Chapter 12. CAN WE INFLUENCE THE WORK OF OUR GENES?

Let's go back to our emotions. I will tell you what happens in our body when we live in a stress and survival mode, when we are possessed by negative emotions. As a result of the influence of these emotions, the environment that has arisen within us creates diseases. How does this happen?

Genes are responsible for the production of nutrients in our body. These same genes signal cells to produce proteins that our body feeds on. The gene itself does not change as a result of the influence of negative emotions, but its expression changes. I mean the process of making a protein.

Gene expression is the process by which hereditary information from a gene (DNA nucleotide sequence) is converted into a functional product - RNA or protein. Several stages of gene expression can be regulated: these are transcription, translation, RNA splicing, and the stage of post-translational protein modifications. The process of activating gene expression by short double stranded RNAs is called RNA activation.

If a cell begins to produce proteins of a different chemical composition that does not meet the requirements of our organs and the body as a whole, then this defective chemical composition negatively affects us and we have various diseases.

For example, stem cells in the spine produce proteins needed to repair damaged tissues in the body. As soon as the body enters the survival mode under stress or other negative emotions, the cells in our body begin to produce a different cocktail of chemical elements. This different composition does not correspond to the composition necessary for the stable operation and restoration of our body and its functions. Thus, the same stem cells begin to produce proteins of a different composition, which do not fully fulfil their functions.

Our genes transmit signals to cells. Here are some of them:

- CHAC1 — antioxidant, regulates the oxidative balance in cells, reduces the level of free radicals that cause oxidative processes in the body, thereby slowing down the aging process. In addition, this gene contributes to the formation and growth of nerve cells;
- KRT24 — this gene suppresses tumors by destroying malignant cells;

- ALS2CL — suppresses tumors from varieties of skin cancer;
- GTGF — plays an important role in the formation of bone tissue, the regeneration of cartilage and other connective tissue. Downregulation of this gene causes cancer;
- TUFT1 — this gene promotes cell repair and healing, and regulates stem cells. Stem cells can be transformed into any other type of tissue required for the body to repair itself. In addition, this gene is involved in the mineralization of tooth enamel;
- DIO2 — helps to regulate metabolism by reducing insulin resistance, preventing the occurrence of metabolic diseases.

Resistance - immunity of the body to the effects of various factors - infections, poisons, pollution, parasites, etc. In particular, «nonspecific resistance» is a means of innate immunity.

Metabolic disease is a condition in which normal metabolic processes are disrupted, most often due to the absence of a certain enzyme or its deficiency.

Antioxidants (also preservatives) - substances that inhibit oxidation; any of a variety of chemicals, including natural body products and food nutrients, that can neutralize the oxidative effects of free radicals and other substances. Antioxidants also include the electron, as a type of substance.

When our genes are in the high-frequency beta range for a long time (this state can be called the mode of survival and stress), they begin to change their expression. As a result, a person acquires all kinds of diseases.

Therefore, when we live unconsciously, succumb to negative emotions, we thereby disrupt the work of our genes, harming our body.

Chapter 13. BREATHING EXERCISES AND WHAT IS THEIR ROLE

When I did breathing exercises daily, this technique became especially effective for me in the process of pouring water. In those conditions, it was much easier for me to free myself from familiar, learned, standard emotions and habits, to change my state emotionally. I got positive emotions by pouring water on myself. And I will tell you that it works. Anyway, I have experienced these emotions over and over again. When I was in the cold, I experienced a tremendous sense of energy saturation. My body sensations were superior to the environmental conditions (cold conditions). As a result, I was not afraid of the cold, I accepted it as my helper. You can only reach this level if you consistently follow one technique: « I am not afraid of the cold, and water is a source of energy and health for me!» Our subconscious mind does not distinguish between emotions received through life experience from emotions suggested by us through our consciousness!

