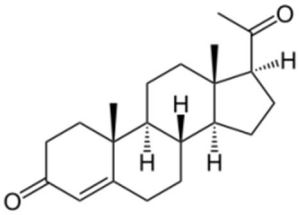
FORMULÆ

THE ART & SCIENCE OF COMPOUNDING

Progesterone

What is progesterone?

Progesterone is a normal body steroid hormone best known for its role in women's menstrual cycles and pregnancy[1]. However, it is present in both sexes, for normal brain function and as a precursor steroid for the body's production of other steroid hormones including cortisol, oestrogens, and testosterone[2]. Ageing causes a decline in progesterone levels, and this is most marked in women with the onset of menopause[3].



What is progesterone used for?

Progesterone is used in oral contraceptives ("the pill"), and as a part of hormone replacement therapy (HRT) in postmenopausal women. Often, it is included to "balance" oestrogen supplementation, as combinations of oestrogen with progesterone (or an analogue) are thought to protect against some potential risks of HRT[4]. "Bioidentical" HRT refers to HRT using only the chemical forms of hormones found in the human body, and progesterone itself may have less undesirable side effects compared with its synthetic or conjugated analogues[4]. Progesterone supplementation is also used in fertility treatments such as IVF, as some of the medications used for these procedures can suppress normal progesterone production[5].

"Natural" progesterone

While progesterone can be synthesized in the laboratory from naturally occurring chemicals from wild yam and soy, the human body cannot make progesterone from these chemicals. Increases in progesterone levels cannot be achieved by eating wild yam or soy, or products made from wild yam or soy—which are sometimes misleadingly labelled as "natural progesterone."

How to use progesterone formulations

Any treatment with progesterone should be undertaken only in consultation with your doctor, after thorough testing to establish baseline hormone levels. Compounded progesterone is available in a wide variety of medication forms (e.g., capsules, troches, creams, and pessaries), and these should be taken or applied as directed by your doctor. Usually, progesterone is taken or applied once

daily. Creams and gels should be applied to the thinnest parts of the skin (e.g., the inner arms or thighs, and preferably a hairless area) to increase absorption. Rub well into the chosen application site to assist penetration through the skin. Avoid applying other creams or ointments to the same site and be wary of accidentally rubbing the medicated area onto others (such as a partner or child). Troches should be placed between the cheek and the gum to ensure good absorption of progesterone. The troches may also be broken into smaller pieces to aid in dissolution. Pessaries are solid, bullet-shaped preparations designed for easy insertion into the vagina. Wash your hands, remove the pessary from its plastic packaging, and while sitting or lying down, insert using your fingers. Pessaries are made of solid vegetable oil, and the progesterone will be gradually released into the vagina as the pessary's oil melts at body temperature. As some of the commonly reported side effects of progesterone may include dizziness, drowsiness or sedation, and fatigue—especially at high doses[3,4]—some doctors instruct their patients to take progesterone before bed.

Possible side effects

For most people, when body levels are monitored regularly by a doctor to achieve a normal physiological level, progesterone is unlikely to produce serious side effects. Some possible minor side effects that have been reported include stomach upset, changes in appetite, weight gain, fluid retention and swelling (edema), fatigue, acne, drowsiness or insomnia, allergic skin rashes, hives, fever, headache, depression, breast discomfort or enlargement, premenstrual syndromes (PMS)-like symptoms, altered menstrual cycles, irregular bleeding, and other side effects. If side effects occur, in some cases they may be relieved simply by reducing dosage or administering progesterone by a different route (e.g., cream instead of a capsule); discuss this with your doctor

References

1. King TL and Brucker MC (2010). Pharmacology for Women's Health. Jones & Bartlett Publishers. pp. 372–373.
2. Baulieu E, Schumacher M (2000). Progesterone as a neuroactive neurosteroid, with special reference to the effect of progesterone on myelination. Steroids. 65(10-11): 605–12.
3. Wang-Cheng R, Neuner JM and Barnabei VM (2007) Menopause. ACP Press. p.97.
4. Files JA, et al. (2011) Bioidentical Hormone Therapy. Mayo Clinic Proceedings. 86(7):673-680.
5. Van der Linden M, et al. (2012) Luteal phase support in assisted reproduction cycles. Hum Reprod Update. 18(5): 473.