

## **Comparative ultrastructural analysis of gastroenteric tract mucous membrane in experiment as well as in patients with gastroduodenitis and colitis**

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In spite of numerous researches, the questions of irritant intestine syndrome pathogenesis are not studied enough yet. The difficulty of irritant intestine syndrome study is in multifactor systemic process where the complex of immunobiological factors takes part, challenging autoimmune reconstructions of the organism proceeding in small and large intestine as deep destructive ulcerous changes, involving all layers of the intestine.

The aim of the given work is to reveal ultrastructural aspects of the pathological shift regularities in gastroduodenitis, specific and non-specific ulcer colitis and their influence on the other parts of gastroenteric tract.

Main objects of the investigation were biotates of small and large intestine mucous membrane, stomach of patients with gastroduodenitis as well as patients with irritant intestine syndrome and also the particles of white rats large intestine, sensitized by antiintestinal serum with ulcerous changes.

For scanning and transmission electronic microscopy there were used fixation, further preparation of agents and microscopy regimen by generally accepted modes. For electronmicroscopic studying both computer morphometrical and stereometrical analyses the "Video-test, structure-5, nanotechnology" spent under the program.

As the results of electronic microscopy study of the white rats and patients with colitis epithelial layer of the large intestine mucous membrane showed, the ultrastructural changes have a mosaic nature: on a level with areas of microvillus hyperplasia the zones of atrophy and micro necrosis, involving another organelles cytoplasm epithelium were met.

According to the results of electronic-microscopic studies, during amebiasis, salmonellosis and helicobacteriosis there are revealed microcirculation disturbances of large intestine, small intestine, stomach and duodenum mucous membrane, having been occurred on all three levels – intravascular, endothelial and perivascular, marking the great role of vascular factor in pathological process development at intestine pathology, when the participation of *Ent. Histolytica*, *S. typhimurium* and *H. pylori* is the necessary condition. Due to our data, one of the intestine ultrastructural pathology reveal at amebiasis is the dilatation of large intestine mucous membrane interepithelial areas with the intercellular areas integrity violation, desmosomes which could be correlated with the picture of large intestine morphological changes during the experimental amebiasis after the influence of intestinal cytotoxic serum. Concerning amebiasis and salmonellosis agents, adaptation features are revealed both by internalization in large intestine mucous membrane with the help of fermentative and motor invasion phagocytosis and host cells digestion and generalization in other organs, and formation of cytoprotective cellular structures in cysts-formation process as well as microcapsule morphogenesis of cellular wall external membrane. In parasite-host interactions an important part plays phospholipases, acid phosphatases, located in plasmatic membranes and *Ent. histolytica* cell phagolysosoma, causing deep dystrophic changes,

destroying intestine epithelium layers with formation of micro-ulcers erosion and ulcer. Blood-filling of stroma capillaries with formation of coin poles “sludge syndrome”; endothelium height shortening and wall wholeness violation are also typical.

Results received by us, concerning the study of large intestine ultrastructural architectonics at amebiasis, small intestine at salmonellosis and gastroduodenitis, caused by *H. pylori* persisting in stomach tell about the role of pathogenic agent in pathological process development on background of revealed here compensatory-adapting reactions of intestine and stomach mucous membrane.

So, comparative ultrastructural analysis of large intestine mucous membrane in patients with colitis and white rats large intestine after sensibilization by intestinal cytotoxic serum as well as patients with colitis established general structural features typical at autoimmune pathological processes caused by different etiologic factors.