women discontinued metformin use at the time of conception (control group).

Results. There is a statistically significant reduction in the incidence of GDM in favor of metformin group (OR: 0.17, 95% CI: 0.07–0.37). There is a statistically significant reduction in the incidence of pre-eclampsia in favor of metformin group (OR: 0.35, 95% CI: 0.13–0.94).

Conclusion. Metformin is a promising medication for the prevention or reduction of the incidence of GDM and pre-eclampsia in PCOS women.

Keywords: Metformin, polycystic ovary, gestational diabetes

Published In: Gynecological Endocrinology, October 2011, Vol. 27, No. 10 : Pages 789-793