

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



МАТЕРІАЛИ

**104-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
06, 08, 13 лютого 2023 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,
які проводитимуться у 2023 році №5500074

Чернівці – 2023

Kyshkan P.Ya.

3D MODELLING OF STAB WOUNDS OF PARENCHYMAL ORGANS

*Mykola Turkevych Department of Human Anatomy
Bukovinian State Medical University*

Introduction. The research examines the possibilities of using photogrammetric methods followed by 3D modeling of the wound channel and acute traumatic object during forensic medical examinations of stab wounds of soft tissues and parenchymal organs.

The aim of the study. To investigate 3d modeling of puncture wounds of parenchymal organs.

Material and methods. The study has been conducted on a series of 15 experimental and practical cases of stab wounds. Experimental wound channels were manufactured using alginate imprint mass with rubber-like effect "Hydrogum 5" ("Zhermack", Italy) and piercing tool with the one-sided sharpening of the blade.

Results. During the program of the investigation of 3D models of experimental wound channels, the linear dimensions of individual morphological parts of the wound channel were obtained with an accuracy of 0.001 cm, which allowed us to identify the instrument which had caused the injury with a high probability. Taking into account the reliable results obtained in course of the experiment, this technique was used during the forensic medical examination of stab kidney wound, which allowed identifying the injury-causing instrument from among the ones provided by the investigating authorities for forensic examination of cutting and piercing tools.

Conclusions. The obtained results show the important diagnostic value of the study with the use of such methods as: separate morphological characteristics of injuries and retrospective identification of fragments of the wound channel with the instrument which caused a trauma. At the same time, forensic investigating authorities have obtained a modern objective tool for selecting and identifying the used piercing and cutting tools from among the retaken others. Besides, the use of modern 3D modeling methods for forensic medical examinations allows improving accuracy and visualization, which brings the conducted examination to a new modern and higher level.

Lavriv L.P.

THE TOPOGRAPHICALLY FEATURES OF THE PAROTID GLAND STRUCTURE

*Department of Anatomy, Clinical Anatomy and Operative Surgery
Bukovinian State Medical University*

Introduction. Formation of the organs is a very complicated process which is not definitively studied nowadays. It is very important to study the structure of the organs and systems in association with 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.

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

Material and methods. 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.

Results. 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.

Conclusions. So, 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 10th 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.

APPLICATION OF IMMUNOHISTOCHEMICAL METHODS OF INVESTIGATION FOR CHOOSING TREATMENT TACTIC

*Department of Pathological Anatomy,
Bukovinian State Medical University*

Introduction. Many studies include apoptotic processes in the pathogenesis of nodular goiter on the background of autoimmune thyroiditis (AIT). However, data about the markers involved in the regulation of apoptosis and proliferation in thyroid gland parenchyma in AIT are not sufficiently studied and sometimes are contradictory, which requires some systematization in order to optimize the diagnosis and next method of treatment. Therefore, morphological and immunocytochemical studies of thyroid puncture material are performed on individual drugs, which lead to additional puncture biopsies and make the morphological identification impossible. The best option for preoperative cytological diagnosis of thyroid pathology is the sequential cytomorphological and immunocytochemical examination of the same smear of puncture material. The main treatment of autoimmune thyroiditis (AIT) is conservative. The objective of the study was to determine the choice of surgery volume in patients with nodular goiter and AIT, taking into account the activity of apoptosis, index of proliferative activity.

Material and methods. 35 patients with nodular goiter and autoimmune thyroiditis were included in the study. The patients were divided into two subgroups: subgroup 1 consisted of 18 patients with the single-nodular goiter and subgroup 2 consisted of 17 patients with multi-nodular goiter. The age of patients ranged from 22 to 53 years. The duration of the disease was 1 to 15 years. The patients were examined in Chernivtsi Regional Endocrine Specialized Clinic (2019-2022). We determined the activity of the apoptosis index of proliferative activity; TSH level 0.4-4.0 MUn/mL, taking into account the dose of replacement therapy; thyroid peroxidase antibodies (Ab) level 75-850.15 IU/mL; thyroglobulin (TG) Ab level 55.0-155.50 IU/ mL; the volume of the node or nodes, according to thyroid ultrasound, from 0.50 to 10.0cm³. To start an immunohistochemical