МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

М А Т Е Р І А Л И

106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
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Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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Results. The results of the study depicted the growth indicators of the pancreatic head in the prenatal period of human embryogenesis (M±m): embryo length is 24.7-28.0 mm, pancreatic dimensions (mm) are the following: length - 3.00 ± 0.05 ($p < 0.05$), head width - 0.24 ± 0.012, head thickness - 0.390 ± 0.012; embryo length is 31.0-40.3 mm, pancreatic dimensions are (mm): length - 4.20 ± 0.22 ($p < 0.05$), head width - 0.310 ± 0.014 ($p < 0.05$), head thickness - 0.430 ± 0.009 ($p < 0.05$); embryo length is 42.0-48.5 mm, pancreatic dimensions are (mm): length - 5.80 ± 0.12 ($p < 0.05$), head width - 0.410±0.012 ($p < 0.01$), head thickness - 0.550 ± 0.020 ($p < 0.01$); embryo length is 53.5 - 61.0 mm, pancreatic dimensions are (mm): length-7.40 ± 0.26 ($p < 0.01$), head width - 0.490 ± 0.015 ($p < 0.05$), head thickness - 0.690 ± 0.014 ($p < 0.05$); embryo length is 65.5 - 73.5 mm, pancreatic dimensions are (mm): length-10.30 ± 0.28 ($p < 0.01$), head width - 1.470 ± 0.280 ($p < 0.05$), head thickness - 1.400 ± 0.150 ($p < 0.05$).

Conclusions. Thus, from the results of the study, it can be seen that as the embryo develops, the pancreas grows and forms, although the growth rate of the embryo in length and the rate of change in the size of the head are somewhat different from each other. During the period when the length of the fetus increases from 20.0 mm to 70.0 mm, that is, it increases 3.5 times, the size of the pancreas increases 5 times, and the head of the gland develops especially intensively during this period.

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MORPHOGENESIS OF THE CLOSING APPARATUS OF THE HUMAN STOMACH

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Introduction. Pathology of the organs of the human digestive system takes the second place in the structure of morbidity and mortality, is becoming widespread among congenital and acquired diseases. Development of new and improvement of existing methods of early diagnosis and treatment of organs of the gastrointestinal tract is one of the most important problems of modern practical medicine.

The aim of the study. To find out the peculiarities of the morphogenesis and structure of the stomach sphincteric apparatus in the prenatal period of human ontogenesis.

Material and methods. The research was performed on 28 specimens of human embryos, pre-fetuses and fetuses of 4-28 weeks of intrauterine development using a complex of morphological research methods, which included morphometry, microscopy, 3D reconstruction and statistical analysis. The investigations were performed keeping to the major regulations of the Resolution of the First National Congress on Bioethics «General Ethic Principles of Experiments on Animals» (2001), ICH GCP (1996), the European Union Convention on Human Rights and Biomedicine (04.04.1997), and the European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes (18.03.1986), the Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects (1964-2008), EU Directives №609 (24.11.1986), the Orders of the Ministry of Health of Ukraine № 690 dated 23.09.2009, №944 dated 14.12.2009, № 616 dated 03.08.2012. This work is part of the Department of Histology, Cytology and Embryology's initiative research at Bukovinian State Medical University "Structural and functional peculiarities of tissues and organs in ontogenesis, regularities of variant, constitutional, sex-, age-related and comparative human morphology". State registration number: 0121U110121. Terms of execution: 01.2021-12.2025.

