



СЕКЦІЯ І
ОСНОВИ МОРФОЛОГІЇ ОРГАНІЗМУ ЛЮДИНИ І ТВАРИН, АКТУАЛЬНІ ПИТАННЯ
ПАТОЛОГІЧНОЇ АНАТОМІЇ ТА СУДОВОЇ МЕДИЦИНИ

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MORPHOFUNCTIONAL CHARACTERISTICS OF ILIUM ATRESIA IN NEWBORNS.

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Ileal atresia incidence is 1:1600 in newborns. This malformation is equally common in males and females. The proportion of ileal atresia and that of the jejunum is approximately equal, the proximal part of the small intestine and distal portion of the ileum are mainly affected (31 and 36% of cases respectively). In approximately half of the cases the intestinal atresia occurs in the form of free diverticula; atresia with taenia occurs in less than 40% of cases; membrane form of atresia in this place as opposed to the duodenum can be observed only in 13-20% of cases. Intestinal stenoses occurs by almost 20 times less frequently than atresia. In 6% of cases atresia is characterized by its multiple nature. Ileum atresia is a topical issue of Gastroenterology, that requires surgery in infants and young children. In atresia with fibrous taeniae the preatresic area of the ileum ends with diverticula, in certain areas there are some intestinal segments on both sides. The closed intestinal segments are connected with a mesentery and its fibrous taeniae (type II), which are thin stringlike formations, going from one enclosed segment of intestine to another. These taeniae form a free edge of the mesentery and is actually a thickened free edge of the visceral peritoneum duplication. In complete atresia (type III) the segments of the bowel are completely apart, not only along the intestinal tube, but also along the mesentery. In this case we can observe some disorders in both the intestinal angiogenesis and in the dorsal mesentery.

In the preatresic segment of the ileum on the side of its mucosa, shortening of villi and crypts enlargement are observed. In some areas of the mucous membrane there is no epithelium. The cells become cubic, the epithelial cells get shorter. There is a significant hypertrophy of the muscular layer in the muscular membrane of preatresic segment of the ileum. In morphological studies of the preatresic segment of the ileum on the side of mucous membrane the villi become shorter and the crypts get larger. In the preatresic segment of the ileum in the muscular membrane, there is a significant hypertrophy of the circular muscular layer compared to longitudinal one, hyperplasia of smooth myosites, areas of fibrosis, areas of polymorphonuclear leukocyte infiltration along the blood vessels. In preatresic segments of the ileum there are significant changes in the nerve cells and their processes. There is an increase and change in the shape of neurocytes, thickening of their processes, significant thickening at the ends of dendrites was found too. Nerve fibers that have not undergone decay, have rare residual effects of dyschromia and local edema. Around the middle third of the ileum segment, the vascular glomeruli of ganglia are formed with a dense grid. The areas with atresia undergo the most destructive changes both in the nervous system and in hemocirculatory stream. In the segments of the ileum that has undergone them, significant changes in hemomicrocirculatory stream and its intramural nerve plexuses were found. Intramural arteriolar diameters in most cases are narrowed to 16.70 μ m. Their contours are winding. The capillaries that surround nerve cells near the atresia segment are dilated and tortuous. Compared with the norm, diameter of the venules in the preatresic and postatresic segments increased by almost twice. The number of arteriolo-venular anastomoses increases.

In the postatresic segment of the ileum morphological changes occur, such as: mucous membrane with submucosa base is in a state of edema, it is removed in some areas. There are some multiple areas of epithelial desquamation. The muscular membrane is thinned, there is a decrease in myositis sizes when their number increased, which is indicative of muscular layer hyperplasia. There are numerous subepithelial swellings and inflammations in the mucosa and submucosal layers.

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**MORPHOLOGICAL AND FUNCTIONAL CHARACTERISTICS OF JEJUNAL ATRESIA IN
PRENATAL PERIOD OF HUMAN ONTOGENESIS**

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Morphological and functional examination of the intestine that was affected by atresia is quite relevant from the point of view of theoretical research in general and morphology in particular, as well as from the point of view of surgical treatment of intestinal atresia.

The changes in the structure of the atresia, proximal and postural (distal) segments of the intestine have been studied for greater consistency and systematization. The largest expansion of the small intestine reaches 6-8 mm, in a norm in 2 times less. The wall of the empty intestine is thickened by 1.6 times (a norm is 2-3 mm). Atresia with bands of fibrous tissue, the type of villi is shortened, flattened in places, and the lateral surfaces of the tops are covered with epithelium with goblet cells. The height of epithelial cells transforms from high prismatic to low. Somewhere in the apex of the villi the exfoliation of the epithelium is observed, which loses its connection with its own plate of the mucous membrane. There is a transition from desquamation of the epithelium to the adhesion of the tops of the villi. The affected areas are characterized by significant changes in anatomical structure. The muscle membrane of the organ undergoes almost complete fibrotic degeneration (a significant number of fibroblasts, lymphocytic and polymorphic-