Prevalence, Phenotypic Distribution, And Clinical Characteristics of Polycystic Ovary Syndrome in Egyptian Women with Type 1 Diabetes Mellitus

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Background:

Type 1 diabetes mellitus (T1DM) has shown a steady increase in prevalence in most parts of the world. Polycystic ovary syndrome (PCOS) frequently occurs in 15–20% of women in their reproductive age. It is associated with subfertility, ovulatory dysfunction, dysregulated androgen biosynthesis, and increased risk of insulin resistance. This study aims to assess the prevalence, phenotypic distribution, and clinical characteristics of PCOS in a sample of Egyptian women with T1DM.

Patients and methods:

A total of 100 Egyptian women in their reproductive age (18–42 years old) previously diagnosed as having T1DM were recruited in the study. They were screened for symptoms and signs of PCOS by clinical, laboratory, and radiological investigations.

Results:

Overall, 28% of our women with T1DM had PCOS and 61% had metabolic syndrome. Frank PCOS was the most common PCOS phenotype (47%). When women with T1DM with and without PCOS were compared, BMI, waist circumference, systolic blood pressure, and fasting blood sugar were statistically higher in the PCOS group, whereas high-density lipoprotein cholesterol was statistically lower ($P < 0.05$). Follicular-stimulating hormone (FSH) and sex hormone-binding globulin were also statistically lower and luteinizing hormone (LH), LH/ FSH ratio, and total testosterone (TT) were statistically higher ($P < 0.01$) in the PCOS than in the non-PCOS group. In women with T1DM, LH, LH/FSH ratio, and TT were positively correlated with BMI and waist circumference, whereas LH/FSH ratio and TT were negatively correlated with high-density lipoprotein cholesterol.

Conclusion:

The prevalence of PCOS among women with T1DM in our sample of Egyptian patients revealed that PCOS and its associated traits are common findings. Thus, current T1DM management guidelines should include screening tests for PCOS and androgen excess as these patients have a high incidence of metabolic syndrome.

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