

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ  
«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**101 – ї**

**підсумкової наукової конференції**

**професорсько-викладацького персоналу**

**Вищого державного навчального закладу України**

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**СЕКЦІЯ 1**  
**ОСНОВИ МОРФОЛОГІЇ ОРГАНІЗМУ ЛЮДИНИ І ТВАРИН,**  
**АКТУАЛЬНІ ПИТАННЯ ПАТОЛОГІЧНОЇ АНАТОМІЇ ТА СУДОВОЇ МЕДИЦИНИ**

**Antoniuk O.P.**

**THE CHANGES IN DUODENAL STRUCTURE IN NEWBORNS**

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The morphology of atresia of the small intestine is due to many factors, including polyetiological pathology. Problems of morphology of intestinal, caused by the practical significance of the problem. Reconstructive surgery intended to eliminate mechanical intestinal obstruction caused by intestinal atresia should only be performed within healthy, functionally complete tissues. That is why it is necessary to clearly define the boundary between functionally complete and altered part of the gut, which is impossible without knowledge of the morphology of gut atresia. Among occlusion of the distal part of the duodenum, stenoses, proximal atresia predominate; in the middle section, the distribution of these defects is approximately equal. Atresia at the level of the large papilla of the duodenum may be accompanied by an enlargement of the common bile duct and is called T-shaped. Among suprapapillary forms, atresia in the form of loose isolated blind ends predominates; below the large papilla of the duodenum, the membranous form is more often observed. Stenoses are a perforated membrane or hypoplastic region of the duodenum, sometimes with a sharp impaired differentiation of its wall. Necrosis develops not only in parenchymatous elements of tissues and organs, but also in their stroma. In this case, both stromal cells and nerve endings and extracellular matrix components are destroyed. The splitting of reticular, collagen and elastic fibers occurs with the participation of neutral proteases (collagenase, elastase), glycoproteidiprotease, lipid-lipase.

Microscopic examination reveals disintegration, fragmentation and lysis of reticular, collagen and elastic fibers (elastolysis), fibrin is often deposited in necrotized tissue. Vascular necrosis is associated with absolute or relative insufficiency of circulation in the arteries, veins and lymphatic vessels. The most common form of vascular necrosis is caused by impaired circulation in the arteries due to their thrombosis, embolism, prolonged spasm, as well as functional overload of the organ in hypoxia. Thus, atretic changes of the duodenum lead to fibrotic degeneration of the hypertrophied muscular layer, which is a consequence of decompensated hypertrophy. Muscle bundle, both in the circumferential layer and in the longitudinal layer. Insufficient circulation in tissues causes their ischemia, hypoxia and the development of ischemic necrosis, the pathogenesis of which is associated not only with hypoxic but also with reperfusion mechanisms. Necrotized tissue may have a dense and dry texture, which is observed in coagulation necrosis. The fabric can then be mummified. In other cases, the dead tissue is flabby, contains a large amount of fluid, is myomalous. In the membranous form of atresia, the membrane resembles a mucous membrane. The membrane thickness in the duodenum varies up to 1.5 mm, and in the ileum - up to 0.5 mm. At atresia of a duodenum there is a thinning of its wall (norm 4-4,1 mm, at atresia of 2-2,2 mm). The results obtained confirm the clinical-anatomical pattern: the higher the intestinal obstruction tube, the more severe changes in the organ and severe condition of the patient. Directly the areas of atresia with multiple foci of fibrosis and necrosis indicate the possible primacy of disorders of the development of blood vessels, which caused in this area ischemia with the development of fibrosis.

This applies to all areas of the gut - both the small and large (colon) atresia with fibrotic gravity (type II) and complete atresia (type III). With regard to multiple areas of atresia (type IV), in particular, in the syndrome of "pagoda", the pathological manifestations are so numerous and significant that in this case the pathology of the development of the intestinal tube as such, in particular, impaired bowel rotation, comes to the fore. The anatomical interruption of the lumen of the duodenum is covered by a membrane or fibrotic gravity. During intestinal stenosis, the lumen can be narrowed, but always more or less preserved, while atresia is absent in a certain area.



Duodenal atresia (or stenosis) is one of the causes of congenital intestinal obstruction. The population frequency of atresia of this localization is about 1 case per 10,000, stenoses - 1 case a 27000. The proportion of patients with such defect died at the age of 1 month is 1%.

**Biryuk I.G.**

**FORMATION OF THE TOPOGRAPHY OF THE AZYGOS VISCERAL BRANCHES  
AORTIC ON EARLY STAGES OF PRENATAL HUMAN DEVELOPMENT**

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Improvement and implementation of modern technologies in diagnostics and abdominal operations, in particular, the digestive system, requires a perfect study of development and formation of topography of the azygos visceral branches of the abdomen aortic from the moment of their formation, since they will be responsible for the blood supply of all azygos abdominal organs in the future.

The study of 27 histological sections of embryos and the human prefetus proved that the segmental dorsal and ventral branches detach from an azygos dorsal aortic on the 4<sup>th</sup>-5<sup>th</sup> weeks development after its formation. However, with separation of the primary intestine from the yolk sac and formation of its ripples, segmental ventral branches of the dorsal aorta are partly reduced, and some adjacent branches merge and form azygos branches of the aortic. In the center of the dorsal aortic appears extension. This period of development is critical and the disorder of the appropriate course of embryogenesis can lead to anomalies or variants of these wessels development.

The largest of the azygos visceral branches aortic is the bile-mesenteric artery, which enters the original brick and goes in ventral derection to the umbilical cord, reaching a flexura of the carpal loop. Starting from the 5<sup>th</sup> week the embryogenesis of the bile-mesenteric artery is actually transformed into the upper mesenteric.

In the final separation of the celoma into the chest and abdominal cavity occurs at the embryogenesis weeks.

The ventral stem at this stage of development departs from the anterior semicircle of the aortic at the level of the XI-XII thoracic vertebrae, heading ventral, into three branches-the future left gastric, Named vessels are directed to the beginnings of the relevant organs, however, in contact with them are not yet entering.

The upper mesenteric artery is branched off from the aortic at the level of the XII-1<sup>st</sup> lumbar vertebrae, is held in the mesenchymal glands between the pancreas and дванадцяти пала intestine and enter the thickness of the dorsal ripples. At the end of the 7<sup>th</sup> and early 8<sup>th</sup> weeks, the branching of the upper mesenteric artery is performed on 8-12 intestinal loops, located both within the physiological umbilical hernia, and those in the body of the prefetus.

The lower mesenteric artery depart from the middle or left side of the anterior semicircle at the level of the III-IV lumbar vertebrae, goes to the left and to the kadually and is divided into two branches, which the bowel wall does not yet come.

The peculiarity of human ontogeny during the ninth week is process of "self elimination" of physiological umbilical hernia, which is completed in the prefruit of 10 weeks of development. Morphogenesis and formation ot the topography of studied vessels at this stage of development is characterized by their further branching and beginnings of formation of relations between intra-and potopinoroic artery.

The results of our research give grounds to argue that the critical periods for each of the azygos-numbered branches aortic where the difference, which is associated the several different terms of mark and the establishment of their topography.

However, the middle of the pre-term preterm (ninth week in prenatal development) is a common critical period for all studies vessels, as during this period the integrity of the vascular system is established for each organ the abdominal cavity.