

**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

Material and methods. Studies of the morphology of the walls of the third ventricle were conducted on 15 human cadavers by methods of histology, dissection and morphometry.

Results. Most of the structures of the third ventricle are present at the 13th week of fetal development. The form of cavity is diamond. Its length is $6,2 \pm 0,58$ mm, width - $2,45 \pm 0,25$ mm. The roof consists of the medullar and mesenchymal layers. Depth of the epithelial plate is $8,0 \pm 1,68$ mm. Mesenchymal layer of roof is thinner. It is rich in blood vessels, most of which are located mainly along the lateral margins. Epithelial plate forms a series of wrinkles, which are elongated in the sagittal direction. Medial wrinkles are significantly lower than the lateral. Their structure is more complex due to its branching into smaller, secondary wrinkles.

At the beginning of the 14th week the length of ventricle is $6,7 \pm 0,93$ mm, width - $3,3 \pm 0,69$ mm. At this stage the external surface of the roof is flat, and the internal one has a complex relief because it has a lot of wrinkles. The tops of wrinkles are covered with hills, which are the most pronounced in the posterior part of the roof. A few wrinkles have a common base and their free end is thickened.

After 15 weeks the length of the third ventricle reaches $7,1 \pm 1,27$ mm, width - $3,6 \pm 0,51$ mm. The length of the roof plate reaches $18,0 \pm 2,52$ mm, width of anterior part - $3,7 \pm 0,59$ mm and the posterior one - $1,5 \pm 0,22$ mm. The total thickness of the roof is $0,06 \pm 0,06$ mm. In the anterior roof lines cover the entire inner surface of epithelial plate, the thickness of which reaches $14,0 \pm 2,1$ mm. At this stage of the size of the hypothalamus increases. The zone of matrix almost disappears. It turns into a narrow strip, which is located along the wall of the third ventricle. Migratory layer loses its isolation and spreads laterally. Hypothalamic nuclei are isolated and lose touch with each other and the matrix.

In fetuses after 16 weeks of embryonic development the length of the third ventricle reaches $7,5 \pm 1,42$ mm, width - $3,8 \pm 0,68$ mm. The roof of the diencephalon is sharply bent outward. Wrinkles cover the entire inner surface of the roof.

Thus, during the fourth month of embryonic development the configuration of the third ventricle of the brain remains diamond-shaped. Its length increases from 6.2 mm to 7.5 mm, and width - from 2.45 mm to 3.8 mm. Also, the size of the roof plate of diencephalon change. During these four weeks the length of the roof of the third ventricle increases further. The structure of the vascular plexus becomes much more complicated.

Conclusions. Therefore, starting from the fourth month the third ventricle gradually takes a complex shape inherent to a newborn ventricle.

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POLARIZATION MICROSCOPIC TOMOGRAPHY AS A PROSPECTIVE METHOD FOR ESTABLISHING THE POSTMORTEM INTERVAL

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Introduction. Laser polarimetric methods for the assessment of biological tissues are a promising scientific direction of research, which is based on the study of changes in the light beam that passed through the object. They have proven themselves well in application in the practical work of forensic medical experts. In this study, we propose to consider the possibilities of using this technique in establishing the postmortem time in the analysis of the human vitreous body.

The **aim** of the work is to develop new objective criteria for establishing the postmortem time using polarization microscopic tomography of circular birefringence of the protein fraction of human vitreous body layers.

Materials and methods. We collected research material from the anterior chamber of the eye in the amount of 5 ml (n=52). We examined cadavers with previously known postmortem time from 1 to 36 hours who died as a result of cardiovascular pathology. Exclusion criteria: craniocerebral injury and eyeball injury, laboratory confirmed presence of any exogenous intoxications. The research material was divided into groups: the postmortem time intervals of 1, 4, 8, 12, 18, 24, 36 hours, respectively. The distributions of the parameters of circular birefringence of

the protein fraction of human vitreous body were measured in the location of the classic Stokes polarimeter.

Results. The analysis of vitreous body layers obtained by the method of microscopic polarization tomography found a linear range (24 hours) of postmortem changes in the magnitude of statistical moments of the 1st-4th orders, which characterize the coordinate distributions of circular birefringence by the postmortem time duration.

We obtained dynamic time-dependent changes in the statistical moments of the 1st-4th orders: SM_1 decreases within the range of average values determined for all groups of samples from 0,58 to 0,14, SM_2 – from 0,36 to 0,08, SM_3 – increases from 0,31 to 0,91, SM_4 – from 0,48 to 1,31. The most sensitive to postmortem changes in the polycrystalline structure of such samples were temporal changes in SM_3 asymmetry and SM_4 excess, which characterize the circular birefringence value distributions of the vitreous body protein fraction.

The quantitative improvement of the sensitivity of the method of microscopic polarization in reproduction of circular birefringence size distributions was manifested in the increase in the slope angles of the linear dependences of postmortem changes in the magnitude of statistical moments of higher orders, characterizing the size of distributions of the differential element of the protein fraction in the layers of the vitreous body of corpses with different postmortem time. We found the maximum level of accuracy in determining the time within 24-25 minutes in a time interval of 24 hours.

Conclusion. The effectiveness of the method of polarization microscopic tomography of circular birefringence of the protein fraction of human vitreous body layers in determining the postmortem time has been demonstrated. The sensitivity range of the method is up to 24 hours with the accuracy of the postmortem time determination within 24-25 minutes.

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MORPHOLOGICAL ASPECTS OF TEMPORAL MANDIBLE JOINT DYSFUNCTION

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Introduction. The thesis deals with the replacement of dental defects which occupies a significant place in the field of orthopedic dentistry. Among the main causes of the teeth loss caries and its complications can be identified, as well as inflammatory and dystrophic-inflammatory diseases of periodontal tissues, and traumas. However, the prosthetics with these structures has many disadvantages, one of the main are: the change in the oral cavity microflora and the decrease in the reactivity of the prosthetic bed mucous membrane tissues at the point of contact with both the elements of the removable prosthesis and the entire oral cavity.

The aim of the study. Establish the taxonomic composition, population level and microecological parameters of the prosthetic bed mucous membrane microbiota in patients with a set prosthetic appliance with partial removable dentures.

Material and methods. Microbiological (bacteriological and mycotic) examination of gum mucus secretion in patients with partial loss of teeth has been performed. The control group consisted of 50 patients (23 men and 27 women) who had no problems adapting to removable denture during the last 6 months and did not have any infectious and noncommunicable diseases.

Results. In practically healthy people, the main microbiota of the gum mucosa surface is represented by *Streptococcus salivarius*. An additional microbiota is represented by *S. sanguis*. Other microorganisms, presented by the constancy index, the incidence frequency, the Margalef species richness index and the Whittaker species diversity index, and the Simpson and Berger-Parker species domination index are detected as occasional microorganisms in the biota.

In patients with partial loss of teeth, the listed ecological indices, *S. aureus* is often found and is the leading causative agent of the inflammatory process. Infrequent are *S. epidermis*, *S. hemolyticus*, *S. pyogenus*, *E. coli*, *Acinetobacter* spp., *B. sattaralis*, *N. flavescens*, *M. lacunata* and *C. albicans*. In 47 patients, 26 strains of microorganisms belonging to 16 different taxonomic groups have been isolated and identified, which, according to the Margaleff species richness index