Next, I will reveal another very important role of breathing exercises and I will tell you how the third human electromagnetic field is formed, as well as how breathing exercises affect the production of the hormone melatonin in our body. Melatonin is the main material for the subsequent

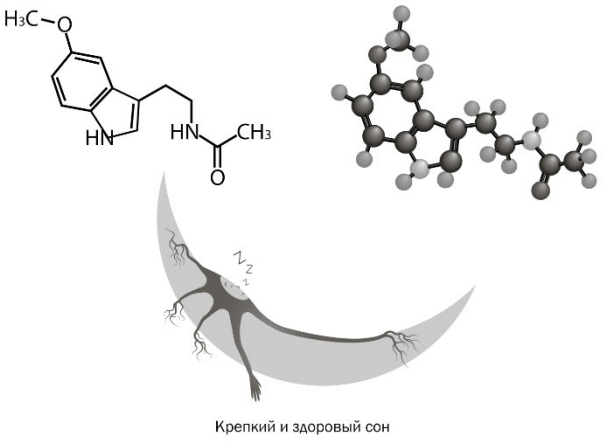
synthesis of many important hormones in our body.

Melatonin, the main hormone produced by the pineal gland of the brain, is responsible for cyclical fluctuations in the intensity of various biological processes associated with the change of day and night.

Hormones are signaling chemicals produced by cells in the body that affect cells in other parts of the body. Hormones enter with the bloodstream into various organs and systems of the body and regulate the activity of an organ located far from the gland synthesizing them, while even a very small amount of hormones can cause significant changes in the activity of the organ.

The chemical formula of melatonin is as follows: C13H16N2O2.

Melatonin scheme



strong and healthy sleep

What happens in our body when we take a deep breath and hold our breath for 5-10 seconds, while straining the lower abdomen to the solar plexus and squeezing the insides? (I described the breathing exercise in the first part of the book.)

The classical formulation of respiration from biology is as follows: respiration is a set of processes that ensure the supply of oxygen to the body and the removal of carbon dioxide from it, formed during biological oxidation.

Respiratory organs - the nasal cavity, nasopharynx, larynx, trachea, bronchi and lungs provide air circulation and gas exchange.

At this level of knowledge of breathing, most of us run out. But breathing exercises are very

important for the movement of cerebrospinal fluid, which, in turn, stimulates the pineal gland, which produces the very important hormone melatonin.

This is how it works:

When we take a deep breath and hold our breath, we need to contract the inner muscles of the abdomen and lower torso, including the muscles of the buttocks. The sacrum also undergoes backward and forward bends that are imperceptible to us.

We not only raise energy from the lower part of our body up with this simple exercise, but we also act through the sacrum, the base of the spine, on the movement of cerebrospinal fluid, lifting it along the spinal column to the brain.

CSF - cerebrospinal fluid (lat.Liquorcerebrospinalis , cerebrospinal fluid) - a fluid that constantly circulates in the ventricles of the brain, cerebrospinal fluid pathways, subarachnoid space of the brain and spinal cord. It supports trophic and metabolic processes between the blood and the brain, the release of its metabolic products. Fluctuation of the cerebrospinal fluid affects the autonomic nervous system.

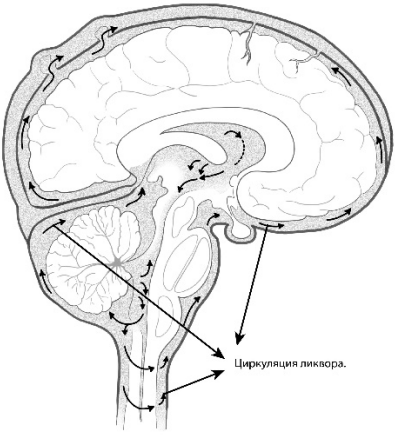
The functions of the cerebrospinal fluid - protects the brain and spinal cord from mechanical influences, ensures the maintenance of constant intracranial pressure and water-electrolyte homeostasis. In addition, the cerebrospinal fluid carries nutrients and chemicals to various parts of the nervous system.

This is how important it is that this fluid, which most of us know practically nothing about, is constantly refreshed through breathing exercises. But the secret of breathing does not end there.

