

POLYCYSTIC OVARY SYNDROME - LIFE STYLE AND HEALTH RISKS

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The polycystic ovary syndrome (PCOS) is mainly hyperandrogenic disorder of women of reproductive age that frequently associates insulin resistance and metabolic co-morbidities. PCOS is possibly the most common endocrine disorder in this age range, with prevalences ranging from 5 to 10% worldwide.

Although the aetiology of PCOS is far from being entirely understood, mounting evidence suggests that PCOS results from the interaction of predisposing and protective genomic variants that might have been selected during evolution because of previous survival advantage, with very strong environmental influences in which the life-style and diet changes occurred during the past Century play a major role.

PCOS women may suffer from a vicious circle whereby androgen excess favouring the abdominal deposition of fat further facilitates androgen secretion by the ovaries and adrenals in PCOS patients.

Androgen excess and insulin resistance are present in these women from very early ages, even before the onset of puberty. Yet the relative contribution of androgen excess and of insulin resistance to the PCOS phenotype is shows a wide variation: in one extreme, some women have an exaggerated androgen secretion severe enough to result in PCOS without the contribution of any other triggering factor, whereas in the other extreme, women presenting with a subtle anomaly in androgen excess only develop PCOS when a triggering factor such as obesity or abdominal adiposity is present. And there is a continuum between both extremes in the relative contributions of androgen excess and of insulin resistance and obesity.

The current life-style and the diet in developed country favours weight gain, abdominal adiposity and insulin resistance, which are among the better known facilitators of androgen secretion by the ovaries and possibly by the adrenals. Not surprisingly, obesity is very prevalent in PCOS women and, conversely, PCOS is the most frequent endocrine co-morbidity in overweight and obese women.

Therefore, any strategy addressing the management of PCOS should include life-style modification and nutritional counselling in order to be successful. Furthermore, very recent data suggest that smoking, by favouring abdominal adiposity, might worsen the metabolic dysfunction in PCOS patients, and may also prevent beneficial effects of most drugs currently applied for the treatment of PCOS. Finally, the impact of the drugs used for the chronic treatment of PCOS on intermediate metabolism should be considered in addition to their efficacy in controlling the cosmetic and reproductive consequences of this disorder.

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