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SIMILARITIES BETWEEN MORPHOLOGICAL INDICATORS OF THE STOMACH OF HUMANS AND WHITE-BREEDLESS RATS

Shirinov M.M., Teshaev Sh.J., Eshpulatov E.Y.

Ministry of Health of the Republic of Uzbekistan
Bukhara State Medical Institute, 200100, Bukhara, Uzbekistan

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Abstract. Information about the anatomy of the stomach of white-breedless rats is very rare in the scientific literature. The shape, structure, and topography of rat stomachs are significantly different from those of vertebrates, but the same sections as shark stomachs can be found in them. This structure of white rat stomach sections characterizes the sac-like formation of the digestive tract. In the anterior part of the abdominal cavity of rats, on the left side of the midline, there is a hole for the heart between the esophagus and the line of the lesser curvature of the stomach. The liver is located in the small curvature of the stomach and partially covers it. The greater curvature of the stomach touches the caecum and cecum.

Key words: white-breedless rat, stomach, digestive tract, esophagus, liver, caecum.

Introduction. The digestive system plays an important role in the body's relationship with the external environment. Various substances included in food affect the mucous membrane of the digestive organs. In the process of immunogenesis, it is clear that the mucous membrane and submucosal membrane have a special lymphoid development The stomach of the white rat is often located under the liver [1,2]. A large curvature of the stomach emerges from under its sharp caudal edge. It is located on the left side, in the caudal part of the lesser curvature, on the dorsal part of the stomach and on the cranial side of the pyloric part. The rat's stomach lies almost transversely [6, 9, 10].

The pyloric part of the stomach and the cranial part of the duodenum merge to the right of the midline, under an open ventrocaudal angle. Below it (caudal) are loops of the jejunum (ventral loops), the sharp corner of the ileum (terminal) and again the cecum [3, 4, 8]. The dorsocaudal (behind) region contains the pyloric part, the body of the stomach, the transverse colon, the body and tail of the pancreas. On the left, dorsal side, the fundus of the stomach and the spleen are identified in the area of great curvature. The width of the hook-shaped rat stomach gradually decreases in the distal direction[5, 11, 12].

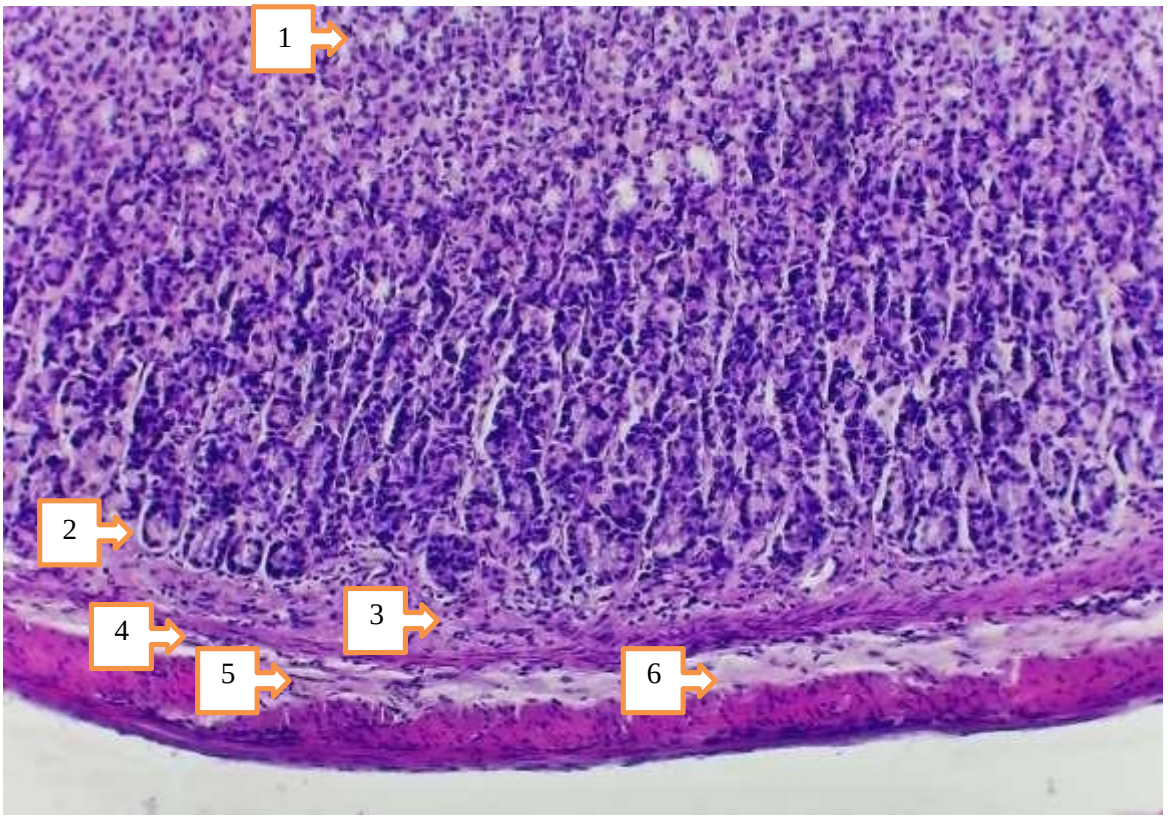
Goal of the work: to study the similarities between the morphological parameters of the stomach of humans and non-white rats.

