

This study was suggested to investigate genetic variation in ADIPOQ gene as a risk factor for polycystic ovary syndrome progression. Fifty-four Iraqi women with PCOS consulting at a Fertility and infertility treatment center were inducted into this study with a mean age was (24.23±5.19) years for these patients. Also, the study includes forty-eight normal healthy women collected randomly with mean age (23.81±6.01) years as a control group. The collection of blood samples carries out from PCOS and healthy control individuals for detection of biochemical diagnostic parameters in serum which include luteinizing hormone (LH) and follicles stimulating hormone (FSH), testosterone and adiponectin. Then, DNA was extracted from the blood of these two groups for a revelation of 45T/G genetic polymorphism in exon 2 of ADIPOQ gene for revealing of Polycystic Ovary Syndrome (PCOS) as a prognostic marker for this disease.

The result of the current study appears that the serum adiponectin levels in PCOS decreased significantly when compared its level in control. In contrast, the level of LH and testosterone increased significantly in PCOs group than control. In regarding to genetic polymorphism 45(T/G) in exon 2 of ADIPOQ gene, the TT alleles polymorphism were increased significantly in control than PCOS patients while TG, GG alleles polymorphism were increased significantly in PCOS than control. The correlation between ADIPOQ polymorphism and level of adiponectin in serum demonstrated that the level of adiponectin is decreased significantly in presence of G allele in ADIPOQ gene in PCOS patients.

This study concluded that the 45T/G polymorphism in ADIPOQ gene is highly elevated in PCOS patients especially polymorphism in GG alleles may be regarded as one of the main causes of PCOS occurrence. This result was proven the role of ADIPOQ gene in the pathogenesis of this syndrome.