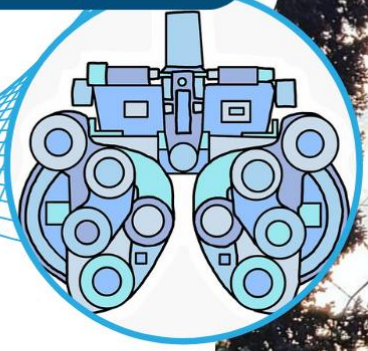
South-East European Ophthalmological Society

Ophthalmological Association from Moldova

Nicolae Testemitanu State University of Medicine and Pharmacy

THE 19TH SEEOS *Congress* ABSTRACT BOOK

OCTOBER 18-19TH, 2024



UDC 617.7(063)
S 41

DESCRIEREA CIP A CAMEREI NAŢIONALE A CĂRŢII DIN REPUBLICA MOLDOVA

The 19th SEEOS Congress: Abstract book, October 18-19th, 2024, [Chisinau] / organizing committee: Eugeniu Bendelic [et al.]. – Chişinău: CEP *Medicina*, 2024. – 69 p.

Cerinţe de sistem: PDF Reader.

Antetit.: SEEOS: South-East European Ophthalmological Society, Ophthalmological Association from Moldova, *Nicolae Testemitanu* State University of Medicine and Pharmacy.

ISBN 978-9975-82-393-7 (PDF).

617.7(082)
T 49

SEEOS Congress (19 ; 2024 ; Chişinău)

Disclaimer:
The authors of each abstract are solely responsible for the accuracy, content, and originality of their work.

ORGANIZING COMMITTEE

South-East European Ophthalmological Society:
Board Members (in alphabetic order):
Bulgaria: *Petja Vassileva*
Italia: *Matteo Forlini, Vincenzo Ferrara*
Kosovo: *Gazmend Kacaniku*
Montenegro: *Edita Files Bradarić*
North Macedonia: *Vesna Dimovska*
Republic of Moldova: *Eugeniu Bendelic*
Romania: *Daniela Selaru*
Slovenia: *Natasa Vidovic Valentincic*
Turkey: *Mahmut Kaskaloglu, Baha Toygar*
Ukraine: *Nadiya F. Bobrova*

Ophthalmological Association from Moldova Organizing Committee:
Eugeniu Bendelic
Valeriu Cusnir
Ion Jeru
Lilia Dumbraveanu
Angela Corduneanu
Cornelia Ceban
Adriana Gritco
Maria Iacubitchii
Scerbatiuc Cristina
Irina Celac
Alexandru Nedelcu

South-East European Ophthalmological Society

Ophthalmological Association from Moldova

Nicolae Testemitanu State University of Medicine and Pharmacy

WELCOME MESSAGE

Dear Colleagues,

It is with great pleasure that we welcome you to the 19th Edition of the South-East European Ophthalmological Society Congress. This abstract book serves as a testament to the remarkable advancements and research that continue to drive innovation in our field.

Within these pages, you will find a rich collection of abstracts reflecting the collective efforts of experts, researchers, and clinicians dedicated to improving eye care and understanding the complexities of vision. From groundbreaking studies to clinical applications, these contributions highlight the passion and expertise that propel our community forward.

We hope this abstract book not only serves as a guide throughout the congress but also as an enduring source of inspiration and knowledge long after the event concludes.

Thank you for your participation and commitment to advancing ophthalmology. Together, we can continue to shape the future of eye health and patient care.

Warm regards,
Eugeniu Bendelic,
President of the Ophthalmological Association from Moldova
Organizing Committee

South-East European Ophthalmological Society

Ophthalmological Association from Moldova

Nicolae Testemitanu State University of Medicine and Pharmacy

CONTENT

South-East European Ophthalmological Society
Ophthalmological Association from Moldova
Nicolae Testemitanu State University of Medicine and Pharmacy
THE 19TH SEEOS Congress
OCTOBER 18-19TH, 2024
CHISINAU, MOLDOVA

REFRACTION AND VISUAL REHABILITATION

ENDING AVOIDABLE SIGHT LOSS

Wolfgang Gindorfer
International Agency for the Prevention of Blindness (IAPB), Light for the World Germany

Introduction: Globally, 1.1 billion people live with sight loss because they do not have access to eye care services. Without change, this will rise to 1.8 billion people by 2050. As such, IAPB as a global voice for the eye care sector is working towards ending avoidable sight loss and providing access to affordable, accessible and inclusive eye care and rehabilitation services by bringing together various stakeholders.

Aim: IAPB, an alliance of over 250 member organisations worldwide of various stakeholders wants to bring together its membership and develop a European Advocacy Network (EAN), which aims to:

- Elevate eye health as a cross-cutting development issue, ensuring its inclusion in major EU policy developments and institutions leading to improved policy and country level action
- Integrate eye health as part of European national health strategic plans and UHC frameworks
- Strengthen European surveillance and reporting on eye health as well as holding Governments to account

Methods: IAPB hosts the '2030 IN SIGHT LIVE' conferences, dedicated to finding solutions to ensure eye health is available to all by 2030. The conferences set the base for the EAN and findings from the conference make up EAN's key objectives.

Findings: Based on information gathered through '2030 INSIGHT LIVE', the EAN would have the following goals:

- Global advocacy: To raise the profile of eye care with key international institutions, so it receives the attention and resources needed to achieve universal access to eye health.
- Connecting knowledge: To underpin our activities is our role in providing authoritative data and information and enabling access to up-to-date knowledge, information and practice.
- Encourage everyone to Love Your Eyes: To lead global campaigns using existing days like WORLD SIGHT DAY to educate the public, governments, and world leaders to help raise the profile of eye health. We work with our global membership to make sure eye health receives the global political, health and development focus it needs and deserves.
- Strengthening the network: We support active partnership building both between members and with other key sectors to tackle the barriers to delivering eye care for all.
- Integrating People: providing support with training, infrastructure and continuous professional development.

Conclusion: Along with the EAN strengthening the commitment for eye care in the EU, we aim to convene the first-ever GLOBAL SUMMIT ON EYE HEALTH in 2026. We hope to get SEEOS and its national ophthalmological associations fully on board and to support this great event and its goals to:

- Shine a spotlight on eye health so that it's no longer a public health crisis no one knows about
- Critically galvanise action by governments to deliver on the global promises they have made
- Bring new funders and partners to the table
- Champion technology and innovation in eye health
- Agree on an eye health roadmap and accountability framework for the next 10 years.

EYE HEALTH IN THE REPUBLIC OF MOLDOVA: ARGUMENTS FOR A NATIONAL PROGRAM

Tatiana Ghidirimschi[1], Valentina Suruceanu[1], Eugeniu Bendelic[2], Corina Magdei[2]
[1]LOW VISION Center
[2]Department of ophthalmology, State University of Medicine and Pharmacy "Nicolae Testemițanu", Chișinău, Republic of Moldova

Introduction: Eye health is a critical component of public health. Visual impairments, including low vision and blindness, represent significant challenges for both public health and society, impacting various aspects of daily life. Adopting a national eye health program is crucial as it aligns with global commitments from the World Health Assembly (WHA) and the United Nations General Assembly (UNGA). This program has the potential to be a key platform for achieving the objectives of WHA Resolution 73.4, the Global Targets for 2030 Resolution, and the "Vision for Everyone: Accelerating Action to Achieve the Sustainable Development Goals" Resolution.

The implementation of a national eye health program in the Republic of Moldova is essential for improving access to eye care and optimizing existing resources. The study conducted using the Eye Care Situation Analysis Tool (ECSAT) represents a significant initiative from the professional community and civil society and is an integral part of developing and promoting the National Eye Health Program in Moldova.

Aim of the Study: The aim of this study is to provide evidence-based arguments for the establishment of a National Eye Health Program in the Republic of Moldova.

Method: The evaluation conducted with ECSAT identified key constraints in the health system regarding eye health services. These constraints include the regulatory and normative framework, access to and quality of medical services, financial sustainability of the health system, human resources, infrastructure, and the level of transparency and data monitoring within the health system.

Results: The ECSAT study results highlight the need for a coordinated national program to address existing gaps and ensure an effective and sustainable eye health system. Implementing such a program will improve service quality, optimize resource utilization, and significantly enhance the prevention and management of eye conditions in Moldova.

