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FEATURES OF THE ANATOMICAL STRUCTURE OF THE CECUM AND THE APPENDIX IN A COMPARATIVE ASPECT

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Background. Comparison of the structure of organs in humans and some animals in connection with their functions makes it possible to understand adaptations to the conditions of existence of living organisms as integral systems, as well as the origin and paths of their evolution. The legitimacy of the experimental modeling of a particular pathological process in laboratory conditions is achieved, as is known, by preliminary establishing a sufficient degree of homology between the corresponding functional systems of a human and an experimental animal.

Objective. To study the features of the anatomical structure of the cecum and the appendix in a comparative aspect by means of a bibliographic analysis of the literature.

Methods. Bibliographic analysis is based on published peer-reviewed articles, books, textbooks, monographs, dissertation abstracts. For the purposes of this systematic review, the literature search (concerning the study of the anatomical structure of the large intestine and the appendix in a comparative aspect) was carried out on the Internet, domestic literature sources, scientific and electronic libraries of Poltava State Medical University. The search period covered the period from 2011 to 2021, but the review includes some data from earlier publications, since these literary sources have significant scientific value.

Results. The cecum is a shallow reservoir located below the confluence of the distal ileum into the colon. The most noteworthy, in terms of research, is the initial section of the large intestine – the cecum, which in the rat does not have a domed shape, as in humans, but a funnel-shaped extended downwards with the presence of a large basal part (the base of the cecum) and a pointed apex. An important feature of the cecum is the presence of a special appendage – the appendage, which is absent in rats.

Conclusion. In general terms of the anatomical organization, the digestive system of the white rat is similar to that of a human. Only their dimensional characteristics are incomparable; however, this is a positive feature in experimental studies compared to other larger laboratory animals. In rats, the cecum, in commensurate comparison with other parts of the gastrointestinal tract, is a more developed formation than in humans, which is apparently dictated by the large proportion of foods containing fiber in their diet. The cecum

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of the rat does not have a vermiform appendix as such, which in humans is a noticeable formation, a lymphoepithelial organ.

MORPHOFUNCTIONAL STATE OF THE MEDULLA AND THE FASCICULAR ZONE OF THE ADRENAL CORTEX IN MODELING ALZHEIMER'S DISEASE BY EXCESSIVE ADMINISTRATION OF SODIUM NITRITE

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Background. Nitrates and nitrites are found in soil, water, human food, dyes, and medicines. In the literature, both positive and negative effects from the ingestion of nitrates and nitrites into the body are considered. A nitrite model of Alzheimer's type dementia of vascular origin was used in the work.

Objective. The aim of the study was to study the morphofunctional state of the adrenal glands of experimental animals with prolonged administration of sodium nitrite. The study was carried out on male rats of the WAG population, which were divided into 3 groups: gr. N-14 - received injections of a water solution of sodium nitrite at a dose of 50 mg / kg of body weight daily for 14 days; gr. N-28 - Rats received similar injections for 28 days. Injections are intraperitoneal. Control rats were injected with 0.9% sodium chloride solution.

Results. In animals of the main groups, the formation of a morphofunctional picture of the development of a stress reaction takes place, which was also confirmed morphometrically, and in group N-28 - with signs of incipient decompensation of the medulla and the fascicular zone of the adrenal cortex.

Conclusion. When simulating Alzheimer's disease in laboratory rats by the introduction of a water solution of sodium nitrite at a dose of 50 mg / kg of body weight by daily intraperitoneal injection for 14 and 28 days, a picture of their morphofunctional activation is formed in the medulla and fascicular zone of the adrenal cortex. In the group with a 28-day course of administration of sodium nitrite solution, morphofunctional signs of decompensation of the medulla and the fascicular zone of the adrenal glands (especially the medulla) appear, which indicates the development of severe distress in animals and the impossibility of restoring homeostasis.