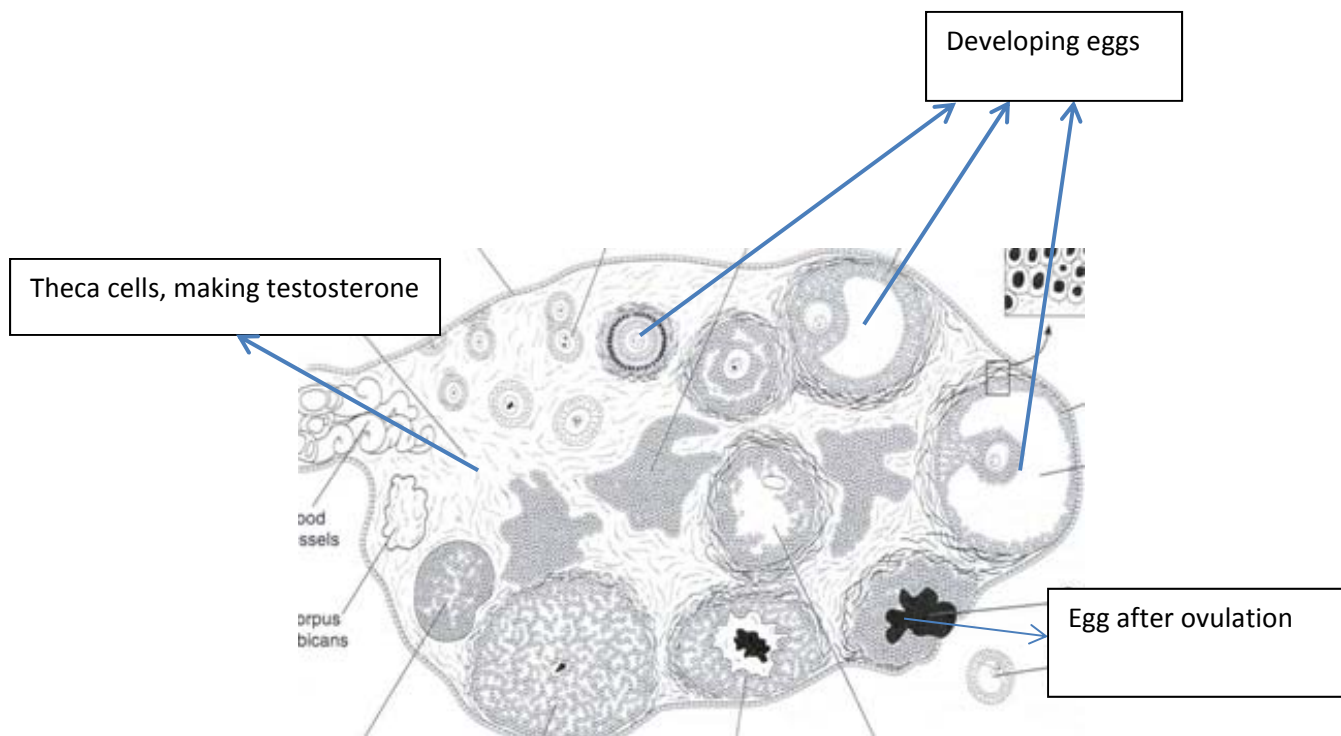


Polycystic ovary syndrome has 2 main features:

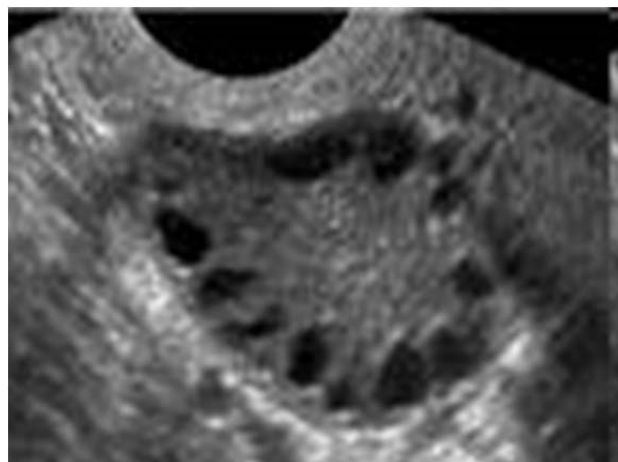
- 1) Cysts in the ovaries
- 2) Increased male hormone secretion from the ovaries.