Conclusion: The National Eye Health Program (NEHP) is designed to provide a framework for planning, delivering, managing, implementing, and evaluating quality eye health care services at all levels of the country's health delivery system. The program aims to address prevalent eye health issues such as refractive errors, cataracts, diabetic retinopathy, glaucoma. It seeks to achieve this through a strategic vision for strengthening the eye health system, enhancing human resources and infrastructure, integrating with the broader health system, improving equity in access, and fostering partnerships. The program is intended to establish a robust governance framework with clear criteria for monitoring and evaluation.

LOW VISION REHABILITATION SERVICES IN THE REPUBLIC OF MOLDOVA: CURRENT LANDSCAPE AND FUTURE DIRECTIONS

Tatiana Ghidirimschi[1], Hans Bjørn Bakketeig[2]
[1]LOW VISION Center, Chișinău, Republic of Moldova
[2]I Care – Norway, Norway

Introduction: The Republic of Moldova, with a population of approximately 2.42 million, has a significant vision impairment issue, with a 19.5% prevalence in individuals over 50, according to a 2012 RAAB survey. Since the LOW VISION Center's establishment in 2009, it has made substantial progress in addressing low vision needs through various services.

Aim of the Study: The study aims to review the current state of low vision services in the Republic of Moldova, highlight recent advancements, and discuss future directions, including the necessity for a national center to provide comprehensive services for visually impaired people and prevent avoidable blindness.

Methods and Materials: The effectiveness and reach of the LOW VISION Center's services from 2009 to June 2024 were analyzed. The study examined various aspects of the Center's operations, including comprehensive assessments, assistive product provision, outreach services, equipment support, training, academic development, advocacy actions, and preventive measures.

Results:

- **Service Reach:** The Center has conducted 14478 consultations, including 3772 for children, reflecting its significant impact.
- **Assistive Products:** The Center has distributed a variety of optical and non-optical aids (7986), including magnifying glasses, telescopes, and closed-circuit television systems, at no cost to patients. These devices significantly enhanced daily functioning and opportunities for education and employment.
- **Outreach Services:** Programs have been implemented to extend services to rural and remote areas, addressing access disparities.
- **Equipment Support:** Through Norwegian partnerships, 45 hospitals and polyclinics have been equipped with primary eye care tools, and 9 hospitals have received advanced ophthalmological equipment.
- **Training and Education:** The Center has organized 43 training seminars and educational workshops for 1424 ophthalmologists, optometrists, students, teachers, public authorities to enhance their understanding of low vision rehabilitation and encourage the referral to complementary services.
- **Academic Development**: On September 1, 2017, in partnership with the Norwegian NGO, the University of Southeast Norway, and the State University of Medicine and Pharmacy "Nicolae Testemitanu" launched an academic program for optometrists. The Center represented through years a professional resource for the optometry education.

- **Legislative Advocacy:** Advocacy has resulted in key legislative changes, including regulations for technical aids (GD No. 567/2011) and support for prosthetics and assistive devices (Law No. 116/2021).
- **Preventive Measures:** Annual screenings for diabetic retinopathy and World Sight Day celebrations emphasize the commitment to preventing avoidable blindness.

Conclusions: The LOW VISION Center has significantly advanced low vision care in the Republic of Moldova through comprehensive assessments, provision of assistive devices, outreach, and equipment support. Its contribution to improving eye care infrastructure, professional training, and policy advocacy have been transformative. Despite these achievements, there are ongoing challenges such as ensuring sustainable service delivery and expanding outreach. Establishing a National Center for the Visually Impaired is crucial to centralize and enhance service provision, ensuring coordinated care for all visually impaired individuals in the country. The Center's work has set a strong foundation for future advancements in low vision care, serving as a model for comprehensive and impactful rehabilitation services.

MYOPIA EPIDEMIC: NEW TREATMENT METHODS

Bogdănici Camelia Margareta, Donica Vlad Constantin, Pavel Irina Andreea
Discipline of Ophthalmology, "Grigore T. Popa" University of Medicine and Pharmacy Iaşi, România

Introduction: The myopia epidemic has become a public health problem that cannot be ignored. In 2010, 28% of the world's population suffered from myopia, and by 2050, this number could reach 50%.
Material and methods: We conducted a prospective, observational study of 19 patients aged 7 to 32 years who received treatment with orthokeratology lenses or MiYOSMART lenses. Patients treated with orthokeratology lenses were followed up from 2014-2023, and patients treated with MiYOSMART lenses from 2022-2024, at Stereopsis Ophthalmologic Clinic, Iasi.
Results: In our study, female patients predominated (63%). 55% of patients treated with the orthokeratology lens had low myopia, 35% medium myopia and 10% myopic astigmatism. Corneal topography was performed with difficulty in 20% of cases treated with orthokerathology lens. In patients treated with MiYOSMART lenses, 33.33% achieved maximum visual acuity (VA=1).
Conclusion: As the prevalence of myopia continues to increase, these therapies should be implemented to combat the vision deficits as well as the decreased quality of life associated with myopia. Informing both children and parents about the complications and treatment of myopia is particularly important. Moreover, the introduction of national screening programs would be extremely beneficial for the early diagnosis and treatment of this pathology. Keywords: myopia epidemic, children, treatment

RANDOMIZED SIX-MONTH TRIAL OF ASPHERIC VS. EDOF CONTACT LENSES FOR PEDIATRIC MYOPIA CONTROL

Hugo Pena-Verdeal (1,2), Veronica Noya-Padin (1,2), Noelia Nores-Palmas (1), Maria J. Giraldez (1,2), Eva Yebra-Pimentel (1,2)

(1) Applied Physics Department (Optometry Area), Faculty of Optics and Optometry, Universidade de Santiago de Compostela (USC)

(2) Optometry Group, Institute for Health Research Santiago de Compostela (IDIS) Santiago de Compostela, Spain

Introduction: Myopia, characterized by excessive refractive power, causes images of distant objects to form in front of the retina, resulting in blurred vision. Increased axial length of the eyeball is a common biometric feature of myopia. Given the rising prevalence of myopia and its associated risks, effective interventions to control its progression, especially in children, are crucial.

Purpose: This study aimed to compare the efficacy of two different optical designs in contact lenses in controlling myopia progression or ocular elongation in a paediatric population over a short period.

METHODS: A randomized, double-blind, prospective clinical trial was conducted over two years, with interim results analysed after six months. The study involved myopic children aged 7-13 years. Participants were assigned to either an aspheric optical design multifocal lens group or an extended depth of focus (EDOF) optical design contact lens group. Participants were scheduled for three sessions three months apart: baseline (M0), 3-month session (M3), and 6-month session (M6). In all sessions, spherical equivalent refraction (SER) was measured using the NVISION-K 5001 open-field autorefractometer, while axial length (AL) was assessed with the Topcon MYAH optical biometer.

Results: Initial comparisons showed no significant differences between the groups in age, visual acuity, SER, or AL (all $p = 0.738$). Over six months, significant SER changes were found in both, aspheric lenses (ANOVA, $p = 0.022$) and EDOF lenses (ANOVA, $p < 0.001$). Additionally, the aspheric multifocal group showed significant AL elongation only when comparing the M0 to the M6 follow-up (Wilcoxon test, $p = 0.009$), whereas the EDOF group showed significant AL changes across all sessions (Wilcoxon test, Wilcoxon test, all $p \leq 0.021$).

CONCLUSION: The findings suggest that neither aspheric multifocal lenses nor EDOF lenses are fully effective in slowing myopia progression in children over short periods. However, aspheric lenses show a greater tendency to control AL than EDOF multifocal lenses, despite both groups exhibiting significant changes over time.

ORTHOKERATOLOGY ROLE IN MIOPIA MANAGEMENT

Cristina Șcerbatiuc
Department of Ophthalmology, Nicolae Testemițanu State University of Medicine and Pharmacy
Chisinau, Republic of Moldova

Introduction. One of the best techniques for reducing axial elongation and delaying the onset of myopia in children is orthokeratology (OK). By wearing an OK lens overnight, the central cornea can be flattened using a reverse design that creates a flat central treatment zone surrounded by a steep mid-peripheral ring zone. This steep mid-peripheral ring zone helps to create peripheral defocus to control the progression of myopia, while the flat central treatment zone supports clear vision throughout the day.

The purpose of this retrospective randomized study was to evaluate the effectiveness of orthokeratology in controlling myopia.

