

Fig.1

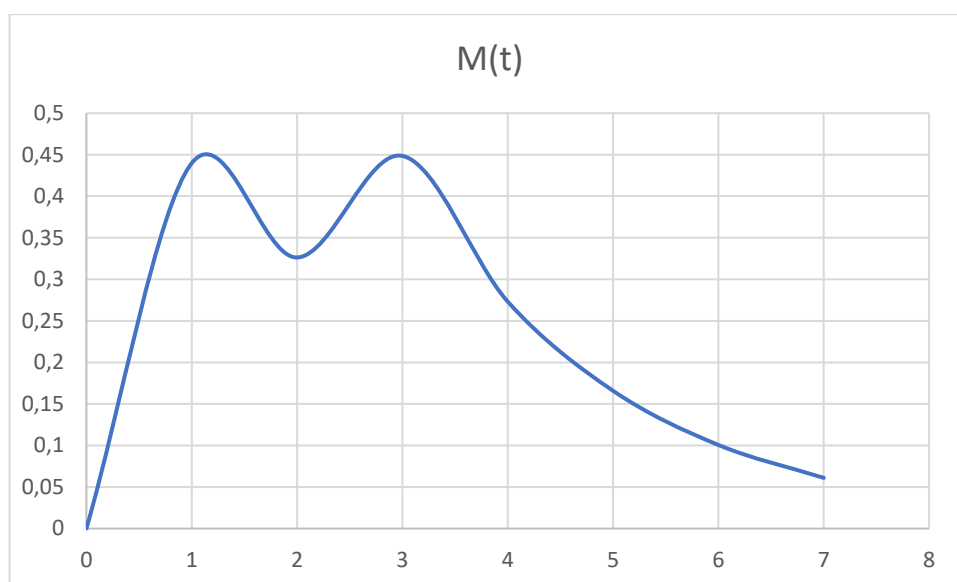


Fig.2

Conclusions. In the considered model, it is possible to achieve the necessary parameters depending on the time of the concentration of the active substance in the blood, varying the technological parameters α and t_0 .

THE ROLE OF HORMONES IN MEDICINE

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Introduction. The human body is a complex system that performs a huge number of operations. A significant role in the correct organization of body work is played by hormones. These are catalysts of biochemical processes that are produced by the glands of the internal secretion. There are various types of hormones, and each of them performs a certain function. It is impossible to imagine modern methods of treatment of certain diseases without hormonal therapy. Hormones subordinate to a single chain and synchronize the jewelry biological work of each organ and system. The importance and urgency in the treatment of certain ailments may be dominant over side effects.

Aim. By a more detailed study of hormones, their properties and actions on the body, the importance of the exclusive meaning of hormonal therapy in medicine and the potential danger are brought to the attention.

Materials and methods. Medicinal products, static methods of information processing.

Results and discussion. Hormones are biologically active chemicals released by the endocrine glands directly into the bloodstream and affect certain organs and target tissues or the body as a whole. Hormones can be classified due to the place water and fat-soluble. Belonging to any of these classes determines their mechanism of action. This is due to the fact that fat-soluble hormones can safely penetrate through a cell membrane, which consists predominantly of a double layer of lipids, and water-soluble can't. Hormones can be divided into the place of synthesis. Some are formed in peripheral tissues, while others are in the central nervous system. From this depends the way of secretion and allocation of substances, which determines the peculiarities of the realization of their effects. Increasing or decreasing the production of hormones, as well as reducing or increasing the sensitivity of hormonal receptors and breaking hormonal transport leads to endocrine diseases.

Mechanism of action of hormones. Hormones act on the tissues selectively, due to the uneven sensitivity of the tissues to them. Organs and cells that are most susceptible to the effects of a particular hormone are called hormone targets (target organs or target cells).

Adrenaline, a hormone, is secreted from adrenal medulla cells in response to signals from the nervous systems that come from the brain in the event of extreme situations requiring sudden muscular activity. Adrenaline should instantaneously provide the muscles and brain with an energy source. The peculiarity of adrenaline is that it affects the human body for 5 minutes. In medicine, the use of adrenaline, usually aimed at the implementation of anti-shock therapy.

Progesterone is a steroid hormone. It is produced in the organisms of both sexes. Its function is related to the sexual domain. Often they are told about it as a hormone of pregnancy: it prepares the uterine endometrium for fixation of the egg after its fertilization and subsequent feeding of the child. The role of progesterone and during climacteric plays its part: when it, as well as estrogens, begin to be produced in smaller quantities and gradually descend, the function of the ovaries fades out and begins biological aging. An important role of progesterone is also given in IVF (artificial insemination), when support for this drug begins immediately, as soon as the embryos were in the womb.

Hydrocortisone-corticosteroid. Corticosteroids have a powerful anti-inflammatory effect and are widely used in the treatment of inflammatory diseases such as arthritis, colitis, asthma, bronchitis, some skin rashes, allergies, and inflammatory eye diseases. Patients undergoing long-term treatment with hydrocortisone and other corticosteroids may develop osteoporosis and an increased risk of bone fractures. The lack of doctors knowledge is the key to a person with a disability.

Advantages and disadvantages of hormonal therapy. The main advantages of hormonal therapy are believed to be the following: 1) prevention of loss of bone mass and osteoporosis (reduction of hip fractures and other complications of osteoporosis in postmenopausal women); 2) reduction of the severity of pathological symptoms associated with menopause (reduction of vasomotor influences, mood changes, urogenital prophylaxis, vaginal atrophy, improvement of the skin and muscle tone). The disadvantages of the same hormonal therapy can be considered that it can cause thrombosis of large veins, stroke, heart attack, endometrial hyperplasia in women, breast cancer.

Conclusions. The activity of certain types of hormones have been systematized in this work. The role of hormonal therapy and the advantages and disadvantages of using artificial hormones have been shown. There are cases where the use of hormones is mandatory and necessary, and there are cases when it can lead to negative results.