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Morphology of the Digestive Organs and Their Significance in the Organism

Turakhonov Aziz Qosimovich[1]

[1]*Scientific supervisor: Professor of the Department of Human Anatomy, Samarkand State Medical University*

Mizomova Ezoza Qurbonali qizi[2]

[2]*Student: Student of the 108th group of the Faculty of Pediatrics, Samarkand State Medical University*

Abstract: This article is aimed at highlighting the morphology of the human digestive organs and their significance in vital processes. The digestive system plays an important role in the intake of food, its breakdown into small molecules, its absorption into the blood or lymph, its supply as a source of necessary energy for the body, and the excretion of waste products into the external environment. The article explains in detail the anatomical structures of the digestive organs, their interrelationships and functional properties. Each organ participates in complex processes in the organism and plays an important role in ensuring vital activity. This shows that the morphology and functions of the digestive system constitute the main part of human health and vital activity.

Key words: Splanchnology, system digestorium, cavitas oris, pharynx, esophagus, ventriculus, intestinium tenuae, intestinium crassum, rectum, ulcus ventreculi, duodenum (duodenum), jejunum (small intestine), ileum (ileum), hemorrhoids, constipation (constipation, long-term constipation), diarrhea (diarrhea, flatulence), colitis (inflammation of the colon), (hemorrhoids), gastric juice.

Introduction:

The continuous continuation of vital activity in the human body depends on the joint operation of many complex systems. One of these is the digestive system, which converts food products received from the external environment into substances and energy necessary for the body through mechanical and chemical processing. Each member of the digestive system has its own unique anatomical structure and function, which together play a major role in ensuring metabolism, growth, recovery and immunity in the body. The digestive system is organized by the splanchnology department of anatomy. Splanchnology is a Greek word meaning splanchna - internal, logos - organ. The digestive system (sistema digestorium) includes the mouth (cavitas oris), pharynx (pharynx), esophagus (esophagus), stomach (ventriculus), small intestine (intestinum tenuae), large intestine (intestinum crassum) and rectum (rectum). The digestive process begins at the mouth, where food is ground by the teeth and moistened by the secretions of glands, and undergoes mechanical and enzymatic (enzymatic) processing. The pharynx participates in the absorption of food and passes it through the esophagus to the stomach. In the stomach, food is broken down by the enzymes hydrochloric acid (HCl) and pepsin. In this environment, proteins are processed and bacteria are destroyed. When the gastric mucosa is left unprotected, diseases such as gastritis and peptic ulcers (ulcus ventriculi) can develop. From the stomach, food passes into the small intestine (intestinum tenuae). In the duodenum, jejunum, and ileum, food is completely chemically broken down and nutrients are absorbed. If this absorption is

impaired, it leads to malabsorption syndrome, vitamin deficiency, anemia, and nutritional disorders. The large intestine (intestinum crassum) absorbs water and salts, and produces feces. At this stage, a violation of the eating regimen can cause constipation, diarrhea, colitis, hemorrhoids and other diseases.

The human body is a very complex and perfectly structured biological system, all its organs work inextricably linked to each other. The healthy functioning of each organ affects the state of the whole organism. For example, the stomach (gaster) and intestines (intestinum tenue and crassum) are directly responsible for digestion, while the pancreas (pancreas) fully supports this process with its enzymes. The liver (hepar) is an integral link in this chain by metabolism, neutralization of microbes and production of bile. The cerebrum and especially the autonomic nervous system delicately control the activity of these internal organs. From the moment we see food to its digestion and absorption, central control is carried out at each stage. Digested nutrients are transported directly through the liver through the circulatory system (systema circulatorium) and delivered to the entire body. If a problem occurs in one of these organs, for example, inflammation of the stomach, impaired liver function, or incorrect impulses from the brain, this situation has a negative impact on other organs in a chain reaction. Thus, each organ in the human body, while performing its function, works closely with other systems and ensures the uninterrupted continuation of life.

Proper nutrition is also important for the healthy functioning of the digestive system. Proper nutrition refers to foods rich in biologically active substances, vitamins and minerals, consumed in moderate quantities. Meals should be 3-4 times a day, each meal should be served in a prescribed manner, and the composition of the food should be balanced. Regular consumption of fatty, fried, fast food products leads to overload of the digestive system and causes the development of serious diseases. Drinking enough water, eating a diet rich in fruits and vegetables, and consuming foods that support the intestinal microflora (such as kefir and yogurt) can also help maintain a healthy digestive system. Lack of exercise, stress, and sleep disorders can also negatively affect the functioning of the digestive system.

Depending on the type of food, the digestive system also works differently. Some are digested quickly and easily, while others are digested slowly and difficultly. For example, fruits (apples, bananas) are digested very quickly in the body, from about 30 minutes to 1 hour. Vegetables are digested a little slower, from 1 hour to 2 hours.

Bread, rice, pasta and other cereals are usually digested within 23 hours. They are considered the main source of energy, but if consumed excessively, they can lead to weight gain. Fatty and fried foods, especially meat products, are digested by the body the slowest, from 4 to 6 hours. Such foods strain the stomach, so they should be consumed in moderation.

Milk and dairy products are digested from 1.5 to 2 hours. They are a source of calcium and protein, which have a positive effect on bone and muscle health. However, in some people, due to a lack of the lactase enzyme, they may cause gas or discomfort. Nuts and various seeds are digested in 34 hours.

Interesting facts about the digestive system

1. The power of gastric juice

The pH level of hydrochloric acid secreted by the stomach is around 1.52, which is able to dissolve this iron. However, to prevent the stomach from eating food, it is covered with a mucous layer on the inside, which protects it

2. It takes an average of 2472 hours for food to reach the large intestine from the mouth. This period varies depending on the composition of the food, the person's health and eating habits. Fatty foods take longer.

