

Hair, Hair, It's Everywhere...some have little, some have lot...

Excess body hair growth (hirsutism), and an increase of hair loss on the scalp (androgenic alopecia) are often associated with Polycystic Ovarian Syndrome (PCOS). PCOS is one of the most common female endocrine disorders affecting approximately 5-10% of women of reproductive age. Both hirsutism and baldness in women with PCOS can be due to elevated levels of testosterone. Testosterone is converted to dihydrotestosterone (DHT) which directly stimulates the hair follicle to grow. Body hair grows in response to DHT much more so than does head hair. In the case of baldness, the head hairs are actually sensitive to too much DHT and male-pattern balding is the result.

If women have excess testosterone or other androgens such as DHEA, the very fine body hairs will turn into coarse, dark hairs on the abdomen growing toward the navel and on the face in a beard and mustache pattern. If they have a genetic predisposition to baldness and the androgens are high enough, balding results. Therefore in PCOS with elevated androgens, most women have increased body and facial hair growth and some of them also have balding if they are genetically predisposed.

Testosterone is converted to DHT by an enzyme called 5-alpha reductase. In order to affect hair growth then, the mechanisms to consider would be to

- Decrease the amount of testosterone produced by the ovaries and/or adrenal glands
- Impair the action of the 5-alpha reductase enzyme.

Insulin resistance is widely considered to be the etiology of PCOS. As insulin levels rise and/or cells become less responsive to the insulin present in the blood stream, the female body raises testosterone levels in an attempt to move excess glucose and insulin into the cells. Thus, managing the body's metabolism of and response to insulin will help to decrease androgen levels. This can be accomplished by eating a low glycemic index diet and following a regular exercise program, as well as utilizing the help of glucose lowering supplements. Metformin is a commonly used pharmaceutical that can lower glucose and insulin levels, and thus testosterone levels.

A second approach to managing hirsutism and androgenic alopecia in women is to utilize a 5-alpha reductase inhibitor. Conventional drugs such as finasteride (Proscar, Propecia) are commonly used to slow the conversion of testosterone to DHT. However, there are alternatives to pharmaceuticals. Transdermal Progesterone can slow the conversion to DHT, as can the herbs Saw Palmetto, Nettles root or Green Tea.

It is important to note that insulin resistance in older women causes the same elevation in androgen levels that we see in younger women with PCOS. Elevated testosterone and/or DHT levels in women past reproductive age is simply called insulin resistance, or if multiple metabolic risk factors are present, Metabolic Syndrome. If hirsutism or male pattern baldness are problems for your patients, consider salivary hormone testing to identify androgen levels and evaluate progesterone supplementation options.