Results. It was established that at the end of the 4th week of intrauterine development, the source of the stomach has the appearance of a spindle-like expansion of the foregut. In the 5th week of intrauterine development, the rudiment of the stomach continues to expand and flatten at the same time. At the 7th week of intrauterine development, a segment of the foregut begins to form under the bronchopulmonary bud – the rudiment of the esophagus. In the 7th week of intrauterine development, rotation of the stomach begins. At the end of the 7th week of intrauterine development, a lesser curvature of the stomach, turned to the left, and a greater curvature of the organ, turned to the right, are visible. During the 8th week of intrauterine development, the rudiment

of the stomach begins to acquire a definitive hook-like shape with a sharp angle between the fundus of the organ and the esophagus. The organogenesis of the gastrointestinal tract is accompanied by the formation of the diaphragm in the 7th week of intrauterine development. In the pre-fetal period of ontogenesis, the muscle tissue of the diaphragm is formed with the formation of its crus. In the 14th week of intrauterine development, the syntopy of the diaphragm and stomach acquires definitive features of the topography. The pyloric part of the stomach is formed at the end of the 5th week of intrauterine development in the form of thickening of the circular and longitudinal layers of the muscular membrane, which extend to the duodenum.

Conclusions. The esophageal-gastric segment and the diaphragm are formed in the 7th week of prenatal development, their syntopy and the acute angle between the esophagus and the fundus of the stomach serve as the upper closing apparatus of the stomach. The lower closing apparatus of the stomach, represented by the circular layer of the pyloric part of the stomach, is formed at the end of the 5th week of prenatal ontogenesis.

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MACROSCOPIC EXAMINATION OF THE THORACIC CAVITY ORGAN COMPLEX IN HUMAN EMBRYOS

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Introduction. The study of embryonic lung development holds significant value for both basic science and clinical medicine. This study makes it possible to understand the mechanisms and stages of the formation of the respiratory system, which is important for the diagnosis, prevention and treatment of various lung diseases that can occur even at the stage of embryogenesis. Therefore, understanding the development of the thoracic organ complex, from the initial formation of the bronchial tree to the maturation of the alveoli, highlights critical periods in embryonic lung morphogenesis. Studying this process helps reveal potential vulnerabilities where possible disturbances can lead to malformations such as hypoplasia or agenesis of the lungs.

The aim of the study. To examine the peculiarities macroscopic examination of the complex of organs within the thoracic cavity of human embryos.

Material and methods. The study was performed on 21 complexes of organs of the thoracic cavity of fetuses on human embryos of 80 and 139 mm parietal-coccygeal length (PCL).

Results. During the macroscopic examination of 21 thoracic cavity organ complexes from fetuses with parietal-caudal size from 80.0 to 139.0 mm (fetuses from 3 to 4 lunar months), it was established that the shape and topography of the lungs correspond to the same definitive organs. However, similar to earlier stages of development, their size is much smaller than the corresponding pleural cavities. The growth of the lungs, especially in the anterior-posterior direction, occurs quite intensively, and during the 4th month of fetal life, this size of the right lung increases from 12.0 mm (a fetus with a parietal-caudal size of 80.0 mm) to 24.5 mm (a fetus with a parietal-caudal size of 139.0 mm), the left one – from 13.0 to 21.6 mm. The longitudinal size during the same time increases from 12.5 to 24.0 mm (right lung) and from 14.5 to 27.0 mm (left lung). In the transverse dimension, the right lung expands from 7.0 to 11.5 mm, while the left lung increases from 5.2 to 10.0 mm.

On all preparations, the main (oblique) interlobular furrow of both lungs is deep, reaches almost to the gate of the organ and completely divides the lung array into two departments (lobes). The horizontal interlobular furrow of the right lung is highly variable and only in 6 observations was it deep (it reached almost to the gate of the organ) and along its entire length separated the middle lobe from the upper. On the other 15 preparations, this furrow starts from the oblique at a distance of 9.0–12.0 mm from its upper end and is directed forward, but does not reach the front edge of the lung, ending at a distance of 6.5–8 .5 mm from the latter, as a result of which the middle part is fused with the upper part for a considerable length.

Conclusions. As the embryo grows, there is a complication of the structure and branching of the bronchial tree, which is distributed according to the lobular, zonal, segmental, subsegmental