

testifies to the significant urgency of creating new herbal preparations based on extracts from medicinal plants containing tannins in the composition, since they have pronounced anti-inflammatory, antimicrobial and reparative properties.

ROLE OF ESTRADIOL IN PROVIDING SEXUAL FUNCTION IN MEN

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Introduction. The key role in providing sexual function (SF) in men is played by testosterone (T). A synergistic effect of the action of T in men is the most active estrogen - estradiol (E_2), 20% of which, with the participation of the aromatase enzyme, is formed directly in Leydig cells, and 80% in peripheral tissues by aromatization mainly T. E_2 on the mechanism of negative feedback affects the decrease in the amplitude and frequency of pulsatile secretion of luteinizing glomon (LH), which leads to a decrease in T synthesis in the testes, as well as an increase in the concentration of globulin binding sex hormones and, in turn, to a decrease in the amount of bioavailable T. At the same time, the experimental data obtained to date show that E_2 is involved in the regulation of testicular function, which is confirmed by an increase in LH synthesis in estrogen- α -receptor deficient mice, as well as by some clinical observations that established an increase in LH in men with deficiency aromatase.

Aim. Establish the role of estradiol in providing sexual function in men.

Materials and methods. The study of the effect of E_2 on SF is carried out by modeling the states of T deficiency (androgen deficiency) in men. Experimental studies are carried out by administering drugs that block the synthesis of T in animals.

Results and discussion. In one study, it was shown that men with androgen deficiency after prescribing T together with an increase in its concentration also experienced an increase in E_2 , after which the administration of aromatase inhibitors along with a decrease in E_2 led to a loss of libido and a weakening of the erection, the state of which was restored after their withdrawal. The same data are indirectly confirmed by another study in which men with aromatase deficiency were prescribed drugs T or E_2 , which led to a significant improvement in their SF (the frequency of masturbation, sexual acts, erotic fantasies and libido) regardless of T.

In clinical observations during the modeling of the hypogonadal state in men with the use of gonadotropin releasing hormone antagonist, the role of E_2 was found to be insignificant in comparison with T, in the maintenance of SF and the formation of aggressive behavior in healthy young men, as well as the association of a decrease in SF with a decrease in the level of E_2 them. The key role in the activation of sexual behavior in men is given to the conversion of T to E_2 at the level of the brain. Moreover, a number of experimental studies have shown that not only this process but also aromatase activity is controlled by estrogens, which made it possible to assume that not only the genomic effect of estrogens controls sexual behavior in men at the level of the brain and hypolalamo-pituitary axis.

Experimental data made it possible to establish that, in the conditions of blocking aromatase activity, an increase in the latent period of the cages was noted, which indicated the influence of E_2 on sexual motivation, as well as a decrease in the number of ejaculations whose disorders developed more rapidly in animals with estrogen receptor blocking. The presence of estrogen receptors in the cavernous tissue of the penis, as well as the involvement of E_2 in maintaining endothelial function in men, suggests a certain role in the provision of an erection.

In addition, there is evidence that an increase in the concentration of E_2 can lead to an increase in venous outflow, which adversely affects the functional state of the smooth muscle of the penis. At the same time, the administration of small doses of estrogens (estradiol valerate at 1 mg per day for 8 weeks) in men with hypogonadism after treatment of prostate cancer led to normalization of blood pressure in them, expansion of the realization of basal NO action and weakening of vasoconstrictive effects of angiotensin II and norepinephrine, which is essential for vascular maintenance of an erection.

The main effects of E_2 on SF in the male body is the maintenance of libido, sexual activity and erection.

Conclusion. Thus, the data given above indicate a rather complex mechanism of the effect of E_2 on sexual function in men, which in our opinion is due to the fact that the study of the ratio of T and E_2 is more pathogenetically justified, which more appropriately reflects the balance between these hormones, taking into account their predominantly opposite influence.