



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

**Antoniuk O.P.**

**FORMATION OF THE PHYSIOLOGICAL ATRESIA OF SEPARATED ORGANS OF  
DIGESTIVE SYSTEM IN HUMAN EMBRYOGENESIS**

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In embryos 6.5-6.8 mm parietal coccygeal length (PCL) below the tracheo-pulmonary embryo there is no lumen of the esophagus, due to the presence of epithelial "plug". More cranially and caudally, the lumen of the esophagus is lined with a single layer, mostly cylindrical epithelium. The cells of the epithelial "plug" are smaller (6-7  $\mu\text{m}$ ) than the cells of the single-layer cylindrical epithelium.

During the embryonic period there are intense processes of interaction between rudiments of the esophagus, trachea, lungs and heart. The rudiment of the esophagus increases in size, protrusions of the organ are formed in both the frontal and sagittal planes. In embryos with a length of 5.0-5.5 mm PCL, the lumen of the esophagus due to the intensive development of the epithelium is almost absent, which should be considered as a stage of formation of the epithelial "plug" – physiological atresia. The significant proliferation of the mucous membrane epithelium of the esophagus provokes physiological atresia of its lumen. There is a complete separation of the rudiments of the trachea and esophagus. Physiological atresia of the esophagus is manifested not only in the proliferation of the epithelium and thickening of the epithelial layer, but also in the absence of lumen at some levels of the esophagus.

In embryos of 4.5-5.5 mm TCD, the rudiment of the stomach is an asymmetrically expanded and slightly bent to the left part of the intestinal tube, which differs from the rudiment of the esophagus by an altered shape of the lumen. During this period of development it is possible to allocate a gullet-gastric transition as the site containing three departments: 1 – a distal part of a gullet; 2 – the area of the junction of the esophagus with the stomach (future cardiac opening); 3 – part of the cardiac stomach, which is adjacent to the cardiac opening.

So, at the 4-th week of fetal development begins the formation of the esophagogastric junction. In the histogenesis of the duodenum there is a cranio-caudal gradient and the appearance of villi (prenatal 19.0-24.5 mm TCD), which extend to the jejunum. The cavities between the epithelial bridges of the duodenum differ from the vacuoles of the esophagus because the lumens of the duodenum are separated from each other by epithelial septa, in which the nuclei of epithelial cells are laid.

**Biriuk I.G.**

**MORPHOGENESIS AND FORMATION OF TOPOGRAPHY OF THE ABDOMINAL  
AORTAL PART AT EARLY STAGES OF THE HUMAN INTRAUTERINE  
DEVELOPMENT**

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The study was conducted on 34 histological sections of embryos and pre-fetuses, and on 67 specimens of fetuses and human neonates. The primary system of blood supply in the embryo was found to function at early stages of embryogenesis. According to the findings of our study the embryos 3,1-3,6 mm of PCL in addition to other components of the cardiovascular system possess aorta, umbilical and vitelline-mesenteric arteries. The major blood vessels of the arterial and venous systems were found to form and function in the IV week embryos. To our opinion, a specific feature of the vascular system during III-IV weeks of development was availability of the dorsal segmental or inter-segmental vessels, which originate from the dorsal aorta in the form of metameric fine vessels.