Method. We investigate axial elongation of the eyeball in myopic children wearing ortho-k lenses (study group) and single-vision spectacles (control group) for a period of 4 years in Promed Clinic, Chisinau, Republic of Moldova. In total, 175 children (175 right eyes) with myopia met the inclusion criteria were selected in study, and devided in 2 groups. The inclusion criteria for the study group were: age of 8–18 years at baseline, cycloplegic autorefraction from − 6.00 to − 1.25 (D) in both eyes, (3) astigmatism (cycloplegic autorefraction) ≤ 1.50 D, (4) anisometropia (cycloplegic autorefraction) ≤ 1.50 D, overnight treatment with OK lens, a follow-up time ≥ 2 years. The exclusion criteria for study group were: strabismus and binocular vision abnormalities; ocular and systemic abnormalities; incomplete data.

Result. The 4-year trial involved 85 ortho-k patients (40 females, 45 males) and 90 control subjects (42 females, 48 males). There were no significant differences in the baseline data ($P > 0.05$) between the two subject groups. In the ortho-k group, the average age was 11.10 ± 1.15 years, while in the control group it was 11.35 ± 1.20 years. The initial myopia was 3.15 ± 0.75D in the ortho-k group and 3.30 ± 0.80D in the control group. The subjects' axial length increased over time in both groups. In the control groups, the increase over time was statistically significant and happened more rapidly ($P < 0.01$). At each follow-up visit, the ortho-k group consistently showed a lower rate of axial elongation compared to the control group ($P < 0.001$). After four years, the average increase in axial length for ortho-k participants was less than that of control subjects.

Conclusions. Orthokeratology (ortho-k) reduced the number of myopic children showing fast progression and also slowed down the elongation of the eye's axial length.

THE INFLUENCE OF VITAMIN D DEFICIENCY AND STRESS LEVEL ON THE DEVELOPMENT OF MYOPIA IN CHILDREN

Venger Anna
Ophthalmology department, Odesa National Medical University
Odesa, Ukraine

Introduction. Myopia remains a pressing issue in the field of pediatric ophthalmology, especially considering the forced transition to online learning in recent years, prompted by epidemic conditions and the state of war in Ukraine.
Such rapid and extreme changes in children's lives objectively affect their mental health and may induce excessive anxiety. Vitamin D, as a potential factor influencing the development of myopia and contributing to stable mental health, is gradually being recognized for its multifaceted role in overall well-being.
Aim. To determine the correlation between the degree of vitamin D deficiency in children with axial and refractive myopia dynamically and its relation to increased anxiety level.
Materials and methods. Under our supervision were 42 children aged 8-10, divided into 2 groups based on axial or refractive myopia. Ophthalmic exams were conducted every 6 months, assessing serum vitamin D levels. Psychological assessments included anxiety tests (P. Temple, M. Dorkey, E. W. Amen), with psychologists offering anxiety control techniques and gym relaxation activities during the study.
Results. At the start of observation, mean indicators for children in groups 1 (axial) and 2 (refractive myopia) were: eye length - 25.02±0.13 and 23.51±0.13 mm, corneal curvature - 42.63±0.24 and 45.21±0.20 D, vitamin D levels were 17.28 ± 5.05 and 16.65±4.03 ng/ml, respectively. The average anxiety index in both groups was 7.69± 1.54.
Over the year, in group 1 an average vitamin D increase of 14.96±3.63 ng/ml, reaching normal levels within 6-9 months. Refraction remained unchanged in 23.8% of children, while 76.2% experienced myopia increase by 0.54±0.16 D.
In group 2, a vitamin D increase of 15.41±2.93 ng/ml over the year, reaching normal levels within 9-12 months. In 66.7% of children, refraction remained unchanged, while in 33.3%, myopia increased by 0.38±0.13 D.
The average vitamin D increase twice in both groups. Pearson coefficient in both groups revealed an inverse relationship between investigated signs ($r1 = -0.682$ and $r2 = -0.623$). Anxiety index decreased by 47% to an average level of 4.07±0.81, indicating potential improvement in children's well-being.
Conclusion. According to the study results, a significant inverse correlation was found between myopia progression and normalized vitamin D levels in axial and refractive myopia. However, the association between vitamin D and anxiety levels requires further investigation. Patients in both groups were advised to maintain their regimen, undergo follow-up examinations every 3 months, and take 2000 IU of vitamin D3 regularly as recommended by the pediatrician.

A STRATEGY FOR SLOWING THE PROGRESSION OF MYOPIA IN UKRAINIAN STUDENTS DURING DISTANCE LEARNING

[1]Guzun O., [2]Bezdetko P., [1]Khramenko N., [3]Konovalova N., 1Bushueva N.

[1]State Institution "The Filatov Institute of Eye Diseases and Tissue Therapy of the NAMS of Ukraine", Odesa, Ukraine

[2]Kharkiv National Medical University, Kharkiv, Ukraine

[3]Odesa National Medical University, Odesa, Ukraine

Introduction. Myopia is a serious global problem among students, especially during distance learning. Understanding its characteristics and progression is essential for proper treatment and prevention. In the structure of ophthalmological pathology in Ukraine among the people 18 years and older, myopia is 12.38%.The goal is to slow the progression of myopia in students with increased digital eye strain.

Methods. An analysis of the prevalence of digital eye strain among Ukrainian students (320 students) during distance learning was conducted. A comprehensive examination and treatment of 70 students (140 eyes) with mild and moderate myopia, age 18 - 25, were carried out. Group 1 (control) - 26 students (52 eyes), and group 2 - 44 (88 eyes). All students completed a course of photobiomodulation (PBM) (λ = 650 nm, W = 0.4 mW/cm^2, t = 300 s). Group 2 students are recommended after FBM for 12 months vitamin-antioxidant complex (AREDS2) with vitamin D, omega-3 PUFAs and resveratrol (Nutrof®Forte). 1 group of students was not treated, only examined.

Results. The prevalence of digital eye strain with more than 6 symptoms in this sample of students reaches 84.4%. During the year, the visual acuity in group 2 increased by 0.1, and in the control group there was a tendency for deterioration.

The annual progression gradient (AGR) of myopia according to the data of spherical equivalent refraction (SER) data was 3.7 times lower in the group of students who received a course of FBM and a vitamin-antioxidant complex for 12 months, while a decrease in the likelihood of progression was observed 1.6 times (OR = 1.59 [CI: 95% 0.88-2.86]). And the relative risk of the annual gradient progression of myopia along the length of the eye was 40% lower in the group of these students (RR=0.6 [DI: 95% 0.4-0.84]).

Conclusion: During 2 years of distance learning, myopia increased from 30% to 48%; Treatment with a course of photobiomodulation and a vitamin-antioxidant complex (AREDS2) with vitamin D, omega-3 PUFAs and resveratrol for 12 months significantly increased visual acuity by 0.1 and reduced the relative risk of the annual gradient of eye length progression by 40%.

SOLUTIONS IN RESOLVING MYOPIA MANAGEMENT BY INDICATING CUSTOMIZED ORTHOKERATOLOGY LENSES

Adriana Gritco[I], Rodica Bîlba[I]
[I]Department of Ophthalmology and Optometry, "Nicolae Testemitanu" State University of Medicine and Pharmacy,
CM "OftalmElit"
Chisinau, Republic of Moldova

Introduction: According to a study done by the European Society of Ophthalmology in collaboration with the International Myopia Institute in 2020 almost 400 million Europeans suffered from Myopia, but it is estimated that their number will exceed 500 million by 2030. More treatments are available or medical devices, aimed at preventing or slowing the progression of Myopia. Among them are orthokeratological or nocturnal contact lenses, which remodel the cornea, changing, as a consequence, retinal defocus into hypermetropia. But in the case of neglecting the general anamnesis and the visual system, anatomical and functional particularities of the patient, we risk expecting the lack of effectiveness of the given method, the occurrence of unwanted side effects or complications.
Purpose of the study: Presentation of the particularities of the individual selection of orthokeratological lenses.
Methods and materials: Case series presentation of patients with rare corneal anatomical particularities.
Results and Conclusions: Correct individual selection of lenses for each patient is important for obtaining the expected result. Only a correctly performed keratotopography can give us ample information about the curvature, shape and diameter of the cornea, the type of corneal astigmatism.

OBJECTIVE METHODS OF REFRACTION EXAMINATION

Petriman Daniela
Department of Optometry-Ophthalmology
Chisinau, Republic of Moldova

Introduction: Retinoscopy is an important method for the objective assessment of refraction, widely used for diagnosing vision disorders such as hyperopia, myopia, and astigmatism. Accurate refraction measurement is particularly important in children and school-age individuals, where the use of cycloplegia plays a key role in correct diagnosis. Studies show significant differences between retinoscopy with and without cycloplegia, especially in younger children.

