

## Evaluation of Thrombophilic Factors in Women with PCOS

Moini, Ashraf<sup>1,2</sup>; Sarrafioun, Fariba<sup>3</sup>; Ziaei, Saeideh<sup>3\*</sup>; Faghihzadeh, Soghra<sup>4</sup>

1. Department of Endocrinology and Female Infertility, Royan Institute, Tehran, Iran

2. Department of Obstetrics and Gynecology, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran

3. Department of Midwifery, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

4. Department of Biostatistics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

### Abstract

**Introduction:** Polycystic ovary syndrome (PCOS) is associated with insulin-induced elevations of plasminogen activator inhibitor (PAI-1), the most potent inhibitor of fibrinolysis. Hypofibrinolysis due to increased PAI-1 levels in PCOS patients bears a high risk for miscarriage and some other pregnancy complications which are probably due to increased thrombophilic states. In this study we compared thrombophilic factors in women with PCOS with those of healthy women.

**Materials and Methods:** This analytical study was performed on 123 infertile women with PCOS as the case group, and 73 women non-PCOS women with male factor infertility as the control group. All the individuals attended Rouin Tan Arsh Hospital for receiving fertility treatment in Tehran, Iran during 2008. Blood samples were taken from both groups on the third day of menstrual cycle for the evaluation of protein S, activated protein C resistance (APC-R), homocysteine, FSH, LH, prolactin, testosterone, FBS and 2-hr GTT.

**Results:** The mean protein S and APC-R values were lower in the case group compared to the controls, but the differences were not statistically significant ( $p = 0.752$  and  $p = 0.603$ , respectively). The mean homocysteine value was higher in the control than the case groups (13.25 mmol/l vs. 12.49 mmol/l, respectively) but this difference was not significant either ( $p = 0.157$ ). PCOS and older age tended to elevate homocysteine ( $p < 0.05$ ).

**Conclusion:** Comparison of thrombophilic factors in women with PCOS and women without the disease showed no significant statistical differences. PCOS and older age seemed to raise the risk for abnormal changes in homocysteine levels.

**Keywords:** Activated protein C resistance, Factor V Leiden, Homocysteine, Plasminogen activator inhibitor 1 (PAI-1), Polycystic ovary syndrome (PCOS), Protein S, Thrombophilia.

**To cite this article:** Moini A, Sarrafioun F, Ziaei S, Faghihzadeh S. Evaluation of Thrombophilic Factors in Women with PCOS. *J Reprod Infertil.* 2010;11(2):150.

\* Corresponding Author:

Saeideh Ziaei,

Department of Obstetrics  
& Gynecology, Tarbiat  
Modares University, P.O.  
Box: 14115-111, Tehran,  
Iran.

E-mail:

Ziaei\_sa@modares.ac.ir

Received: Jun. 24, 2009

Accepted: Nov. 18, 2009