This fluid moves up the central canal, through the space between the spinal column and the spinal cord. When it reaches the brain, it travels through a narrow canal and washes the pineal gland, a small organ similar in shape and size to a pinecone. From this came the name pineal gland.

Circulation of CSF (cerebrospinal fluid) in the human brain

Рисунок 12.2 Циркуляция ликвора (спинномозговой жидкости) в головном мозге человека.



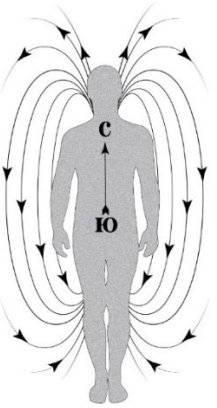
the circulation of cerebrospinal fluid

The pineal gland is one of the parts of the brain. We create additional pressure on the cerebrospinal fluid through breathing exercises, thereby increasing the effect on the pineal gland, activating it to release special hormones, one of which is melatonin.

As a result of this movement of the liquid of charged molecules, an induction field is created, and an electromagnetic field appears around our body. Our body becomes like a magnet as a stream of fluid moves up the spine, creating an electromagnetic field.

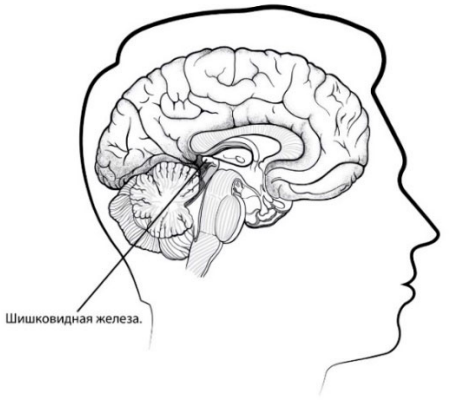
Magnetic induction line

Рисунок 12.3 Линии магнитной индукции



The second electromagnetic field around us is created by the movement of blood through our veins. Blood contains a large amount of metal and water and therefore becomes electrically conductive. This electromagnetic field is a thousand times stronger than the one generated by our brains using neurons in the brain.

Рисунок 12.4 Эпифиз или шишковидная железа.



Epiphysis, or pineal gland

The pineal gland is the main source of melatonin in the body. Up to 80% of the system-wide melatonin in humans is produced in the pineal gland.

The epiphysis, or pineal gland (lat.corpuspineale, epiphysiscerebri) is an endocrine gland, represented by a small pineal body of a grayish-reddish color, located in the region of the quadruple of the midbrain. Outside, the pineal gland is covered with a connective tissue capsule, from which trabeculae extend into the gland, dividing it into lobules. The pineal gland produces melatonin, serotonin, adrenoglomerulotropin, dimethyltryptamine.

In the evening, when the work of the brain dies down, the brain begins to produce melatonin. Melatonin is responsible for sleep. The melatonin production process begins with the synthesis of the amino acid L-tryntophan. Further, the chemical reaction process is as follows: one carbon atom C and three hydrogen atoms H_2 are added.

Melatonin, in turn, is the building block of many other important proteins. After its amount due to the transition of the body from a state of sleep to a waking state becomes excessive, it is converted into the protein serotonin (a protein of the daytime neurotransmitter).

Neurotransmitters are a group of proteins that carry chemical signals that transmit information between nerve cells.

This is our daily biorhythm, or the transition from a night image to a daytime lifestyle of our body.

The process of converting melatonin to other vital proteins occurs during endlessly repetitive important processes, such as fighting infections, repairing DNA, working genes, thinking, etc.

For example, in the morning, serotonin tells the body that it is time to wake up and start vigorous activity. The work of the brain during this transition changes its frequency from the delta range to theta, alpha and beta ranges. Remember the chart you already know in the first chapter.

In the evening, when dusk falls, the opposite process takes place: serotonin is converted into melatonin, and the work of the brain, according to the already known pattern, goes in the opposite direction. As a result, our body falls asleep, brain waves change their frequencies, causing periods of dreams and deep restorative sleep.