Objective of the Study: To evaluate the difference between the results of retinoscopy with and without cycloplegia in children, and to analyze the influence of age, refractive errors, and wearing glasses on these results.

Materials and Method: Observational studies, cohort studies, and review articles were selected from recognized databases, such as PubMed, focusing on publications from the year 2019. The study included 128 children, divided into 4 age groups: 6-7, 8-9, 10-12, and 12-13 years. Each child underwent retinoscopy with cycloplegia (1% cyclopentolate) and without it. Accommodation was assessed using dynamic retinoscopy before applying cycloplegia.

Results: A statistically significant difference was found between the spherical values of retinoscopy with and without cycloplegia. The difference decreased with the age of the children, but retinoscopy with cycloplegia revealed greater hyperopia compared to non-cycloplegic results in all age groups. The difference was more pronounced in children with high hyperopia (≥+2.50D). The cylindrical component showed no significant differences between retinoscopy with and without cycloplegia. Non-cycloplegic retinoscopy with a result of ≥+1.50D was sensitive (87%) and specific (96%) in identifying clinically significant hyperopia (≥+2.50D).

Conclusion: Retinoscopy with cycloplegia reveals significantly greater hyperopia compared to retinoscopy without cycloplegia in children aged 6 to 13. This difference is particularly pronounced in children with high hyperopia and is independent of wearing glasses or accommodation. Cycloplegia does not affect the cylindrical component but is necessary for accurately determining full refractive error in children, especially in cases of high hyperopia.

South-East European Ophthalmological Society
Ophthalmological Association from Moldova
Nicolae Testemitanu State University of Medicine and Pharmacy
THE 19TH SEEOS Congress
OCTOBER 18-19TH, 2024
CHISINAU, MOLDOVA

EXTERNAL DISEASE AND CORNEA

INTRASTROMAL CORNEOSCLERAL EPITHELIAL CYST

Bobrova NF
The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine
Odessa, Ukraine

Introduction: Intrastromal corneal cyst (ISCC) is very rare corneal pathology. There are only 16-17 cases described in the literature. ISCC may be primary (congenital) or secondary (acquired) as a result of injury, inflammatory process etc. The diagnostics & treatment rather difficult due to rarity observations. The item of this work was to work out the diagnostic criteria & treatment possibilities of ISCC.

Material and methods: Child H., 8y.o. with intermittent corneal opacification was carried out a full ophthalmological examination & surgical treatment.

Results: Complaints: the reduction of visual acuity of the right eye, intermittent corneal clouding with a tendency to increase.

Objectively: blepharospasm, photophobia, mixed injection, 2 cystic formation of the limbus at 6 o`clock ongoing intrastromal pseudohypopion. Visual acuity – 0.06 uncorrected, IOP – 15.0mm. US-scan revealed intrastromal corneal cystic cavity.

Treatment: I stage – conservative antibiotic & inflammatory therapy – without success.

II stage – surgical intervention revision of the scleral cyst drainage & BSS sodium solution irrigation the ISCC with closed cryodestruction of corneal & scleral cysts.

After operation – residual corneal clouding. Visual acuity rised to 0.2.

Conclusion

1. The migration of epithelial cells into the corneal stroma with its subsequent proliferation plays a key role in ISCC formation.
2. The drainage of ISCC with BSS solution irrigation & closed cryodestruction – the safest method of treatment in pediatrics.

ORBITAL PSEUDOTUMOR IN A CHILD

Corina Magdei, Egor Porosencov, Crivceanschi Eugenia, Știrbu Alexandra, Țurcan Mariana

Ophthalmology Department, "E. Coțaga" Clinic, Mother and Child Institute Chisinau, Republic of Moldova

Introduction: Orbital pseudotumor is a rare inflammatory condition in children. It is misdiagnosed as orbital cellulitis or orbital mass.

Purpose: The paper presents the case of a pediatric patient with unilateral proptosis and intermittent exophthalmos, of unclear etiology, in which the diagnostic challenges, evaluation and management strategies, will be presented.

Materials and methods: A 12-year-old child presented with marked proptosis and intermittent exophthalmos OD. A detailed ophthalmological examination was performed, after which, the suspicion of exophthalmia of unclear etiology was established. Multiple investigations were performed, which included MRI and CT with contrast.

Conclusion: The case was a real challenge, in establishing the diagnosis and in the therapeutic approach, which required a multidisciplinary approach in the management of acute eye pathology.

THE IMPACT OF RELIGIOUS FASTING ON OCULAR HEALTH

Cușnir Valeriu[12], Dumbrăvenu Lilia[12], Lupan Valentina[12], Storoja Ana-Maria[2]

[1] Ophthalmology and Microsurgery of the Eye Unit, "Sfânta Treime" Municipal Clinical Hospital

[2] Department of Ophthalmology and Optometry, "Nicolae Testemitanu" State University of Medicine and Pharmacy

Chisinău, Republic of Moldova

Introduction. Religious fasting can have various effects on ocular health, both positive and potentially negative, depending on how it is practiced and its duration. It is important to note that understanding and observing religious customs are often subjective and diverse, and their influence on ocular health can vary from person to person.

Objective of the study. The study aims to provide understanding of how temporary dietary restrictions may affect eye health, by supplying data to assist in formulating medical recommendations for individuals practicing religious fasting.

Methods and Materials. To achieve the stated purpose, we conducted a literature review analysis using the NCBI and PubMed databases.

Results. Orthodox fasting may affect intraocular pressure under certain circumstances, although specific studies analyzing this relationship in detail are limited. There may be some changes in metabolism and nutrient levels available to the body; however, intraocular pressure values typically do not differ significantly between fasting and non-fasting periods. Excluding animal-derived proteins from the diet may have varied impacts on ocular health, depending on how this change is managed and individual organism needs. Plant proteins can provide all essential amino acids for complete nutrition, though diversity is necessary to ensure adequate absorption. Consumption of red meat stimulates the growth of N-nitroso compounds, which upon breakdown generate highly toxic radicals that can accumulate in retinal pigment epithelial cells, stimulating vascular endothelial growth factors and contributing to age-related macular degeneration (AMD). Alternative plant sources such as vitamin A, lutein, zeaxanthin, and Omega-3 fatty acids are critical for eye health, aiding in proper eye hydration and reducing inflammation.

Conclusions. Religious fasting can have diverse effects on ocular health, both positive and potentially negative, depending on how it is practiced and its duration. An animal protein-free diet may be suitable for ocular health if properly planned to ensure sufficient essential nutrients from diverse plant sources. It is advisable to monitor nutrient levels through blood tests and, if necessary, to use supplement accordingly.

EFFECTIVENESS OF TRANSEPITHELIAL CROSSLINKING IN KERATOCONUS PATIENTS

Cristina Șcerbatiuc
Department of Ophthalmology, Nicolae Testemițanu State University of Medicine and Pharmacy
Chisinau, Republic of Moldova

Introduction. Keratoconus is a progressive corneal ectatic disease characterized by noninflammatory changes in the stromal collagen. This can lead to protrusion and alteration of the central and paracentral cornea. It typically starts to show in the 2nd or 3rd decade of life as progressive myopia and astigmatism, initially affecting one eye and then progressing to both eyes. In corneal cross-linking, riboflavin is used as a photosensitizing factor. When exposed to UV-A radiation, it induces photochemical cross-linking in the corneal stroma, leading to the formation of covalent bonds between collagen molecules.
Aim. The aim is to assess the long-term effects of corneal crosslinking in patients with progressive keratoconus who are older than 18 years.
Method. This study was performed in Promed Clinic, Chisinau, on 72 eyes of 36 patients with progressive keratoconus over 4 years from March 2019 to March 2023. The crosslinking procedure included the application of 0.1% riboflavin solution containing 20% dextran for 15 minutes before and before irradiation for 30 minutes with ultraviolet type A (3 mW/cm) rays. Patients were evaluated repeatedly at 6, 12, 24, 36, 48 months after the procedure. Patients were examined for corrected and uncorrected visual acuity, refraction with evaluation of the spherical component, max-K, (mean-K), corneal thickness in the central region.
Result. All keratometric measurements improved significantly over the study period. Compared to baseline values, a positive dynamics of Kmax parameters was observed, which became statistically significant over 12 and 24 months after crosslinking. The spherical equivalent decreased during the study period from -7.12 D to -5.82 over 24 months after crosslinking, also the cylindrical equivalent decreased from -5.37 D to -4.1 D. The uncorrected visual acuity increased from 0.51 ± 0.27 preoperatively to 0.66 ± 0.28 over 24 months after crosslinking.
Conclusions. According to our four-year study, the corneal cross-linking procedure is effective in patients with progressive keratoconus, does not entail major risks, and may obviate the need for keratoplasty in these patients.

