DOES FINASTERIDE, AS WELL AS METFORMIN, IMPROVE INSULIN RESISTANCE IN PCOS?

Halit Diri, Fahri Bayram, Yasin Simsek

Division of Endocrinology, Erciyes University Medical School, Kayseri/Turkey

**OBJECTIVES**

The effects of finasteride on insulin resistance and of metformin on hyperandrogenism in patients with polycystic ovary syndrome (PCOS) are not clear. This study therefore compared the effects of finasteride, metformin, and finasteride plus metformin treatments on hormone levels, insulin resistance, and hirsutism score in women with PCOS.

**METHODS**

Fifty-two patients with PCOS were randomly assigned to receive finasteride 5 mg/day, metformin 1700 mg/day or finasteride plus metformin for 12 months. Body mass index (BMI), Ferriman Gallway score (FGS), serum concentrations of estradiol, sex hormone-binding globulin, free testosterone, dehydroepiandrosterone sulfate (DHEAS), androstenedione, and homeostasis model assessment of insulin resistance (HOMA-IR) index and areas under the curve (AUC) for insulin and glucose were evaluated before and after 12 months of treatment.

**RESULTS**

Reductions in FGS, free testosterone, DHEAS, androstenedione, HOMA-IR, AUC-insulin, and AUC-glucose were significant within each group, whereas BMI and estradiol did not. Comparisons of changes in parameters in the three groups did not clearly show the superiority of any treatment modality (Table-1 and -2).

**CONCLUSIONS**

Insulin resistance and hyperandrogenism are the two major interacting pathophysiological derangements in PCOS. Thus, treatment with finasteride alone should significantly reduce both androgen levels and parameters of insulin resistance; and our results confirmed that suggestion. To our knowledge, this study is the first to show that finasteride improves insulin resistance in PCOS. In addition, metformin alone was effective, and not inferior to finasteride, in the treatment of hyperandrogenism. The finasteride, metformin, and their combination therapies were effective and safe in women with PCOS, since both drug classes have beneficial effects on both hyperandrogenism and insulin resistance.