3. The average person consumes 25 tons of food and 50 thousand liters of liquid during their lifetime. These figures show how large the digestive system works.

4. The length of the small intestine is 5-7 meters

It is so twisted and densely packed that it can easily fit into the abdominal cavity. There are also millions of villi on its inner surface, which ensure maximum absorption.

5. The path from the mouth to the large intestine is about 9 meters long

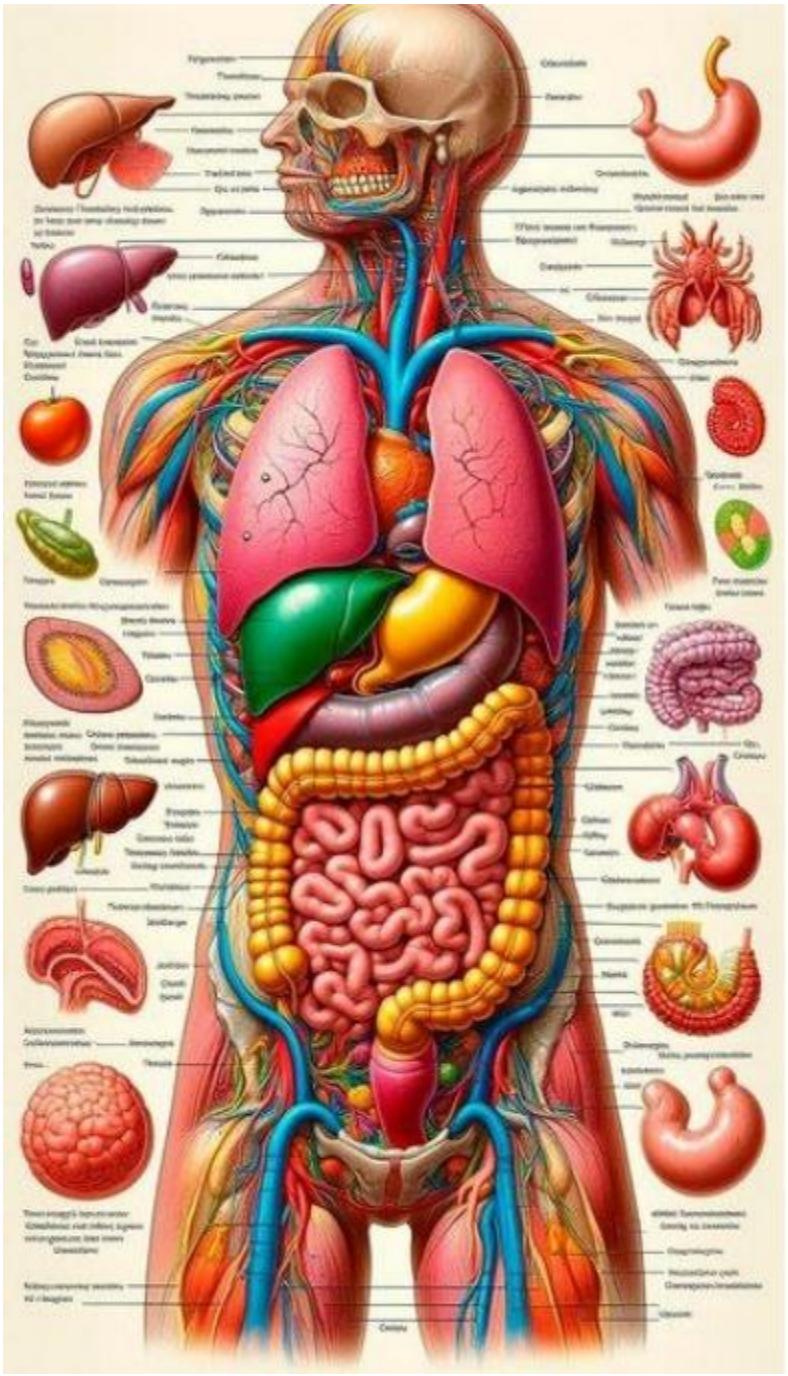
This path is called the "digestive tract" (tractus digestivus) and the movement of food is mainly carried out by peristalsis, which is a rhythmic contraction of muscles.

6. Digestion works independently of the brain

The enteric nervous system (also called the "second brain"), located in the intestinal walls, has independent nerve endings and can control the digestive process independently of the brain.

7. The stomachs of mice and humans work in a similar way

Their stomachs also mix food through peristaltic movements and gradually pass it to the intestine, which allows the results in animals be applied to the human digestive system.



Conclusion:

The digestive system is one of the most complex, but balanced vital systems of the body. The anatomical and morphological structure of the digestive tract and its associated glands ensures the energy supply of the body, the renewal of tissues and cells, and the normal course of metabolic processes. Each organ, from the mouth to the intestines, has its own morphology and function, and their integral connection guarantees the uninterrupted functioning of the entire system.

Disturbances in the functioning of the digestive system have a negative impact not only on digestion, but also on the health of the whole organism. Diseases such as stomach ulcers, gastritis, colitis, malabsorption syndrome often occur as a result of factors such as malnutrition, stress, and lack of physical activity. Therefore, it is important for each person to form a culture of proper nutrition, pay attention to the diet, maintain a diet, and consciously approach the health of the digestive system.

Thanks to the achievements of anatomical science, modern diagnostic and preventive methods, it is possible to detect and prevent various diseases of this system early today. In-depth study of the digestive system is important not only for representatives of the medical field, but also for every person, because this knowledge is the basis of a healthy life.

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