CROSSLINKING FOR KERATOCONUS AND OTHER CORNEAL DISEASES

Vera Chiriac, Rodica Bilba, Cristina Cosula, Stelian Curca, Errica Spoiala, Tatiana Radcova
Medical Center Oculus Prim
Chisinau, Republic of Moldova

Actuality: Corneal collagen crosslinking with riboflavin and Ultraviolet-A is a technique of corneal tissue strengthening that combines the use of riboflavin as a photo sensitizer and UVA irradiation. The major indication for the use of CXL is to inhibit the progression of corneal ecstasies, such as keratoconus. Most recent studies demonstrate the beneficial impact of CXL for iatrogenic ecstasies, pellucid marginal degeneration, infectious keratitis, bullous keratopathy and ulcerative keratitis.
Purpose of the study: Assessing the effectiveness of Corneal collagen crosslinking in keratoconus and other corneal diseases.
Methods: Clinical prospective study, that included 281 eyes with moderate or advanced progressive keratoconus (K: 48 – 72 D) and 64 eyes with other corneal diseases: pellucid marginal degeneration, iatrogenic ecstasies, infectious keratitis, bullous keratopathy and ulcerative keratitis. CXL epi-on is performed without desepitalization of the cornea with balanced solution of riboflavin instilled for 20 minutes and UVA exposure (365 nm, 18mW/cm2) for 5 minutes. Postoperative examinations were carried over the course of 1 day,1 week, 1, 3 and 6 months, 1 year, including visual acuity, biomicroscopy, corneal topography, pachymetry, refractometry, keratometry.
Results: In all treated eyes, the progression of keratoconus and pellucid marginal degeneration was stopped. In eyes with bullous kerathopaty corneal thickness was reduced by 71.54±14.02 micron and visual acuity was significantly improved. In all cases with infectios melting keratitis the progression of corneal melting was halted.
Conclusions: Application for CXL is attractive in that it offers the potential to reduce the need for corneal transplantation in a condition other than keratoconus. It may also offer another means of controlling pain in patients with bullous keratopathy who are either unsuitable for or awaiting keratoplasty. The results follows that many corneal infections may be controlled with a single treatment.

OCULAR SURFACE PATHOLOGIES AND TISSUE TRANSPLANTATION IN THE DEPARTMENT OF OPHTHALMOLOGY AND CLINICAL OPTOMETRY

Vitalie Procopciuc [1] , Valeriu Cușnir [1] , Viorel Nacu [2] , Lilia Dumbrăveanu [1] , Valentina Lupan [1] , Adrian Cociug [2] , Aurel Rusu [1] , Olga Perlog [1]

[1]Department of Ophthalmology and Clinical Optometry,"Nicolae Testemițanu" State University of Medicine and Pharmacy

[2]The Laboratory of Tissue Engineering and Cell Cultures, "Nicolae Testemițanu" State University of Medicine and Pharmacy

Chisinau, Republic of Moldova

Introduction. Corneal pathologies rank among the top three causes of blindness worldwide. Various degenerative, dystrophic, inflammatory, traumatic, or infectious conditions can affect the clarity and integrity of the cornea. One radical treatment method for these pathologies is keratoplasty, a surgical procedure to replace the pathological cornea with a healthy one from a donor. Annually, approximately 185,000 corneal transplants are performed worldwide.

Objective of the Study. To highlight the pathologies affecting the ocular surface that require corneal transplantation, and to evaluate the dynamics of the number of corneal and amniotic membrane transplant surgeries over the years 2022 and 2023 at the Ophthalmology and Optometry Clinic of USMF "Nicolae Testemițanu."

Methods and Materials. An analysis study based on the Tissue Transplant Agency Reports in the Department of Ophthalmology and Clinical Optometry for the last 2 years, within the Transplant Center of IMSP SCM "Sf. Treime."

Results. In 2022, 9 corneal transplant surgeries were performed, and in 2023, 18 transplants. The main indication for these interventions was penetrating corneal ulcers as an emergency indication, and certain pathologies leading to irreversible corneal opacification. Additionally, corneal transplants were also implemented in cases of acute bacterial and viral keratitis complicated by ulceration or opacification. Over these 2 years, 174 cryopreserved amniotic membrane transplants were performed to enhance corneal epithelialization and reduce inflammation, especially in cases of keratitis.

Conclusion During the years 2022-2023, a total of 201 tissue transplants on the ocular surface were performed, including 27 corneal grafts and 174 amniotic membrane grafts. There was a 19% increase in the number of transplant surgeries in 2023.

CONTEMPORARY FEATURES OF THE ETIOPATHOGENETIC TREATMENT OF PATIENTS WITH RED EYE SYNDROME

L. O. Venger, N. V. Konovalova, S. I. Burdeinyi
Odessa National Medical University
Odessa, Ukraine

Relevance: Red eye syndrome encompasses various diseases with conjunctival vessel injection as the leading symptom. Its sudden onset often indicates ocular infection, necessitating prompt diagnosis and expert care.
Objective: To determine contemporary features of the etiopathogenetic treatment of patients with red eye syndrome.
Materials and methods: The examination included 28 women and 21 men with red eye syndrome, with an average age of 44.5±7.9 years. All patients underwent standard ophthalmic examination, bacteriological examination (conjunctival swab), virological (PCR tear test), serological (IgM and IgG to herpes virus I, II, III types), Schirmer`s and Norn test.
Results: The infectious nature of red eye syndrome was confirmed by bacteriological and virological studies in 43 patients (24 - showed herpetic etiology, 6 had non-infectious causes, mainly linked to ophthalmo-rosacea). Treatment involved dietary adjustments, eyelid hygiene, preservative-free artificial tears and dermatological examination.
Trigeminal neuralgia was observed in nearly 69.4% of patients, indicating nasociliary neuralgia syndrome characterized by unilateral pain in the nose wing, periorbital area, and forehead skin. Treatment included Gabapentin and B-group vitamins to alleviate pain. Trigeminal neuralgia was present in all cases with confirmed herpetic etiology, alongside symptoms like decreased corneal sensitivity and dendritic keratitis. Patients received topical antiviral agents prescribed by specialists and antibiotic treatment based on microbiota examination results. Acanthamoeba keratitis was diagnosed in patients using contact correction after swimming, evident from a corneal ring infiltrate. In conclusion, patient evaluation for red eye syndrome should include trigeminal neuralgia assessment, serological examination for viral immune response, and dry eye symptom assessment. Etiopathogenetic treatment and artificial tears significantly improved the condition of 43 patients and led to clinical recovery.
Conclusions: Patients with red eye syndrome should undergo evaluation for trigeminal neuralgia, serological examination for viral immune response and assessment of dry eye symptoms. Taking into account the contemporary features of etiopathogenetic treatment in patients with red eye syndrome has enabled achieving clinical recovery in 87.8% cases, improving compliance, and enhancing patients' quality of life.

FEATURES OF MICROSURGICAL TREATMENT IN PATIENTS WITH PTERYGIUM

Victoria Fandofan ,Uliana-Ariadna Bozul, Ion Jeru,
Department of Ophthalmology, USMF "Nicolae Testemițanu"
Chișinau, Republic of Moldova

Introduction: Pterygium is clinically manifested by a triangular fold of the bulbar conjunctiva with the base towards the semilunar fold and the tip towards the cornea. The etiology and pathogenesis of pterygium is unknown. It would result from a corneo-conjunctival epithelial alteration, associated with a proliferation of fibrinogen tissue, progressing between the epithelium reduced to a few layers of cells and the perforated Bowman's membrane.

Aim: To assess the effectiveness of a modified method in the treatment of pterygium,stage II.

Objectives:

1. To determine the effectiveness of the modified method using the free conjunctival flap plus subconjunctival administration of 5-FU (fluoruracil) in the treatment of patients with pterygium.
2. To appreciate the benefits of the modified method depending on the addressability of patients with pterygium.

