of magnetoelectric activation of its biomolecules, which starts and ensures their biochemical activity (coherent energy channeling - biochemical soliton flow) and determines structural integrity in their collective interaction of a single organism (transportation of solitons by water-energized structures - controlling soliton flow). 2) Modern deepening of fundamental knowledge to the level of the course of magnetoelectric processes at the molecular level in living biological systems is expedient to be fully integrated into medical science with a change of the electrochemical paradigm of metabolism to a magnetoelectrochemical one. This is necessary because a true understanding of the etiology of diseases of internal organs/NCDs requires a clear and correct understanding of what actually happens to the biopolymers of the human body at the molecular level, what transformations occur with them under different conditions and under the influence of various factors of the internal environment, which are determined by the style human life (nature of nutrition, level of physical activity, etc.). 3) Knowledge and understanding of the quantum-mechanical features of the functioning of biopolymers in living systems, the understanding of the essence of their energy functioning, the organization of the form and role of electromagnetic components is clearly the next step to deepening the fundamental knowledge of the pathogenesis of diseases of internal organs with a further approach to optimizing their treatment and prevention. Prospects. A scientific breakthrough in the understanding of the fundamental issues of the organization of matter at the nano-level of its structure opens new perspectives in the further study of the functioning of the human body at the micro-level of its structure. It forms the newest paradigm of ideas about the mechanisms of realization of the phenomena of life and human health. It can warm up fundamentally different ways of therapeutic effects and justify new mechanisms of already known treatment as well (for example, quantum pharmacology, etc.).

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## COMPARATIVE MORPHOLOGY OF THE ILEUM

Over an extended period, the small intestine's morphological structure and functions are studied as one of the essential parts of the gastrointestinal tract, ensuring the final breakdown of nutrients and absorption of their metabolism products into the blood and lymph. The problem of morpho-functional changes in the small intestine, particularly the ileum, under the negative influence of both exogenous and endogenous factors is of great interest to clinicians and scientists.

The aim of the work. To determine the morphological features of the structure of rat's ileum in normal conditions.

Bioptats of the ileum were removed and embedded in paraffin and epoxy resin according to generally accepted methods to determine the morphological features of the ileum.

Semi-thin sections with a thickness of 4-5 μm were made from paraffin blocks, which were subsequently stained with hematoxylin and eosin; from epoxy blocks - thin sections with a thickness of 1-2 μm, which were stained with methylene blue and toluidine blue.

Histological sections were examined using a light microscope with a Biorex 3 digital photomicroscope (serial number 5604).

It was established that the ileum is the final part of the small intestine, which passes into the large intestine, particularly the cecum. On histological preparations, it was determined that the ileum wall consists of a mucous membrane, a submucosa base, muscular and serous membranes.

The internal topography of the wall is represented by circular folds formed by the mucous membrane and submucosa, intestinal villi, which are sheet-like protrusions of the mucous membrane, and intestinal crypts - indentations of the epithelium in the form of tubes located in the mucosa's own plate. Microscopically, it was established that the mucous membrane consists of a single-layered prismatic epithelium, the own layer of the mucous membrane, and the muscular layer of the mucous membrane.

The epithelial layer is represented by columnar epitheliocytes, goblet-shaped exocrinocytes, exocrinocytes with acidophilic granules, and endocrinocytes. The submucosal base contains blood vessels and the submucosal nerve plexus. The muscular ileum layer consists of internal (circular) and external (longitudinal) layers. The serous membrane covers the ileum from all sides.

Thus, the obtained results make it possible to state that there is no significant difference in the anatomical and morphological structure of the ileum of rats and humans. So, white rats can be used as experimental animals in modeling various pathological conditions in the experiment.