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Male PCOS equivalent and nutritional restriction: are we stepping forward?

Federica Di Guardo [a], Maria Cecilia Cerana [b], Gisella D'urso [a], Fortunato Genovese [a], Marco Palumbo [a]

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Abstract

Polycystic ovarian syndrome (PCOS) is an endocrine disorder characterized by alteration of menses, polycystic ovaries, clinical and or biochemical signs of hyper-androgenism in the context of metabolic abnormalities such as obesity and insulin resistance that play a fundamental role in pathogenesis of the disease as well as in development of long-term complications including cardiovascular disease (CVD) and type II diabetes mellitus (DM II). Latest evidence supports the hypothesis of a genetic component in the aetiology of PCOS that seems to be inherited through an oligo-genic mechanism and cluster in families. Recent studies identified the existence of a male PCOS correspondent syndrome in which the genes responsible for PCOS susceptibility in women may be inherited by male relatives of women with PCOS. The same hormonal, clinical and metabolic alterations of women with PCOS have been found in their male relatives suggesting a relation between the syndrome in its male equivalent.

Considering clinical manifestations of male PCOS equivalent, the early onset andro-genetic alopecia (AGA) is considered a clinical marker of insulin resistance, supported by the findings of a case-control study that reported an increased prevalence of hyperinsulinemia and insulin-resistance-associated disorders such as dyslipidaemia, hypertension and obesity, in men with early onset of alopecia (<35), compared with age-matched controls. Moreover, AGA and insulin resistance show higher levels of active androgens, highlighting that low SHBG levels occur in both the diseases and that the two conditions may concur to a worsening of the disease. With

regards to the existence of a male PCOS equivalent syndrome, in particular with refer to its phenotypic hallmark of early onset AGA, our hypothesis supposes a beneficial effect of diet restriction used for PCOS as therapy for male patients affected by PCOS equivalent syndrome. Several observational studies and some randomized trials reported that modest reductions of body weight decrease the risk of development of many diseases, including diabetes and cardiovascular disease and contributes to increase insulin sensitivity in PCOS women. Weight reduction may be adopted for men affected by PCOS equivalent syndrome in order to reduce both levels of circulating androgens, insulin resistance and related-complications such as CVD and DM II.

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