Materials and methods: The study included 8 patients (4 men and 4 women) with pterygium aged 20-71 years who underwent pterygium removal according to a modified method. Thus, during the surgical intervention, a movable, free, rectangular flap with sides 5 x 3 mm was prepared inferiorly paralimbally, which was fixed conjunctivally paralimbally, nasally in the area of the body of the pterygium translocated to the superior or inferior fornix plus subconjunctival administration of 5-FU . It is important to position the formed conjunctival flap with a limbal orientation.

Discussions: The postoperative recovery was fast, but for several days after the operation the globe was hyperemic, irritating the suture fibers used to fix the conjunctival autograft. Antibiotic and anti-inflammatory in the form of eye drops are needed. Thus, in all patients, 3 months after the microsurgical intervention, no signs of recurrence of the operated pterygium were detected. In 2 late-presenting patients, the pterygium was extended onto the cornea, resulting in deep scarring. As a consequence, the radius of corneal curvature was changed with the decrease in visual acuity in the postoperative period. This is why surgery for pterygium should not have been delayed.

Conclusions:

1. The microsurgical method proposed for the treatment of pterygium is safe and effective, determining the lack of recurrence in the postoperative period.
2. Microsurgical intervention based on pterygium should be performed as early as possible.

SCLERAL LENSES IN CORNEAL DYSTROPHIES, SPECIFICALLY KERATOCONUS

Minina Tatiana
Department: Optometry-Ophthalmology, USMF "Nicolae Testemitanu"
Chișinau, Republic of Moldova

Introduction. Corneal dystrophies are inherited disorders (typically autosomal dominant) affecting almost every layer of the cornea. Keratoconus is a degenerative eye condition where the cornea thins and takes on a conical shape, unlike the normal spherical form. Keratoconus can lead to severe visual disturbances. Patients most often report photophobia, double vision, and image distortion. It is the most common form of corneal dystrophy and can affect one or both eyes, usually starting in adolescence or after the age of twenty. The condition affects about 1 in 1000 people, regardless of nationality and place of residence.

Objective of the Study. This study aims to evaluate the effectiveness and safety of scleral contact lenses in the visual rehabilitation of individuals with keratoconus.

Material and Method. A retrospective study of keratoconic subjects examined between 2013 and 2018 was selected and analyzed from the PubMed database. Subjects were included regardless of age, sex, pre-existing morbidity, or scleral lens design. Only eyes that successfully fitted with scleral contact lenses for ≥1 year were included. Exclusion criteria were previous corneal surgery, dystrophy, degeneration, and trauma.

Results. The study included 157 eyes from 86 subjects. The mean severity score of keratoconus at initial assessment was 3.6 ± 1.0. The lenses used were gas permeable, non-ventilated, with a mean total diameter of 15.8 ± 0.6 mm and 70.1% toric scleral peripheral. Physiological adverse events were reported in 9.6% of eyes, including microbial keratitis (0.6%), phlyctenulosis (0.6%), corneal abrasion (1.3%), acute red eye caused by contact lenses (1.3%), corneal infiltrative events (1.3%), pingueculitis (1.3%), and hydrops (3.2%). Lens-related adverse events were observed in 55.4% of eyes. Surface issues included poor wetting (1.9%), handling difficulties (3.8%), reservoir fogging (7.0%), lens intolerance (7.6%), deposits (8.9%), and broken lenses (26.1%). The most frequent management measures were lens adjustment (54.0%), patient re-education (29.5%), medical treatment (5.5%), surgical referral (6.8%), wear time adjustment (2.5%), surface treatment (1.2%), and lens replacement (0.6%). LogMAR visual acuity, measured at best correction, significantly improved from a mean of 0.50 with glasses to 0.08 with scleral lenses ($P < 0.0001$). During the study, 14.6% of eyes experienced a decrease in visual acuity with scleral lenses due to progression of keratoconus.

Conclusions. Consistent with other studies, this research demonstrates the excellent safety and effectiveness of scleral contact lenses for subjects with keratoconus.

South-East European Ophthalmological Society
Ophthalmological Association from Moldova
Nicolae Testemitanu State University of Medicine and Pharmacy
THE 19TH SEEOS Congress
OCTOBER 18-19TH, 2024
CHISINAU, MOLDOVA

LENS AND CATARACT

ANTERIOR SEGMENT RECONSTRUCTION AND IRIS LOSS REPAIR IN PATIENTS WITH TRAUMATIC APHAKIA

Gheorghe Ivanov[1,2]; Irina Russu [1,2]; Iuliana Saptefrati [1,2]; Ion Jeru [2]
[1]*Ovisus Medical Centre*
[2]*Nicolae Testemițanu State University of Medicine and Pharmacy, Department of Ophthalmology*
Chisinau, Republic of Moldova

Introduction: Traumatic aphakia is often associated with anterior chamber deformities and iris tissue loss. These might cause a still low quality of vision even after IOL implantation.
Aim of the study: To highlight the surgical techniques of anterior segment reconstruction and methods of iris tissue loss repair after per secundam IOL implantation in cases with traumatic aphakia.
Materials and method: We present several cases of unilateral traumatic aphakia associated with traumatic partial aniridia and adherent leucoma, managed by artificial iris implantation, anterior chamber reconstruction and IOL implantation.
Results: There were no postoperative complications. Repositioning wasn't required. The intraocular pressure and corneal transparency were in normal ranges.
Conclusions: The use of artificial iris proved to be efficient in anterior segment compartmentalization, as a means of intraocular lens fixation and for cosmetic recovery. The choice between the implantation of en bloc iris and lens vs a separate lens depends on the zonular support, aiming to minimize the main corneal incision during a one-step surgery.

ADVANSED CATARACT SURGERY

Vera Chiriac, Cornelia Ceban, Cristina Zabolotnii, Tatiana Radcova
Medpark International Hospital
Chisinau, Republic of Moldova

Actuality: The technology of the multifocal intraocular lenses is advancing as the objectives of the cataract surgery are becoming more embracing. Patients have more expectations about their vision and frequently desire the spectacle independence after cataract surgery. Trifocal IOLs implantation to correct presbyopia in cataract patients: experience and improvements in quality of vision clinical results.

Purpose: Our purpose was to evaluate visual and optical performances of cataract eyes after phacoemulsification and trifocal AcrySof® IQ PanOptix® IOL implantation.

Material and methods: Study is based on a follow-up of patients with cataract underwent uncomplicated phacoemulsification and trifocal implantation AcrySof® IQ PanOptix® IOL and AcrySof® IQ PanOptix® Toric. In the study was included patients with different stage of cataract asistans in the Medpark International Hospital. Cataract was removing in the patients with hyperopia, emetropy, myopia with or without astigmatism. Examinations including visual acuity, biomicroscopy, corneal topography, pachymetry, refractometry, keratometry, ultrasonography, perimetry, OCT, tonometry, calculation of IOLs etc. Surgery was performed by phacoemulsification with inplant trifocal AcrySof® IQ PanOptix® si AcrySof® IQ PanOptix® Toric.

Results: Postoperatively, the following visual and refractive parameters were measured: distance (5 m), near (40 cm) and intermediate (60 cm) visual acuity. Preoperative distance UCVA was 0.1-0.6. Postoperative distance UCVA is 0.7-1.0, monocular and binocular uncorrected near vision and intermediate vision are 0.8-1.0. Postoperative refractive results within ± 0.5 diopter (sph equivalent).

Conclusions: Multifocal IOLs are good options to correct pseudophakic presbyopia as they achieve spectacle independence in the majority of the cases with high levels of patient satisfaction. To obtain success after surgery, it is crucial to adequately select the patient, include an extensive preoperative evaluation of ocular surface and macula. The careful selection of the patient, the knowledge about the IOLs' design, and their visual performance added to the proper surgical technique and management of possible complications are the key for the success implantation of the multifocal IOLs.

