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CHEMISTRY OF EMOTIONS

It is known that hormones serve as regulators of certain processes in certain organs and systems. Neurotransmitters are biologically active substances that are chemical transmitters of impulses between the nerve cells of the human brain. The research in the field of neuromedicine has given humanity an understanding of the mechanism of the origin of emotions and the causes of this process - hormones.[3]

Objective: to study the effect of chemical compounds on the expression of human emotions.

Mood: Serotonin

Serotonin is a neurotransmitter - one of the substances that are chemical transmitters of impulses between the nerve cells in the human brain. Serotonin when entering the spinal cord has a positive effect on muscle tone. This condition can be characterized by the phrase "to move mountains". Finally, the most important thing is that an increase of serotonin level creates a feeling of great mood. On the contrary, lack of serotonin causes a decrease in mood and depression. Apart from mood, serotonin is responsible for self-control or emotional stability. People with low serotonin levels have such a reaction when the slightest reason causes a profound stress response.[2]

In order for serotonin to be produced in our body, two things are needed:

• intake of the amino acid tryptophan with food - since it is necessary for the direct synthesis of serotonin at synapses

• glucose intake from carbohydrate foods => stimulation of insulin in the blood => stimulation of protein catabolism in tissues => increase in the level of tryptophan in the blood.

Day and night: melatonin

Serotonin in the body has an antipode - melatonin. 70% of the daily melatonin production accounts for night hours. It is melatonin that is responsible for circadian rhythms - the internal biological human clock. Melatonin secretion directly depends on the general level of illumination - an excess of light inhibits its formation, and a decrease in illumination, on the contrary, increases the synthesis of melatonin. It is low illumination and, as a result, high melatonin production, that are the main causes of seasonal depression. Melatonin is not produced by itself - but from serotonin. And at the same time, he blunts his production.[2]

Pleasure: dopamine

Let′s consider another neurotransmitter - dopamine, which acts as a neurotransmitter and a hormone at the same time. We are interested in dopamine-neurotransmitter, which is responsible for producing feelings of pleasure. Dopamine levels increases during activities such as feeding. Recent studies show that the production of dopamine begins in the process of waiting for pleasure. This effect is similar to the reflex of the preliminary salivation in Pavlov's dog.[2]

Fear and rage: adrenaline and norepinephrine

Adrenaline is a hormone that realizes “hit or run” reactions. Its secretion increases in stressful situations, the sense of danger, anxiety, fear, injuries ets. The main task of adrenaline is to adapt the body to a stressful situation. Epinephrine improves the functional ability of skeletal muscles.

Norepinephrine also increases with stress, shock, trauma, anxiety, fear, and nervous tension. Unlike adrenaline, the main effect of this hormone lies in the narrowing of blood vessels and high blood pressure. It is believed that norepinephrine is a hormone of rage, and adrenaline is a hormone of fear. And adrenaline and norepinephrine can cause tremor - that is, trembling of the limbs, chin.[2]

Happiness exists: endorphins

The most common endorphin is beta-endorphin. Endorphins were discovered in the 1970s, when European scientists began to research the mechanisms of anesthetic action of the Chinese acupuncture system. It was suggested that during acupuncture

in the human body there are substances that are chemically similar to morphine. Such substances have received the code name "endorphins," or "internal morphines."[2]

Being in love: Phenylethylamine

2-Phenylethylamine (or PEA) is a neurotransmitter. The release of PEA increases emotional sympathy. The influence of phenylethylamine on human behavior is explained on the basis of M. Liebowitz's hypothesis of being in love. If we meet someone we like, phenylethylamine begins to be produced in the brain. We, humans, judge about the attractiveness of a partner primarily by optical impression, and not by smell or touch, like most mammals. Romantic love can flare up at first sight.

Conclusion The chemicals involved in the mental processes of the human body have been reviewed. Most of the hormones are neurotransmitters, which gives them the opportunity to influence the change in mood and human behavior. Further studies are being conducted to develop new ways of other chemicals to influence on human behavior and emotions [1].

Keywords: neurotransmitters, hormones, human behavior and emotions.

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