Materials and methods. 150 animals of both sexes, aged 3-12 months, weighing 200 g, grown in standard vivarium conditions for experimental scientific research. - 500 g. non-white rats were selected. Laboratory animals were kept in the vivarium of the Bukhara State Medical Institute. Rats were kept in special rooms (room temperature 20-24^{0}C, humidity 60%, light 12 hours) according to the requirements for experimental animals. Animals were provided with adequate water and fed a balanced diet. Proper care and feeding of laboratory animals was considered to be of great importance in the preparation and conduct of experimental studies. Violation of the regime and diet, failure to observe hygienic measures during feeding lead to weakening of the animal's body. It increases their susceptibility to various infectious and somatic diseases. The appearance of these diseases during the experiment can lead to a violation of the research results and, as a result, incorrect conclusions.

They were subjected to a mandatory veterinary examination to determine the age and presence of other diseases. In order to prevent infectious diseases from entering the vivarium, the adopted animals were quarantined for 21 days. Laboratory animals were kept in special cages mounted on shelves. The total

number of white outbred rats per cage, the date the experiment began, and the name of the researcher responsible for conducting it are indicated on the cage of the experimental animals.

Results and discussion: When examined microscopically, in the esophageal part of the gastric mucosa, there are three rows of cells that form a multilayered keratin epithelium (picture).



Picture. Microscopic view of the stomach of a 3-month-old white-breedless rat, stained with hematoxylin eosin. Ok 10x 10 Ob.

Mucous layer (1) Mucous muscle plate (2) Submucosa layer (3) Circular muscle layer. (4) Longitudinal muscular layer (5) Serous layer (6)

Basal cells are oval in shape, smaller in size compared to cells of the middle and upper layer, and the nucleus is located in the center of the cell. The cells of the middle and upper rows, unlike the cells of the basal row, have eccentric nuclei and most of the cells are located laterally. There are secretory granules in the apical part of the cells. The cells in the upper row are covered with cuticle. The anterior part of the stomach, i.e. the non-glandular part, is covered with multi-layered epithelial cells in 2-3 rows of the inner mucosa, which continues to the barrier (edge) separating the anterior part of the stomach from the glandular part, and this is clearly visible in the cross-section. This edge can be seen as the border separating the anterior part of the stomach and the glandular part. The mucous membrane of the glandular part of the stomach is composed of a series of columnar cells, which form the pits (pits) of the stomach.

These pits penetrate the gastric mucosa and muscle plates. Their exit holes open into the stomach cavity. When examining the fundal part, it was seen that the glands are located outside of the alveolar epithelium and consist of primary cells, parietal cells, and mucus-producing secretory glands. These glands are tube-shaped and poorly branched. They open into the pit of the stomach between the alveolar epithelium and the glands. Alveolar epithelial cells are composed of a series of columnar cells that stain reddish purple in hematoxylin eosin.

The main cells are rounded and located deeper than the mucous membrane, the cytoplasm of these glands is stained blue-violet, and the nuclei are located close to the basal membrane. The main function of the glands is to produce pepsinogen. Parietal cells are often oval in shape and have 1-2 nuclei located in the center. The kernels are round in shape. These cells are irregularly located in the mucous membrane of the stomach, and their cytoplasm is red-purple when stained with eosinophils in hemotoxylin eosin. Parietal cells produce hydrochloric acid in the stomach cavity. The gastric pits are lined with mucus-producing cells that stain purple when stained with hematoxylin and eosin.

Conclusions: 1. Macroscopic and microscopic examination of stomachs of rats revealed age-related changes. But in all of them, the stomach consists of 2 parts: pre-gastric (non-glandular) and glandular. Also, the stomach consists of mucosa, submucosa, muscle and serous layers. The muscular

plate of the submucosa separates the submucosa from the mucosa.

2.When the stomach of purebred rats was studied, it was found that it consists of the anterior part of the stomach and the glandular part, and the glandular part of the stomach is similar to the human stomach in many ways in terms of its histological structure and function.

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