

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



МАТЕРІАЛИ

**106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
03, 05, 10 лютого 2025 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,
які проводитимуться у 2025 році №1005249

Чернівці – 2025

УДК 61(063)
М 34

Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

Загальна редакція: професор Геруш І.В., професорка Годованець О.І., професор Безрук В.В.

Наукові рецензенти:

професор Батіг В.М.
професор Білоокій В.В.
професор Булик Р.Є.
професор Давиденко І.С.
професор Дейнека С.Є.
професорка Денисенко О.І.
професор Заморський І.І.
професорка Колоскова О.К.
професорка Кравченко О.В.
професорка Пашковська Н.В.
професорка Ткачук С.С.
професорка Тодоріко Л.Д.
професорка Хухліна О.С.
професор Черноус В.О.

ISBN 978-617-519-135-4

© Буковинський державний медичний
університет, 2025

pyogenes, and it was found that in some patients the disease is caused by associations of opportunistic pathogens.

Given the fact that a significant number of inflammatory processes occur against the background of reduced body resistance and dysbiotic changes of the intestine, all patients with exacerbation of CPMS conducted a microbiological study of the colon cavity by determining the species composition and population level of autochthonous and allochthonous representatives, degree of dysbiotic changes.

The results of microbiological research show characteristic changes in the species composition of anaerobic and aerobic autochthonous, facultative and allochthonous microflora of the contents of the colon cavity, significantly differing from the species composition of the microflora of the colon cavity within normal limits.

In patients with CPMS, the main part of the microflora of the colon is represented by bacteroids, lactobacilli, non-pathogenic *E. coli*, proteas. However, the frequency and persistence index of obligate microorganisms such as bifidobacteria and enterococci are much lower than in virtually healthy individuals.

The characteristic of the microbiocenosis of the colon cavity of patients with CPMS is a pronounced deficiency of autochthonous obligate physiologically useful bifidobacteria and lactobacilli. Thus, the population level of bifidobacteria decreases by 51.04%, lactobacilli - by 23.46%. At the same time, the number of anaerobic gram-negative bacteroids and aerobic non-pathogenic *E. coli* significantly increases in the content of the colon cavity. In parallel with the decrease of bifidobacteria and lactobacilli in the colon cavity of the patients, the population level of optional opportunistic anaerobic and aerobic microorganisms.

Conclusions. The results suggest that in CPMS, all patients develop intestinal dysbacteriosis or dysbiosis, mainly of the second degree due to the elimination and severe deficiency of indigenous viable bacteria, which reduces the immune status of patients, affects the severity of clinical manifestations of the underlying disease. Probiotic drugs have a therapeutic effect not only due to the direct effect on the opportunistic microflora, but also due to the stimulation of non-specific resistance factors.

Karliychuk M.A.

LAMINA CRIBROSA REMODELING AS A RISK FACTOR OF EARLY RETINAL NEURODEGENERATION IN DIABETES MELLITUS

*Department of Pediatric Surgery, Otolaryngology and Ophthalmology
Bukovinian State Medical University*

Introduction. Retinal neurodegeneration can be found in early stages of diabetes mellitus (DM), and is increasingly being hypothesized to occur prior to the vascular changes classically associated with diabetic retinopathy (DR). Analysis of literature data over the past 10-15 years confirms the presence of neurodegenerative changes, established by electroretinography and optical coherent tomography (OCT), in the absence of vascular changes. Biomechanical properties of the optic nerve head (ONH) are affected by DM, including increased stiffness, and advanced glycation end products accumulate in the ONH in diabetics. Changes of the scleral lamina cribrosa (LC) morphology may be a precondition of ONH and retina damage in DM. So, the assumption of the existence of a relationship between biomechanical peculiarities of the scleral LC and retinal ganglion cell complex (GCC) changes in DM seems logical.

The aim of the study. To analyze the state of scleral LC in type 2 diabetes mellitus and the corresponding morphometric changes in retinal GCC.