For what reason did I dwell in sufficient detail on the topic of melatonin synthesis? Read this chapter to the end, and you will immediately understand everything! A little more patience and we are at the finish line!

Thus, as a result of the constant synthesis process - attachment/release of various additional groups of molecules - serotonin and melatonin form other vital proteins. All these processes take place in the pineal gland. Considering our daily routine, the maximum amount of melatonin is produced from 1:00 am to 4:00 am.

This multiple and endless conversion of melatonin to serotonin (and other derivatives are formed during this transition) is made possible by the more stable serotonin molecule and its important function. Serotonin is converted to N-acetylserotonin through another reaction, and then becomes melatonin again through another reaction.

And now the main thing: if you are emotionally under stress or under the influence of any other negative emotions, then your level of cortisol - a stress hormone that dramatically lowers the level of melatonin - will rise.

Cortisol (hydrocortisone) is a biologically active glucocorticoid hormone of steroid nature, that is, it has a nucleus in its structure. Cortisol is secreted by the outer layer (cortex) of the adrenal glands under the influence of adrenocorticotropic hormone (ACTH - pituitary hormone).

Cortisol is a regulator of carbohydrate metabolism in the body, and also takes part in the development of stress reactions. Cortisol is characterized by a daily rhythm of secretion: the minimum concentration is observed in the evening hours, and the maximum concentration in the morning. The cortisol released into the blood reaches target cells (in particular, liver cells). Due to its lipophilic nature, it easily penetrates the cell membrane into the cytoplasm and nucleus, where it binds to specific receptors. The hormone-receptor complex is a transcription factor - it activates the transcription of certain sections of DNA. As a result, glucose synthesis in hepatocytes is enhanced, while glucose breakdown in muscles decreases. Glucose is stored in liver cells in the form of glycogen. Thus,

the effect of cortisol is to conserve the body's energy resources.

Thus, the instinct of self-preservation recorded in our DNA is triggered: if danger threatens, then be careful, the body goes into a state of constant readiness «to run or attack». For this reason, when we are under stress, we cannot fully sleep. But, in addition, if you carefully read the description of cortisol, you will notice that the body, in the presence of this hormone, begins to accumulate energy resources - after all, we are in anticipation of danger.

As a result, the body stores fat and we gain weight. And our brain is also exposed to stress hormones, in such a state it is not able to correctly process incoming information, since the chemical background of the proteins produced changes and works mainly in a rescue mode.

As a result, when our body is in this state for a long time, it becomes completely unbalanced, the brain sends incoherent and scattered signals to cells and organs, the cells begin to produce a chemical composition that poisons our body and leads to various diseases.

Let's summarize our analysis of various hormones.

Melatonin is the «sleep hormone» responsible for good and healthy sleep, as well as colorful dreams. Melatonin is the basis for the synthesis

of a number of other proteins that are important for the full functioning of the body.

Serotonin is the «happiness hormone» and good mood. It is synthesized exclusively during the daytime, since sunlight is necessary for this process. This explains the fact that many people experience depression in the winter, when there is very little sunlight.

Cortisol is a «stress hormone». It is produced by the adrenal cortex and regulates carbohydrate metabolism, activates the heart and mobilizes the strength of the muscles. This hormone acts in the body for a long time. Its increased content in the blood is associated with the body's response to situations such as cold, hunger, fear, danger, anger, rivalry, excessive physical exertion, infections in the body, pain, and even surgery. The only normal 2-5 times the average cortisol rate that is not associated with disease symptoms is pregnancy.

When the content of cortisol in the blood is excessive, it begins to destroy those proteins that are necessary for the nutrition of the cells of our body.

I hope that everyone who read my book carefully understood how important it is to keep yourself from emotional breakdowns and stress, how important it is to do breathing exercises, how important it is to observe your thoughts in order

to distinguish and understand your thoughts and their origins, and to receive this is a new experience in order to cope with emotions in any situation without exception!

Use this knowledge every day, and the new reality will surprise you!