МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

М А Т Е Р І А Л И

105-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
присвяченої 80-річчю БДМУ
05, 07, 12 лютого 2024 року

Конференція внесена до Реєстру заходів безперервного професійного розвитку, які проводитимуться у 2024 році № 3700679

Чернівці – 2024

УДК 001:378.12(477.85)
ББК 72:74.58
М 34

Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

ББК 72:74.58

У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

ISBN 978-617-519-077-7

information not only about the etiology and pathogenesis of the disease, but also about the development and formation of the organism in the norm, in particular, the structures of the oral cavity at an early period of human ontogenesis.

Materials and methods. The purpose of the study is to find out the peculiarities of the sources of the rudiments and chronological sequence of the morphogenesis of the structures of the oral cavity at an early period of human ontogenesis. 14 serial histological specimens of human embryos from 4.0 to 13,5 mm parietal-coccygeal length (PCL) were studied using a complex of morphological research methods (microscopy, three-dimensional computer reconstruction, morphometry, statistical analysis).

Results. In 4-week-old embryos, the area of the future oral cavity is marked by the oropharyngeal membrane, which is located between the cranial end of the notochord and the region of the heart rudiment. It consists of epithelia of ecto- and endodermal origin, which are tightly joined. Further degeneration of the oropharyngeal membrane at the end of the 4th week of intrauterine development (IUD) leads to the appearance of the oral opening. During the formation of the folds at the cranial end of the embryo, the oropharyngeal membrane and the cardiogenic region, located cranially from the notochord, bend ventrally and caudally, forming the floor of the foregut and the anterior body wall above the level of the umbilical cord. The process of formation of the folds of the head moves the future oral cavity to its definitive location on the front surface of the body, and also establishes permanent topographical-anatomical relationships between the heart, the cranial part of the foregut and the corresponding coelomic spaces. During this period, proliferation of mesenchyme occurs around the oropharyngeal membrane, resulting in the formation of a pit-like depression lined with ectoderm, the stomodeum or primitive oral cavity. At this stage of IUD, the oropharyngeal membrane does not come into contact with the stomodeum, but separates the lumen of the primitive oral cavity and the lumen of the foregut. Immediately after the appearance of the rudiments of the thyroid gland and pituitary gland, the avascular oropharyngeal membrane degenerates and a continuity between the lumen of the primitive oral cavity and the lumen of the foregut is formed. The first and most distinct pair of branchial arches develops from localized clusters of branchial mesenchyme around the edges of the oropharyngeal membrane. The first (mandibular) branchial arch and its derivatives will eventually form the upper and lower jaws of the definitive oral cavity, and it is the accumulation of branchial mesenchymal cells for the first branchial arch that creates the stomodeal recess of the primitive oral cavity. It should be noted that five complete branchial arches are formed in human embryos; the sixth pair is often overlooked because its caudal borders are not defined by clefts and pouches.

Conclusions. 1. In 4-week-old human embryos, the region of the future oral cavity is marked by the oropharyngeal membrane, which is located between the cranial end of the notochord and the region of the heart. 2. The process of formation of the folds of the head moves the future oral cavity to its definitive location on the front surface of the body, and also establishes permanent topographical-anatomical relationships between the heart, the cranial part of the foregut and the corresponding coelomic spaces.

Chernikova G. M.

GROWTH RATE OF THE PANTACRATIC GLAND BODY IN THE PRENATAL PERIOD OF HUMAN ONTOGENESIS

Department of Histology, Cytology and Embryology
Bukovinian State Medical University

Introduction. The first trimester of intrauterine development is decisive for the future formation and differentiation of human organs and systems not only in the intrauterine period, but also in postnatal ontogenesis. Therefore, a large number of publications on the pages of modern and foreign scientific publications are devoted to the study of human development.

The aim of the study. To find out the peculiarities of the dynamics of the morphometric parameters of the pancreas in the prenatal period of human ontogenesis.

Material and methods. A complex of morphometric research methods (anthropometry, morphometry, macroscopy, microscopy of series of histological sections, statistical analysis) examined 7 embryos of 5-6 weeks of development and 27 human pre-fetuses aged from 7 to 11 weeks (24.7-61.0 mm parietal coccygeal length (TCL)). The methods of variational statistics were used to determine the average value (M) and its error (m), as well as the degree of reliability (p).