Material and methods. 175 patients with T2DM (350 eyes) with absence of signs of DR (130 eyes), or mild (128 eyes) or moderate (92 eyes), and 50 healthy persons (100 eyes) aged $55,9 \pm 7,8$ years were examined. LC thickness was measured with the help of SD OCT using *LC_Thickness_programm.m* and *main_low_noise_filters_programm.m*, based on the adaptive compensation algorithm for eliminating a high-level noise in deep layers of the ONH and improving the visualization of the posterior border of the LC, as well as for processing B-scan with a set of 3

digital filters: Butterworth Low-pass Filter inversion image, Wavelet Low-pass Filter Analysis Daubechies original and inversion image. Using the OCT Explorer 4.0.0 software we exported XY projection for the next noise reduction and LC detection procedure. To increase the quality of the image and reduce noise we used MATLAB (MatWorks) platform. 5 indicators of GCC state were analyzed: average thickness, average thickness in superior and inferior segments, focal loss volume (FLV), global loss volume (GLV).

Results. The average LC thickness in mild non-proliferative diabetic retinopathy (NPDR) was $549 \pm 79 \mu\text{m}$ (335 to 588 μm), that was significantly higher than in healthy people $232 \pm 57 \mu\text{m}$ (159 to 381 μm), $p < 0,001$. In patients with moderate NPDR the average LC thickness was $613 \pm 39 \mu\text{m}$ (589 to 657 μm), that was 1,7 times higher than in healthy people ($p < 0,001$). Analysis of LC thickness made it possible to distinguish the following groups: in 1st group (78.9% of eyes of diabetic patients) a mild thickening of LC ($< 700 \mu\text{m}$) was observed; in 17.6% (2nd group) a moderate thickening (700-900 μm), and in 3.8% (3rd group) – significant thickening ($< 900 \mu\text{m}$) was observed. Average GLV in moderate thickening of LC (2nd group) was 2.9 times higher, in 3rd group – 5.3 times higher than in healthy individuals ($3,51 \pm 2,73 \%$) ($p < 0,001$). FLV of retinal GCC in patients with moderate and significant thickening of the scleral LC was 13.2 and 16.4 times, respectively, higher than that of healthy individuals ($p < 0,001$). The highest index of FLV was observed in 3rd group (5.9 times higher than that of 1st group, $p < 0,001$).

Conclusions. Remodeling (namely thickening) of the scleral LC was established in patients with type 2 DM compared to healthy individuals. The revealed morphometric changes of GCC depend on state of scleral LC. So, changes in LC thickness can be considered as a risk factor for the development of retinal neurodegeneration in DM.

Khaschuk V.S.

HYALURONIC ACID USING IN DIFFERENT TYPES OF HYPOSPADIAS AS A PREVENTION OF COMPLICATIONS AT CHERNIVTSI CHILDREN'S CLINICAL HOSPITAL

*Department of Pediatric surgery, Otolaryngology and Ophthalmology
Bukovinian State Medical University*

Introduction. Hypospadias is one of the most severe congenital malformations among childhood urological diseases, which is accompanied not only by cosmetic changes of the external genitalia, but also primarily by the possibility of urinary tract infection, dysuric and psychological disorders. For a successful treatment result, the postoperative period passes with a long-term stay of the catheter in the bladder for complete healing of the postoperative wound and irritation of the bladder walls with the subsequent possible attachment of a secondary catheter-associated infection, hemorrhagic cystitis, layering of fibrin and blood clots, which can lead to the obstruction of the catheter and its early removal with further consequences and complications, such as the formation of fistulas, the separation of postoperative sutures, and the addition of a secondary infectious process.

The aim of the study. The purpose of the study is to investigate and compare the treatment of patients with hypospadias with the use of sodium hyaluronate 40 mg/50 ml, which was injected into the bladder in the age-old volume for full filling for 30-45 minutes, taking into account the results of treatment.

Material and methods. The operated patients are divided into 2 groups of 20 children. In one group, sodium hyaluronate 40 mg/50 ml was used, and in the other it was not used, regardless of the forms of hypospadias and the presence of epicycstostoma. Complications were assessed as: obstruction of the urinary catheter, hemorrhagic cystitis, and catheter-associated infections of the urinary system.

Results. In the first group of patients, 5 patients had catheter obstruction, 2 children had hemorrhagic cystitis, and 1 child had catheter-associated urethritis with subsequent stricture of the distal part of the urethra and urethral diverticulum. In the group of children using sodium