

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



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

Antoniuk O.P.

**THE PECULIARITIES OF DYNAMICS OF GROWTH OF OESOPHAGUS AND
SYNTOPY IN EARLY PERIOD OF HUMAN ONTOGENESIS**

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Introduction. Many studies have been devoted to the structural transformation of the intra-organ vascular bed of the alimentary canal at the stages of prenatal and early postnatal ontogenesis. Despite the large number of studies devoted to this problem, data on the peculiarities of morphogenesis and formation of the topography of the esophagus in the early stages of the prenatal period of human ontogenesis remain poorly studied and controversial. Chronologically, the dynamics of morphometric changes in the esophagus and topographic-anatomical relationships with adjacent organs and structures are not determined.

The aim of the study. To find out the peculiarities of the syntopy and trace the chronological changes morphometric parameters of the esophagus in the early period of human ontogenesis.

Material and methods. The study was conducted on 21 embryos of 4.7-13.5 mm PCL and 42 pre-fetuses of 14.0-80 mm PCL. Series of histological and topographic-anatomical sections, morphometric, microscopic, histological, reconstruction and statistical methods were used for the research.

Results. In embryos with a length of 4.0-4.5 mm, the rudiments of the esophagus, larynx, and trachea are defined as derivatives of the oropharynx at the level of the first cervical vertebra. We take into consideration the caudal border of the esophagus to be the beginning of the spindle-like expansion of the foregut in embryos of 4 weeks, i.e., the area of transition of the esophagus into the lining of the stomach. The rudiment of the esophagus and trachea have different origins from the floor of the oropharynx and develop in the caudal direction in isolation, as evidenced by a sagittal section of a 5-week-old embryo. The beginning of the prenatal period is marked by the process of separating the esophagus from the trachea, which leads to the formation of a pronounced compaction of mesenchymal cells around the rudiments of the mucous membrane of the demarcated organs. Formation of the topographic-anatomical relationships of the esophagus at this stage of intrauterine development is quite dynamic and is closely related to the intensive development of the heart, large vessels of the mediastinum, and lungs. In fetuses of 18.0-19.0 mm PCL, there is a process of recovery, that is, recanalization of the lumen of the esophagus, as a result of which the latter acquires a multicellular appearance; and at this stage of embryogenesis, the division of the muscular shell into circular and longitudinal layers also follows. Starting with pre-fetuses of 28.0-29.0 mm PCL, the predominance of the circular muscle layer over the longitudinal one becomes noticeable. In fetuses of 48.0-50.0 mm PCL, the total length of the esophagus is 12.6 0.3 mm. The thickness of the esophagus below the bifurcation of the trachea is 1.1 0.1 mm. At the level of the bifurcation of the trachea, the esophagus is located in front of the descending part of the aorta, goes down to the diaphragm, and at the level of the upper edge of the tenth thoracic vertebra, the esophageal opening passes, and its right surface is covered by the mediastinal pleura from the level of the first thoracic vertebra to the diaphragm. In fetuses of 75.0-79.0 mm PCL, four folds of the mucous membrane of the esophagus are well formed, with a height of 80 ± 4 μ m. Starting from the level of bifurcation of the trachea in the caudal direction, the height of the folds of the mucous membrane of the esophagus also increases in the abdominal region by 120 ± 10 μ m.

Conclusions. The formation of the esophagus and its curves occurs in embryos of 5.5-6.0 mm PCL. The beginning of the circular layer of the muscular membrane is found in embryos of 9.0 mm PCL, and the longitudinal layer - in pre-fetuses of 18.0-19.0 mm PCL. At the end of the embryonic period (11.0-13.5 mm PCL), there is an increase in the length of the esophagus. In pre-

fetuses of 20.0-24.0 mm PCL, a slight slowdown is observed, and in pre-fetuses of 50.0-79.0 mm PCL, there is an intensive increase in the morphometric parameters of the esophagus, accompanied by the establishment of close topographic-anatomical relationships with the trachea, vagus nerve, aorta and mediastinum pleura.

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POSSIBILITIES OF TRADITIONAL HISTOLOGICAL METHODS OF STUDYING THE SUBSTANCE OF THE HUMAN BRAIN FOR DIAGNOSING THE GENESIS OF THE FORMATION OF HEMORRHAGE IN ITS SUBSTANCE

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Introduction. Traumatic brain injury is one of the most common injuries. Therefore, the identification and diverse morphological assessment of injuries to the skull bones and brain tissues require a methodologically correct approach. One of the debatable issues in forensic traumatology is the differential diagnosis of haemorrhages in the human brain (HB) of traumatic and non-traumatic genesis. There are cases when during autopsy it is difficult for an expert to diagnose the genesis of a haemorrhage only macroscopically, so material should be additionally selected for forensic histological examination.

The **aim** of the work is to develop forensic medical criteria for the differentiation of haemorrhages of traumatic (HTG) and non-traumatic (HNG) genesis by the method of light microscopy of histological sections of HB.

Materials and methods. For the research stained histological brain specimens were used from 110 cadavers in the following cases: deaths from HTG- 40 histological samples (1 group), of which there were produced 40 preparations stained by the methods of Nissl and Shpiel-Mayer; deaths from HNG – 40 histological samples (group 2): 40 preparations each stained similar to the previous group. The control group was formed by brain preparations in case of death from ischemic hearts disease - 30 samples (group 3): 30 preparations each, stained according to the methods of Nissl and Shpiel-Mayer.

Results. Analysis of the received histological examination data considering morphological changes of tissue elements of the human brain substances with different genesis of the formation of haemorrhages revealed the absence of stable relationships between changes in the structure of the nervous tissue and the cause of the formation of haemorrhages. The same type of degenerative changes were present in both groups of samples, regardless of the genesis of haemorrhage.

Conclusion. Histological methods of studying the substance of the human brain, namely staining according to the methods of Nissl and Shpiel-Mayer, are not effective for diagnosing the genesis of haemorrhage.

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CHARACTERISTICS OF LIMITED PROTEOLYSIS IN PLACENTAL FIBRINOID IN COMBINATION WITH BASAL DECIDUITIS AND IRON DEFICIENCY ANEMIA IN GRAVIDAS

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Introduction. Many scientific papers have been devoted to the problem of inflammation of the manure and iron deficiency anemia in gravidas due to the high frequency of these conditions. However, it is important to investigate their interaction, in order to expand and supplement the information base of the pathomorphology of placental insufficiency, which is a common morphological manifestation for these conditions.

The aim of the study. To determine the quantitative characteristics of limited proteolysis in fibrinoid of the basal plate of the placenta in acute and chronic basal deciduitis on the background of iron deficiency anemia in gravidas by histochemical method in combination with computer microdensitometry.