Results. As a result of the study, the growth indicators of the body of the pancreas in the prenatal period of human embryogenesis (M±m): the length of the embryo is 24.7-28.0 mm, the dimensions of the pancreas (mm): length - 3.00±0.05 ($p < 0.05$), body width - 0.160± 0.012; body thickness - 0.040± 0.001; embryo length 31.0-40.3 mm, pancreas dimensions (mm): length - 4.20±0.22 ($p < 0.05$), body width - 0.240± 0.013 ($p < 0.05$), thickness bodies - 0.120 ± 0.008 ($p < 0.05$); the length of the embryo is 42.0-48.5 mm, the size of the pancreas glands (mm): length - 5.80±0.12 ($p < 0.05$), body width - 0.310± 0.012 ($p < 0.05$), body thickness - 0.190± 0.012 ($p < 0.05$); embryo length 53.5-61.0 mm, pancreas dimensions (mm): length - 7.40±0.26 ($p < 0.01$), body width - 0.370± 0.003 ($p < 0.05$), thickness bodies - 0.230 ± 0.009 ($p < 0.05$); embryo length 53.5-61.0 mm, pancreas dimensions (mm): length - 10.30±0.28 ($p < 0.01$), body width - 0.370± 0.003 ($p < 0.05$), thickness bodies - 0.230 ± 0.009 ($p < 0.05$). The rate of increase in the size of the pancreas in the prenatal period of human embryogenesis, calculated per 1 mm TCL of the embryo in mm, is as follows: in embryos with a length of 24.7-28.0 mm, the pancreas has a length of 0.110 mm, while the width of the body is 0.006 mm, the thickness of the body is 0.010 mm; in embryos with a length of 31.0 - 40.3 mm, the pancreas has a length of 0.120 mm, while the width of the body is 0.007 mm, the thickness of the body is 0.003 mm; in embryos with a length of 42.0 - 48.5 mm, the pancreas has a length of 0.130 mm, while the width of the body is 0.007 mm, the thickness of the body is 0.004 mm; in embryos with a length of 53.5 - 61.0 mm, the pancreas has a length of 0.130 mm, while the width of the body is 0.006 mm, the thickness of the body is 0.004 mm.

Conclusions. The obtained data indicate that when the length of the fetus increases from 24.7 mm to 61.0 mm, the establishment and development of the body of the pancreas is slow, which may further contribute to the divergent differentiation of the endodermal epithelium of the pancreas into pancreatic exocrinocytes and endocrinocytes of the islets of Langerhans.

Dmytrenko R.R.

PECULIARITIES OF THE IDENTIFICATION OF DIFFERENT TYPES OF TISSUES DURING 3D-RECONSTRUCTION OF HUMAN MICROSCOPIC STRUCTURES

Department of Histology, Cytology and Embryology
Bukovinian State Medical University

Introduction. 3D-reconstruction is an informative, objective method of morphological research, which aims at transforming a series of consecutive sections (histological, macroscopic, anatomical sections, computer tomography (CT), etc.) into a virtual three-dimensional image that can be studied in different projections and measure volume, area, diameters, angles, save, copy, edit. Modern methods of medical diagnostic imaging (CT, MRI, USD) are based on obtaining a 3D image from a series of consecutive "virtual" sections, which, of course, do not involve tissue destruction. Their interpretation requires exhaustive knowledge of their real anatomical structure, especially for objective monitoring of intrauterine development (IUD).

The aim of the study. The aim was to compare the effectiveness of 3D-reconstruction methods of various tissues and microscopic anatomical structures of the human body in the prenatal period of development.

Materials and methods. The research was carried out on 6 series of consecutive histological sections of human embryos aged 4 to 6 weeks of intrauterine development (IUD), 15 specimens of organ complexes of the head, limbs and trunks of human prefetuses aged 7 to 12 weeks of IUD, human fetuses aged 4-9 months of IUD by the method of creating histological (5), as well as histotopographic sections (10) directly from the paraffin block and their digitization, and 14 CT of human fetuses aged from 4 to 9 months of IUD.