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М А Т Е Р І А Л И

107-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
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«АКТУАЛЬНІ ПИТАННЯ ТЕОРЕТИЧНОЇ (ФУНДАМЕНТАЛЬНОЇ), ЕКСПЕРИМЕНТАЛЬНОЇ ТА КЛІНІЧНОЇ МЕДИЦИНИ: АНАЛІЗ ТА УЗАГАЛЬНЕННЯ НОВИХ ФУНДАМЕНТАЛЬНИХ (ТЕОРЕТИЧНИХ) І КЛІНІЧНИХ (ПРИКЛАДНИХ) РЕЗУЛЬТАТІВ ВИКОНАННЯ НАУКОВО-ДОСЛІДНИХ РОБІТ У БУКОВИНСЬКОМУ ДЕРЖАВНОМУ МЕДИЧНОМУ УНІВЕРСИТЕТІ»

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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.

Conclusions. So, morphogenesis and topographic formation of the human parotid gland in fetuses are influenced by a total effect of spatial and 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.

Pankiv T.V.

STRUCTURAL ORGANIZATION OF SUBCUTANEOUS ADIPOSE TISSUE OF THE ANTEBRACHIAL REGION IN EARLY HUMAN FETUSES UNDER NORMAL AND PATHOLOGICAL CONDITIONS

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Introduction. Disturbances in adipose tissue formation during intrauterine development may serve as early markers of metabolic and connective tissue pathologies. The study of morphological features of the subcutaneous adipose tissue in the fetal forearm allows the identification of structural alterations that reflect pathological processes at the early stages of ontogenesis.

The aim of the study. To clarify the morphological features of the structure and topography of adipose tissue in the antebrachial region of human fetuses at 5–6 months of gestation in order to clarify normal developmental parameters and identify possible variants or abnormalities.

Material and methods. A microscopic examination of preparations of the upper, middle, and lower thirds of the antebrachial region of 11 human fetuses with a parietal-coccygeal length (PCL) of 136.0-230.0 mm was carried out. Staining of histological sections with hematoxylin and eosin was used. According to Mikel Calvo's method, a histochemical study of the protein with bromophenol blue was used to better contrast the protein elements of the structures. The percentage of multilocular cells was calculated on digital copies of optical images in the environment of the computer program ImageJ 1.53t (2022) with subsequent statistical processing of quantitative data using the open software "PAST" (Paleontological statistics, version 4.9 2022).

Results. In the examined human fetuses with a parietal-coccygeal length (PCL) of 136.0–185.0 mm, adipocytes were not observed in the upper, middle, or lower thirds of the antebrachial region. Occasional hair follicles were noted within the well-developed dermis. In 6-month-old fetuses, adipocytes appeared in the upper third of the antebrachial region as isolated small, flat plaques arranged in a single row. Multilocular adipocytes predominated, accounting for 91.8±0.87% (confidence interval 90.1–93.4%, p=0.05), whereas the remaining cells were unilocular. Initial clusters of adipocytes were located in proximity to blood vessels. In the middle third of the antebrachial region, the number of plaques increased, their contours became indistinct, and their shapes irregular; occasionally, plaques were arranged in two rows. The proportion of adipocyte types changed slightly, with multilocular cells comprising 72.3±0.85% (confidence interval 70.6–73.9%, p=0.05). In this age group, adipocytes were absent in the lower third of the antebrachial region. Disturbances in adipose tissue development can lead to the formation of benign

tumors, such as lipomas (derived from white adipose tissue) and hibernomas (rare tumors originating from brown adipose tissue). Lipomas are generally harmless, although they may cause aesthetic or physical discomfort. Hibernomas, while rare, attract greater attention due to diagnostic challenges and potential functional activity. The study of developmental mechanisms of white and brown adipose tissues holds significant potential for addressing two major challenges in contemporary medicine: combating obesity and providing optimal support for preterm neonates. Understanding these processes opens avenues for developing novel therapeutic strategies, such as stimulating brown adipose tissue to enhance thermogenesis or correcting energy imbalances in critical conditions.

Conclusions. The study of adipose tissue distribution in the upper, middle, and lower thirds of the antebrachial region in 5–6-month-old human fetuses revealed heterogeneity in both the quantitative and qualitative composition of adipocytes. The antebrachial adipose tissue comprised both unilocular and multilocular cells. In 5-month-old fetuses, adipocytes were not detected in any of the antebrachial region thirds. Similarly, the lower third of the antebrachial region in 6-month-old fetuses lacked identifiable adipocytes. Multilocular adipocytes predominated in the upper and middle thirds of the antebrachial region in 6-month-old fetuses.

Proniaiev D.V.

REGULARITIES OF MORPHOGENESIS OF INTERNAL FEMALE GENITAL ORGANS IN THE PERINATAL PERIOD OF ONTOGENESIS

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Introduction. With the accumulation of data on the etiopathogenesis of diseases in the postnatal period, significant importance of the perinatal period as an object to which the close attention of modern health care should be directed becomes increasingly clear. The need to expand and deepen the research in the field of antenatal diagnostics and correction of fetal developmental disorders and the earliest implementation of their results into practice is emphasized by a number of authors. At the same time, in addition to a noticeable decrease in the birth rate in 2019, compared to the previous year, the infant mortality rate remains high. Under such conditions, the value of each birth increases, and preserving the reproductive health of potential mothers and fathers becomes a national priority for recreating the social potential of Ukraine, and in Chernivtsi region in particular.

The aim of the study. To study the structure, topographic-anatomical features and syntopy of the internal female genital organs in the perinatal period.

Materials and methods. The study was conducted on 140 human fetal cadavers and 20 newborns. To achieve the goal, a set of adequate morphological research methods was used. The set includes: the preparation and microscopy of a series of consecutive histological and topographic-anatomical sections of fetuses and newborns of individual areas and pelvic organs and adjacent structures of fetal and newborn corpses, conventional and thin dissection under the control of a binocular magnifier, the preparation of computer 3-D reconstruction models, vascular injection, radiographic methods, photodocumentation of the results of morphological studies, statistical processing of digital data obtained during morphometry.

Results of the study. The anatomical features of the internal female genital organs of fetuses and newborns, which are inherent in a certain month of the perinatal period, have been established. In fetuses of 4-5 months, the grooved shape of the uterine fundus is combined with a flat body (1.24±0.33 mm and 1.8±0.21 mm, respectively). At 6-8 months, the uterine fundus is flattened. Fetuses of 9-10 months and newborns are characterized by a convex uterine fundus, which is combined with its thickened body (5.90±1.02 mm and 7.92±1.19 mm, respectively). Varieties of the shape of the vaginal cavity in fetuses from 6 months and until the end of the perinatal period have been identified, namely in the upper and middle thirds of the vagina: oval, elongated-oval, stellate, and in its lower third, H-shaped and C-shaped shapes are mainly observed. The fallopian tubes change their shape and topography from slightly curved in an ascending position in fetuses of 4-5 months to significantly curved, horizontally located in fetuses of 6-8 months, and to spiral-shaped