

## Hyperandrogenism related to androgen secreting ovarian tumors

*A Podfigurna (PL) [1], B Meczekalski (PL) [2]*

Endogenous androgens are produced by the adrenal glands and the ovaries. Levels of androgens higher than the normal range are usually considered pathological, particularly if accompanied by symptoms of hyperandrogenism. Depending on the disease process, certain androgens may elevate more than others.

Signs of androgen excess in women may include the following: hirsutism, acne, alopecia (male-pattern baldness), anabolic appearance, lowering of the voice or clitoromegaly.

The most common cause of androgen excess is polycystic ovary syndrome (PCOS). In contrast, when hyperandrogenism develops de novo or progresses in women, it is usually associated with other causes, such as ovarian hyperthecosis or an androgen-secreting tumor of the ovaries or adrenal glands.

A variety of ovarian tumors, most of which are benign, have been reported as the source of hyperandrogenism. The most common are sex cord-stromal tumors, including Sertoli-Leydig cell tumors and steroid cell tumors, most commonly Leydig (or hilus) cell tumors.

Granulosa cell tumors and thecomas are more often hyperestrogenic, but androgenic cases are also possible. Benign cystic teratomas are common in postmenopausal women. While these rarely produce excess androgen, there have been case reports of androgenic teratomas that are responsible for virilization.

[1] Poznan University of Medical Sciences, Poznan, Poland, Poznan, [2] Poznan University of Medical Sciences, Poznan, Poland

