МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

М А Т Е Р І А Л И

106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
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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.

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digital filters: Butterworth Low-pass Filter inverion 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±79 μm (335 to 588 μm), that was significantly higher than in healthy people 232±57 μm (159 to 381 μm), $p<0,001$. In patients with moderate NPDR the average LC thickness was 613±39 μm (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 μm) was observed; in 17.6% (2nd group) a moderate thickening (700-900 μm), and in 3.8% (3rd group) – significant thickening (<900 μm) 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±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

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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 epicystostoma. 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

hyaluronate, there was only one case of clogging of the urinary catheter due to external mechanical compression of the ureter tube.

Conclusions. Therefore, for the successful treatment of hypospadias in children, it is advisable to use sodium hyaluronate, injecting it into the bladder, simultaneously flushing the urinary catheter to prevent the occurrence of conditions that lead to the obstruction of the urinary catheter, its early removal, and the subsequent formation of urethral fistulas, secondary infectious processes of the urinary system, strictures of the urethra and urethral diverticula, and staged urethroplasty.

Kozariichuk N.Ya.

ANTI-VASCULAR ENDOTHELIAL GROWTH FACTOR BIOSIMILARS FOR DISEASES OF THE RETINA: A REVIEW

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Introduction. Anti-vascular endothelial growth factor (Anti-VEGF) biosimilars are newly developed similar versions of the original anti-VEGF medicines. Biosimilar medicines do not have exactly the same structure as the original medicines. Biosimilars, produced by a different manufacturer are, therefore, not identical to the reference product but have been shown to be highly similar in structure and function to their reference biologic. These biosimilars are injected in the same way as the original anti-VEGF medicines, and are cheaper than them.

Since there is no universally accepted definition of a biosimilar, prominent regulatory and health organizations have issued their own definitions in various guidance and regulatory documents. According to the World Health Organization (WHO), a biosimilar is a biological product demonstrated to be highly similar in quality, safety, and efficacy to an already licensed reference product.

The development of intravitreally injected biologic medicines acting against vascular endothelial growth factor (VEGF) substantially improved the clinical outcomes of patients with common VEGF-driven diseases of the retina. Anti-VEGF therapies, which target vascular permeability, angiogenesis, and inflammatory responses by inhibiting VEGF signaling, are standard-of-care treatments for patients with neovascular age-related macular degeneration (nAMD), macular edema after retinal vein occlusion (RVO), myopic choroidal neovascularization (mCNV), and diabetic macular edema (DME).

The aim of the study. The purpose of this review is to provide the best available evidence from clinical trials to support decision-making regarding the use of anti-VEGF biosimilars for the treatment of diseases of the retina, and to provide reliable information for people with disease of the retina and healthcare professionals to aid in effective decision-making.

Material and methods. We conducted a systematic review using PubMed for population-based studies published up to September 2024.

PubMed engine search was performed, using different combinations of the terms: “Anti–vascular endothelial growth factor (anti-VEGF) biosimilars”, “neovascular age-related macular degeneration (nAMD)”, “retinal vein occlusion (RVO)”,“ diabetic macular edema (DME)”. “biosimilar”, “ranibizumab”.

Results. The first biosimilar for the anti-VEGF drug is ranibizumab. Razumab was approved by the Drug Controller General of India (DCGI) in 2015. In their surveys,the proportion of respondents who were using the ranibizumab biosimilar and were satisfied with its safety increased from 2018 to 2020 (Sheth 2021). Following the success of Razumab, another ranibizumab biosimilar, SB11, was launched in 2021 after receiving approval from both the EMA and FDA (EMA 2023; FDA 2023). Currently, the only available anti-VEGF biosimilars on the market are for ranibizumab, which have been used to treat AMD in numerous countries worldwide. Additionally, biosimilars for other anti-VEGFs targeting AMD are being developed. Six aflibercept biosimilars are in clinical development in the United States and the European Union. This is a promising