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«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

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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.) – Чернівці: Медуніверситет, 2020. – 488 с. іл.

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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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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.

Marchuk F.D.

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.

The formation time of the primary ossification centers of carpal bones, metacarpals and phalanges was established. The data concerning the secondary centers of ossification and the terms of their mergering with primary ossification centers. We have described a rare case of malformation of the bones of the hand.

Navarchuk N.M.

ANATOMIC FEATURES OF THE FACIAL NERVE IN PRENATAL PERIOD OF THE HUMAN ONTOGENESIS

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The embryology of the seventh cranial nerve, especially its peripheral development, has received little attention in man in comparison to the important role it plays in postnatal life.

The specimen of 21 embryos and 23 pre-fetus were selected to be the materials of the research.

Following investigational methods have been used: macroscopy, microscopy of consecutive histological sections series, conventional and thin preparations.

In a 4.2 mm embryo, the facial nerve arises in common with the eighth cranial or acoustic nerve and is attached to the metencephalon just rostral to the otic vesicle. This facioacoustic primordium (acousticofacial crest) is fibrous at its attachment, but soon becomes cellular as it courses ventrally. It passes rostral to the otic vesicle and, at the lower part of the vesicle, the acoustic division arises. The major division of the primordium (facial part) continues ventrally, becomes more cellular and compact, and appears as a column of cells. In 4.8 to 6.5 mm embryos the facial division of the facioacoustic primordium is less cellular than the acoustic division and, as it courses ventrally, it is partially surrounded by the developing acoustic ganglion. The facial division separates into two almost equal parts. The caudal part, which constitutes the main trunk of the facial nerve, shortly disappears into the surrounding mesenchyme. The rostral part enters the mandibular arch by passing ventral to the first pharyngeal pouch and will become the chorda tympani nerve, the first branch of the facial nerve to develop. The proximal part of the facioacoustic primordium begins to separate into two distinct nerves in 8.0 to 10.6 mm embryos. A complete separation appears at 14.0 mm and a discrete nervus intermedius is present at 16.5 mm, In 18.0 mm embryos the nervus intermedius is considerably smaller than the motor root of the facial nerve and is arranged as one or two main bundles that pass from the geniculate ganglion to the brainstem between the motor facial root and the acoustic nerve. In pre-fetuses 20.2 - 41.0 mm the facial nerve becomes proportionally smaller in relation to the total cranial region and its peripheral branches gradually approach the definitive condition. Proximally the facial nerve is round or oval on transverse section although peripherally, in some areas of the face, it is flat.

Nazymok Y.V.

RADIOANATOMY AND MORPHOMETRY OF THE SIGMOIDORECTAL SEGMENT IN NEWBORNS

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Pathology of a distal portion of the digestive tract is most often determined in the first days of a newborn life. The result of treatment depends on timely diagnostics and adequate surgical correction of a congenital defect. Each portion of the digestive system possesses its anatomical and functional peculiarities. Therefore, specification of morphometric parameters of the sigmoidorectal segment in newborns and investigation of its radioanatomy is a topical issue of present colonoproctology.

Objective: to determine morphometric parameters and skeletotopic projection of the sigmoidorectal segment of newborns.