THE IMPACT OF TORIC IOL IMPLANTATION ON PATIENTS' QUALITY OF LIFE

Iuliana Șaptefrați, Gheorghe Ivanov, Irina Russu, Ion Jeru
Ovisus Medical Center
Nicolae Testemițanu State University of Medicine and Pharmacy, Department of Ophthalmology
Chisinau, Republic of Moldova

Introduction: The implantation of toric intraocular lenses (IOLs) has emerged as a transformative solution for patients with astigmatism undergoing cataract surgery. This study evaluates the impact of toric IOL implantation on the quality of life (QoL) of patients, focusing on visual acuity, spectacle independence, and overall satisfaction.
Aim of the study: To highlight the influence of toric IOL implantation on pattients' vision and quality of life.
Methods and materials: We conducted a study involving 150 patients with significant corneal astigmatism who received toric IOLs during cataract surgery. Preoperative and postoperative assessments included measurements of uncorrected and best-corrected visual acuity (UCVA and BCVA), refractive outcomes, and patient-reported outcomes using the addapted questionnaire.
Results demonstrated a significant improvement in UCVA and BCVA post-surgery, with 85% of patients achieving spectacle independence for distance vision. The mean questionnaire scores increased notably in areas related to vision-specific mental health, dependency, and social functioning. Additionally, patients reported high levels of satisfaction regarding their visual outcomes and overall quality of life.
Conclusions: This study underscores the efficacy of toric IOLs in correcting astigmatism during cataract surgery and highlights the substantial benefits in enhancing patients' visual function and QoL. Our findings advocate for the broader adoption of toric IOL implantation as a standard practice for eligible patients, ultimately contributing to improved patient outcomes and satisfaction.

DIFFERENT CASES OF PERSISTANT PUPILLARY MEMBRANE IN PEDIATRICS

Dovhan OD, Bobrova NF, Romanova TV
The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine
Odessa, Ukraine

Introduction: Persistent pupillary membranes (PPM) is a rare congenital developmental anomaly. Single clinical cases of PPM, according to the data of the literature, do not allow to conduct an analysis of their clinical features.
The item - to study the clinical manifestations of PPM.
Material and methods: 32 children (38 eyes) aged from 7 months to 13 years old with different clinical types of PPM were examined. In 26 cases, the PPM was monocular, in 6 - binocular.
Results: The PPM we observed were of different sizes, configurations, and volumes. The majority of children - 26 cases - 30 eyes (78.9%) had PPM with iridolenticular attachment, 6 children - 8 eyes (21.1%) had PPM with attachment from iris to iris. It was found that mainly - in 44.76% of cases PPM caused a violation of the size and configuration of the pupil, in 34.2% and 23.7% of cases it was observed in eyes with microphthalmia and microcornea, respectively, in 26.3% of cases there was a violation of the anatomy of the angle of anterior chamber structure in the form of goniodysgenesis and anterior embryotoxon. The lens remained transparent in 84.2% of cases. Visual acuity in eyes with PPM was different and ranged from light sensitivity to 0.4.
Conclusion: The clinical features analysis of PPM was conducted on the largest number of cases for the first time. The lens often remained clear - in 84.2% of cases, congenital cataracts were poorly observed - in 15.8% of reports. It has been proven that PPM with an iridolenticular attachment and a dense obscuring membrane on the anterior capsule of the lens is replaced by a significant decrease in visual acuity to light perception and the subsequent formation of amblyopia, myopia and anisometropia, which need surgical treatment modality development.

POST TRAUMATIC LENS NEOVASCULARIZATION MANAGED BY ULTRASOUND BIOMICROSCOPY

Marina Papanaga [1,2], Angela Corduneanu [1,2], Mario De La Torre [3], Andrei Chiaburu [4], Eugeniu Bendelic [1,2]

[1] Ophthalmology Department, "Nicolae Testemițanu" State University of Medicine and Pharmacy, Chișinău, The Republic of Moldova

[2]Ophthalmology Department, "Timofei Moșneaga" Republican Clinical Hospital, Chișinău, The Republic of Moldova

[3]Ophthalmology Department, The National University of San Marcos, Lima, Peru

[4]Ophthalmology Department, "Emilian Coțaga" Clinic, Mother and Child Institute, Chișinău, The Republic of Moldova.

Introduction: Ocular trauma is a serious public health problem that affects a person's quality of life through vision impairment or even blindness. It is also worldwide ophthalmic emergencies with multiple reported complications, primarily of the anterior segment such as hyphema, iridodialysis, cyclodialysis, angle recession, cataract, lens dislocation, glaucoma, intraocular foreign body but lens neovascularization has rarely been reported.

Aim of the study: To report a clinical case of neovascularization within the lens of a child, which is a typically an avascular structure, following ocular trauma managed by ultrasound biomicroscopy.

Methods and Materials. We present the case of an 8-year-old boy who developed neovascularization in an opacified lens 2 months after surgery for penetrating ocular trauma. The patient's complains were: gradual vision loss in left eye. The visual acuity in this eye at the time of adressing was certae light perception compared to the postoperative of 20/50. The patient also developed intraocular hypotension 2 months after penetrating eye trauma. The slit-lamp highlited small and uneven anterior chamber, cataract and a well-defined subcapsular neovascularization. Ultrasound biomicroscopy examination revealed small anterior chamber, narrowed anterior chamber angle, positive lens vault, opacified lens subluxation, a linear echogenic membrane from the pars plana to the posterior capsule of the lens with ciliochoroidal effusion. Following the investigation, the patient was administered peribulbar triamcinolone injection and Anti-VEGF intravitreous injection.

Results. After the intraocular injection with Anti-VEGF, the vessels at the level of the posterior capsule membrane decreased in number more than half. The visual acuity remained the same, certae light perception and the intraocular hypotension in the left eye is maintained which delays the cataract extraction operation. The patient is undergoing follow-up care.

Conclusions. 1. Lens neovascularization is a rare phenomenon which occurs due to traumatic phacolysis, chronic uveitis or severe ocular ischemia. 2. Ultrasound biomicroscopy highlighted the ciliochoroidal effusion that was not clearly visible on the posterior pole ultrasonography, as well as the subluxation of the opacified lens with a positive vault lens, which helped to guide the treatment.

RESULTS OF REFRACTIVE LENS EXTRACTION WITH EDOF IOL IMPLANTATION IN PATIENTS WITH HIGH MYOPIA AND MYOPIC ASTIGMATISM

Porada Serghei, Cucereavaia Alexandra, Paduca Ala
Department of Ophthalmology, Republican Clinical Hospital
Chisinau, Republic of Moldova

Introduction: Advances in microsurgery have allowed cataract surgery to evolve from removal of the opaque lens to a procedure aimed at achieving the best refractive outcome. As cataract surgery outcomes have improved, the use of surgery as a refractive modality has become popular.

Refractive lens extraction is intended for correcting high-degree ametropias. Another indication is correction of refractive errors in presbyopic patients with a clear lens.

EDOF lenses maintain clear vision at both long and intermediate distances. They are designed to minimize dependence on glasses, but can cause undesirable effects such as glare and halos.

Aim of the Study: To evaluate the results of using EDOF IOLs for the correction of high myopia and myopic astigmatism.

Materials and Methods: The study was conducted at the Ophthalmologic center Eye Microsurgery in Moldova, from January -December 2023. It was a retrospective study examining data from 20 patients (32 eyes) who underwent refractive lens extraction with the implantation of Sifi EDOF IOL. 7 were men and 13 were women, with an average age of 39.05 years ± 8.38.

Inclusion criteria were: age ≥18 years at the time of surgery, high myopia (> -6.00D), and myopic astigmatism, with a clear lens. Exclusion criteria included: irregular astigmatism, keratoconus, diabetic retinopathy, glaucoma, uveitis, ocular infections. Before surgery patients underwent a complete ocular examination: UDVA, CDVA, refractometry, keratometry, slit lamp examination, IOP, endothelial cell count, optical biometry to determine axial length and the dioptric power of the IOL, using the fourth-generation Barrett Universal II formula. The targeted postoperative refraction was emmetropia.

The surgery was performed by phacoemulsification. Postoperatively, patients received topical treatment with Dexatobrom four times a day for one month. Follow-up was conducted at one month. During visit UDVA, CDVA, UIVA, CIVA, autorefractokeratometry, IOP were evaluated.

At the final follow-up visit, all patients were asked about the presence of discomfort when looking at light sources in the evening and their satisfaction with distance and intermediate visual acuity.

Results

Preoperative data:

- Mean UDVA: 0.02 ± 0.01
- Mean CDVA: 0.68 ± 0.25

- Mean autorefractokeratometry: -10.76 ± 3.57 D
- Mean IOP: 15.67 ± 3.29 mmHg
- Mean A-P axis: 27.3 ± 1.64 mm

In 25 eyes, the Sifi Mini Well Toric Ready IOL was implanted. The Sifi Mini Well Ready was implanted in 3 eyes, and the Sifi Mini Well Proxa in 4 eyes.