Ovaries have 2 distinct components:

- 1) Eggs
- 2) The cells (theca cells) which make the male hormone testosterone.



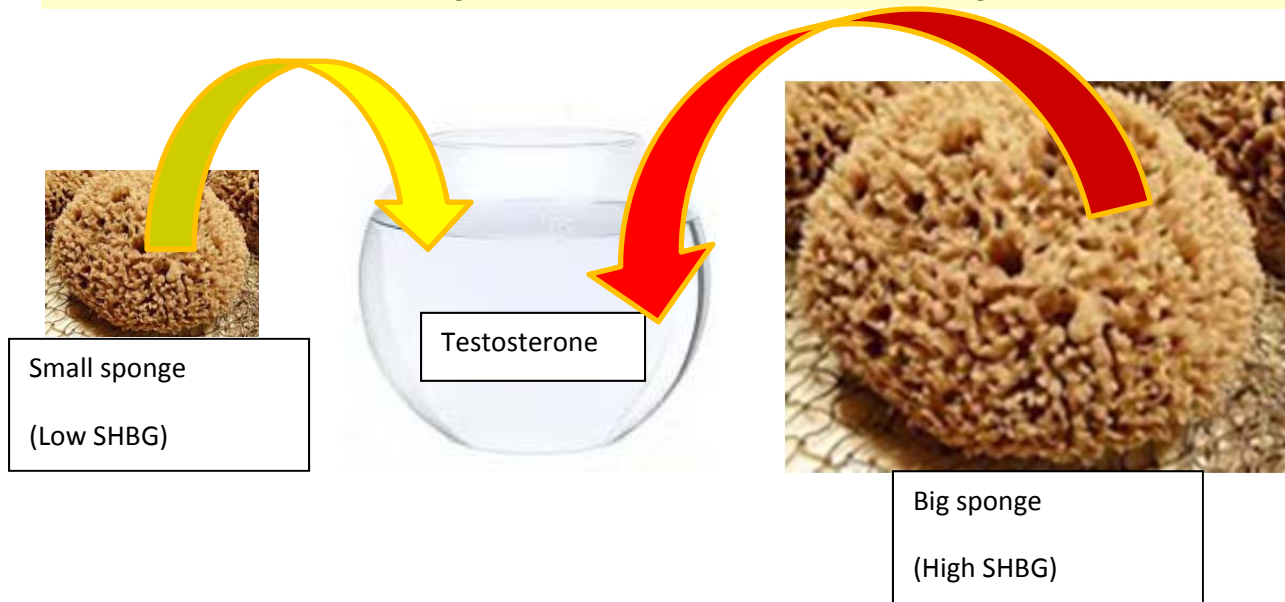
EGGS: Each month many eggs start to race to ovulate. They get larger and accumulate fluid. One of these ovulates, and the rest disappear. If there is no ovulation, the fluid filled eggs stay around and they appear as cysts when examined with ultrasound.



Most important to remember: The cysts are eggs which did not ovulate. They are not tumors or any other destructive structures.

THECA CELLS: These are found in the middle portion of the ovaries. It is normal for women to make the male hormone testosterone. We first make testosterone and convert it to estrogen. If we did not make testosterone, we could not make the female hormone estrogen. In PCOS, we usually have too much testosterone, which causes the acne and excess hair.

In the blood stream testosterone binds to a protein (SHBG). This protein is like a sponge. The portion of testosterone bound to SHBG does not cause hair or acne. The free portion does. So, if we have large amounts of SHBG, we have little amount of free testosterone. The opposite is also true, if we have small amounts of SHBG, we will have large amounts of free testosterone left, causing harm.



RELATIONSHIP BETWEEN OBESITY, IRREGULAR PERIODS and EXCESS HAIR: Obese women with certain skin signs (darkening of the skin in the neck or arm pits and skin tags) are likely to have low SHBG. SO they don't bind their testosterone; they have lots of free testosterone. This causes irregular periods and excess hair. Metformin treatment helps.

