DYSLIPIDEMIA IN YOUNG WOMEN WITH POLYCYSTIC OVARY SYNDROME

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INTRODUCTION AND AIM:

Polycystic ovary syndrome (PCOS) is a frequent endocrinopathy among with young women. It is known that insulin resistance is encountered in the vast majority of the women with PCOS and hence the risk of type 2 diabetes mellitus and coronary artery disease are increased. These cardiac and metabolic risk increments may also associated with hyperandrogenemia and dyslipidemia. The metabolic changes of lipid profiles in young women with PCOS are not completely understood. The aim of this study is to evaluate changes of lipid profile in both of patients with young women with PCOS.

MATERIALS AND METHODS:

Thirty-six young women with PCOS (mean age: 23.4±4.6 year and mean body mass index (BMI): 23.8±4.8 kg/m²), and 32 healthy normoovulatory age- and BMI-matched women (mean age 23.4 ± 4.6 years; BMI: 22.1±2.8 kg/m²) were included in our study. The diagnosis of PCOS was made based on Rotterdam diagnostic criteria. The BMI for all patients was calculated by the formula: [body weight (kg)/ height $(m)^2$]. The waist circumference (WC) was measured. All blood samples were taken between 08:00 and 10:00 am following 8 hour fasting period. All hormonal and biochemical analysis were performed by automatic analyzer.

RESULTS:

The waist circumference in the PCOS and control groups were 80.6±7.3 and 77.5±2.0 cm, respectively. There was a statistically significant difference between the PCOS and control groups in terms of waist circumference (p=0.018).

The glucose, total cholesterol, HDL, LDL and TG levels in PCOS group were 89.9 ± 11.3 mg/dl, 177.2 ± 26.3 mg/dl, 54.8±12.3 mg/dl,105.0±23.5 mg/dl and 110.8±42.3 mg/dl respectively whereas the corresponding values in the control group were 86.1±12 mg/dl, 161.2 ±30.6 mg/dl, 55.9±12.9 mg/dl, 94.3±24.5 mg/dl and 81.8±39.9 mg/dl, respectively. The differences in glucose, HDL-C, LDL-C levels between PCOS and the control groups were not found to be statistically significant whereas total cholesterol (p=0.02) and triglyceride (p=0.006) levels were significantly different from control subjects. There were not any correlations between WC and serum lipid levels such as total cholesterol, HDL-C, LDL-C and triglyceride.

CONCLUSIONS :

According to our study, elevated total cholesterol and triglyceride levels were found in women with PCOS despite being very young. These changes of lipid levels may lead to predispose subclinical atherosclerosis in young women with PCOS.

In the literature, the lipid profile anomalies in PCOS patients were demonstrated previously. Maitra et al. showed increased levels of triglyceride and decreased levels of HDL in PCOS. Similarly Dror et al. showed high triglyceride, LDL and total cholesterol levels in women with PCOS. An increased risk of subclinical atherosclerosis in PCOS was demonstrated. Also similarly, Wild et al. showed lipid anomalies including increased total cholesterol, LDL cholesterol, total cholesterol and triglyceride in PCOS patients.

As a result, young women with PCOS have a cardiometabolic risk profile because of dyslipidemia.

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