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У збірнику представлені матеріали 101 – ї підсумкової наукової конференції професорсько-викладацького персоналу вищого державного навчального закладу України «Буковинський державний медичний університет» (м.Чернівці, 10, 12, 17 лютого 2020 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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the basic processes of morphogenesis on the basis of the findings of embryogenesis. The study of the development and forming of the topography of the parotid gland during the prenatal period human ontogenesis is of great importance for integral understanding of the structural – functional organization of the salivary apparatus and the oral cavity on the whole. The analysis of scientific literature dealing with the parotid gland anatomy is indicative of a fragmentariness and discrepancy of the data, pertaining to the syntopy and chronology of the topographic-anatomical changes during the fetal period of human ontogenesis.

The objective of the study was to investigate variant anatomy and topographic-anatomical peculiarities of the human parotid gland and surrounding structures in fetuses.

The parotid gland was examined on 25 human fetuses, 130,0-375,0 mm of the parietal-coccygeal length (PCL). The following methods were applied in the course of the study: thing section of the parotid gland and parotid-masticatory area under the control of a binocular magnifying glass; macro- and microscopy; morphometry; computed 3-D design.

The parotid gland is found to be located in fetuses with 130,0-375,0 mm of PCL in a deep depression posteriorly the branch of the lower jaw, in the posterior mandibular fossa. A greater part of the gland is located between the mandible and sternocleidomastoid muscle penetrating deeply between these structures. The skin of this particular region is thin, movable. The subcutaneous pot is thin and fused with the skin. The structure of the parotid gland of 4-10 month human fetuses is anatomically changeable which is manifested by different shape (oval, leaf-shaped, horseshoe-like, triangle, irregular tetragonal), location and syntopy. Computed 3-D design of the gland presents its volumetric description which is the most practical one – in the shape of trilateral pyramid turned to the malar arch by its base, and to the mandibular angle – by its apex. A number of structures pass through the tissue of the parotid gland including facial nerve, posterior mandibular vein, external carotid artery, auricular-temporal nerve. The parotid duct is formed due to the fusion of two extra-organ lobular branches which in their turn are formed by means of fusion of several upper and lower lobular ducts emerging from the gland tissue passing through its capsule. The direction of the parotid gland is arch-like, with upward convexity. Passing along the external surface of the mastication muscle the parotid duct touches the upper extremity of the adipose body of the cheek and penetrates through the buccal muscle into the oral vestibule where it opens in the shape of a papilla of the parotid duct. The length of the parotid duct in the fetuses of the third trimester is 8,0-26,0 mm, diameter of the lumen is within 0,8-2,5 mm. The parotid duct is projected on the skin of the face from both sides along the line from antilobium to the mouth angle. The wall of the parotid duct consists of the connective tissue rich in elastic fibers and epithelium lying the lumen of the duct. The epithelium consists of two layers – deep cubic and superficial cylindrical.

Therefore, morphogenesis and topographic formation of the human parotid gland in fetuses are influenced by a total effect of spatial-temporal factors associated with the dynamics and close syntopic correlation of organs, vascular-nervous formations and fascial-cellular structures of the parotid area. At the end of the 10^{th} month of the prenatal development the parotid gland under the microscope demonstrates its practically definite shape, although histological processes of differentiation in it are not completed yet. A study of the specific characteristics and consistent patterns of the morphogenesis and dynamics of the spatiotemporal changes of the salivary glands will make it possible to reveal new findings, pertaining to the emergence of variants of their structure, the preconditions of the onset of the congenital malformations and acquired diseases.

Lazaruk O.V.

CANCEROGENESIS INVESTIGATION OF MAMMARY DUCT CARCENOMA BY PROTEIN MODIFICATION IN THE TISSUE

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None of tumor changes in the normal organ tissues occur without changes in the protein structures of the intercellular substance and epithelial cells. Damage of the protein structures

including genetic apparatus occurs mainly at the expense of oxygen free radicals. The sources of oxygen active forms in the body are mitochondrial, microsomal, phagocytic electron-transport chains of oxidation, monoaminoxidase, xanthinoxidase, ion interaction of changeable valence metals with oxygen and reducers.

Objective: to determine primary structure where changes occur activating tumor process by means of oxidation and other protein modifications in patients suffering from invasive mammary duct carcinoma, and compare it with patients having and lacking metastases into the regional lymph nodes at the point of the study.

Morphological data of 50 cases with invasive mammary duct carcinoma were used for the study. 30 cases included a group of women with metastases into the regional lymph nodes at the point of the study. 20 cases were a group of women without metastases into the regional lymph nodes at the point of the study. Peculiarities of the whole proteins in tumor and peri-tumor area were determined by the ration of carboxyl and hydroxyl groups to protein amino groups according to R/B coefficient, and examination of limited proteolysis by means of detection of free NH_2-groups of proteins.

R/V coefficient in tumor tissues and stroma was found to be higher in women with mammary duct carcinoma with metastases, than that of the group without metastases. It was indicative of "acid" proteins prevalence. This fact evidences a higher activity of tumor proteins in case of metastases and reflects a higher risk of cancer metastasis.

Thus, prevalence of "acid" proteins is indicative of the loss of barrier function of the stromal component, intensification of tissue hypoxia, changes in the activity of proteolytic enzymes, modification, activation of new proteins synthesis participating in metastasis. These changes in tumor cells are indicative of activation and synthesis of new mutated and tumor changed proteins.

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MORPHOGENESIS OF BONES OF THE HAND IN EARLY PERIOD OF HUMAN ONTOGENESIS

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The development of the hand depends on many regulatory molecules secreted by varios regions of the developing upper limb. While some of these molecules have stimulatory effects, others have inhibitory effects. Both proliferation and apoptosis take place in various areas of the developing upper limb in order to form skeletal stuctures and spaces. The development of upper extremity has to be understood in order to understand the development of the hand. Being aware of the development and developmental mechanisms of the hand, may help clinicians in understanding the underlying mechanisms of congenital hand malformations.

The long bones of the hands and feet in children have an epiphyseal end with a secondary center of ossification and an adjacent transverse physis. In contrast to other long bones in the body, the opposite end in the hands and feet, termed the non-epiphyseal end, is characterized by direct metaphyseal extension of bone to complete terminal ossification.

The chronological patterns of bone apparatus during pre- and postnatal development of hand were studied. The development of the hand begins with the flattening of the distal ends of the extremity buds on the 34-38th days of development. Thus, paddle-like hand plates occur. Development of the digits begin with the fragmentation of apical ectodermal ridge and on the 46th day of development hand plates take a notched shape and digit rays form. Apical ectodermal ridges at the tips of each digit, induces the mesenchyme to condense and transform into the primordia of phalanges. As a result of this induction cartilaginous primordia is formed.

Specific phalangeal segments arise. At the 50th day, the digits are webbed. The loose mesenchyme between the digit ray undergoes tissue breakdown via apoptosis and at the 52nd day separate digits. Ossification of the phalanges occur antenatally. Carpal bones ossify postnatally.