Postoperative data at 1 month:

- Mean UDVA: 0.7 ± 0.21
- Mean CDVA: 0.77 ± 0.19
- Mean UIVA: 0.62 ± 0.18
- Mean CIVA: 0.8 ± 0.26
- Mean autorefractokeratometry: -0.32 ± 0.69 D
- Mean IOP: 16.31 ± 2.21 mmHg

Evaluation of concomitant ocular pathologies revealed peripheral retinal dystrophy at 18 eyes, mild amblyopia in 14 eyes, severe amblyopia in 2 eyes. Presbyopia was found in 6 eyes, vitreous body destruction in 4 eyes.

At the final follow-up visit, 4 patients reported discomfort when looking at light sources, 18 patients were satisfied with their distance visual acuity, and 17 were satisfied with their intermediate visual acuity.

Conclusion: The EDOF-IOL provides excellent visual outcomes at distance and on intermediate distance. Users also experience a low rate of visual disturbances with this lens.

BENEFITS OF BILATERAL CATARACT SURGERY IN THE SHORT INTEROPERATIVE PERIOD.

Tanurcova Iulia, Bendelic Eugeniu
Department of Ophthalmology, Republican Clinical Hospital
Chisinau, Republic of Moldova

Introduction: Cataract is one of the leading causes of blindness, most often affecting both eyes in elderly patients. The level of modern surgery allows for complete binocular rehabilitation of a patient with bilateral cataracts, but it requires determining a safe and comfortable interval between the surgeries on the two eyes: simultaneously, in a short time, or over a month or more.

Immediate Sequential Bilateral Cataract Surgery (ISBCS) involves performing cataract surgery on both eyes during the same surgical session. This method offers the advantage of faster visual rehabilitation since both eyes recover simultaneously. However, it carries a slightly higher risk of bilateral complications, although strict aseptic techniques significantly mitigate this risk.

Delayed Sequential Bilateral Cataract Surgery (DSBCS) involves performing cataract surgery on one eye, followed by the second eye after a delay, usually ranging from a few weeks to a few months. This approach allows surgeons to assess the outcome of the first surgery before proceeding with the second, reducing the risk of bilateral complications. While safer, this method requires two surgical sessions and longer total recovery time.

Aim of the Study: To highlight the benefits of ISBCS and outline the essential steps required to achieve optimal outcomes.

Materials and Methods: The bibliographic sources from the PubMed and Google Scholar databases were reviewed using the keywords: ISBCS, DSBCS, bilateral cataract extraction surgery, sequential bilateral cataract surgery, simultaneous bilateral cataract surgery, same day cataract surgery, and approximately 60 articles were selected. The final bibliography contains 21 relevant sources that were considered representative.

Results: The potential benefits of ISBCS include quicker visual recovery without the visual imbalance that can occur between surgeries on the first and second eyes. It also eliminates the need for additional day-care admissions, reduces reliance on home care, and decreases the number of hospital visits.

The ISBCS also helps avoid significant issues that can arise after unilateral surgery, such as anisometropia and neuroadaptation problems. Clinics with extensive experience in performing simultaneous binocular surgeries report that minor errors are rare and, when they do occur, they are almost always symmetrical and do not lead to problems like anisometropia.

Another significant benefit of ISBCS is its economic advantage: it results in reduced hospital expenses and more efficient use of operating room time. Additionally, patients experience financial benefits through a quicker return to work and fewer hospital visits.

Conclusion: Advancements in surgical techniques, equipment, and modern medications have made ophthalmic surgeries quicker, with fewer complications and shorter hospital stays. These improvements have encouraged the adoption of ISBCS for appropriate cases. With proper patient selection and strict protocol adherence, ISBCS carries minimal risk of binocular blindness. Success, however, depends on an experienced surgeon. As a result, the operational risk of ISBCS is equal to or even lower than that of DSBCS.

South-East European Ophthalmological Society
Ophthalmological Association from Moldova
Nicolae Testemitanu State University of Medicine and Pharmacy
THE 19TH SEEOS Congress
OCTOBER 18-19TH, 2024
CHISINAU, MOLDOVA

GLAUCOMA

SECONDARY GLAUCOMA IN IRIDOCORNEAL ENDOTHELIAL SYNDROME

Rodica Sevciuc [1], Virgilia Cosovan [1], Veronica Chisca [1], Victoria Tcaci [1], Tatiana Ghidirimschi [2], Natalia Corduneanu [3]
[1] Ophtalmological Department, Institute of Emergency Medicine
[2] LOW VISION Centre
[3] MedClinic International
Chisinau, Republic of Moldova

Introduction. Iridocorneal endothelial (ICE) syndrome is a rare ophthalmic disorder of unknown aetiology. It affects adult women and is characterized by proliferative and structural abnormalities of the corneal endothelium, progressive obliteration of the iridocorneal angle which may decompensate to secondary glaucoma. ICE is typically unilateral and comprises a spectrum of three clinical entities: progressive essential iris atrophy, Chandler syndrome and Cogan-Reese syndrome.
Aim of the study: We present a clinical case of ICE syndrome with predominant features of essential iris atrophy that results in secondary glaucoma.
Material and methods: This is a descriptive case report of a ICE syndrome based on medical documentation, patient observation, surgical intervention and follow-ups.
Results: A 55 years old patient, female, presented in emergency room complaining about decreased visual acuity, ocular pain, photophobia in the left eye for 1 week. The first examination revealed decreased visual acuity, elevated intraocular pressure. The slit lamp examination showed corneal edema, multiple peripheral anterior synechia, iris atrophy, change of the pupil shape. We performed gonioscopy, OCT, specular microscopy. Antiglaucoma surgery was performed.
Conclusion: ICE is a rare ocular disorder. A clinical history and a full ophthalmic exam (visual acuity, IOP, gonioscopy, specular microscopy, OCT, visual field, ocular ultrasound) are essential to make the correct diagnosis.
This case was challenging due to its rarity, diagnostic and therapeutic intricacy.

POTENTIAL ROLE OF AI IN DIAGNOSIS OF LOW TENSION GLAUCOMA

Petja Vassileva, Yordanka Kirilova
Specialized Eye Hospital "Acad. Pashev"
Sofia, Bulgaria

Glaucoma represents a heterogeneous group of conditions with significant difference in pathogenesis, clinical characteristics, IOP levels, treatment approach and progression. It is a very complex disease without agreed upon diagnostic and classification criteria. Elevated intraocular pressure is main risk factor, and many treatment modalities are efficient for its reduction.

Very difficult diagnostic problem is caused by development of glaucomatous damage in patients that never had IOP above 21mmHg – so called Low Tension Glaucoma (LTG). The great value of Artificial Intelligence (AI) is the possibility to process and analyze multiple data from clinical exams and diagnostic testing. For onset and prognosis of LTG, systemic risk factors are more important . We hope AI to help in diagnostic definition for this dangerous glaucoma form, demonstrated in approximately 1/3 of patients.

We preformed retrospective clinical study of all LTG patients diagnosed and treated for 2 years period. Diagnosis was based on presence of glaucomatous nerve head damage, retinal nerve fiber layer (RNFL) thinning, characteristic visual field defects, and maximal intraocular pressure (IOP) < 21mmHg. Additionally RR holter exam and Doppler echography were performed on selected patients, as well as consultations with cardiologist, neurologist and endocrinologist. Follow up period: 6-18 months. Disease progression was demonstrated in 65% of patients even after IOP decrease to 15-17mmHg. Most common findings were unstable blood pressure with nocturnal dips and IOP fluctuation.

Two metabolic phenotypes were observed. In the 1st group are patients in younger age who demonstrated signs of abnormal vasoregulation: Reynaud syndrome, migraine headache, systemic hypotension, cold hands and feet. Patients from 2nd group are older (around 80) with multiple systemic vascular problems, extreme fluctuations of RR and IOP, as well as cognitive problems.

The major concern is how to define LTG, and AI could help to reach unified diagnostic definition. We suggest for a need of new criteria for this glaucoma form – max IOP <15-18mmHg. Our studies support the vascular hypothesis for LTG development and progression. This glaucoma form is extremely challenging and mysterious, and both phenotypes group are mostly associated with ocular perfusion problems.

SELECTIVE LASER TRABECULOPLASTY FOR THE TREATMENT OF GLAUCOMA

Edita Files Bradaric
Eye clinic "Optimal"
Podgorica, Montenegro

Introduction: Selective laser trabeculoplasty (SLT) has been widely used in the clinical management of Glaucoma (OAG) and Ocular hypertension (OHT), both as adjunctive and primary treatments.
Aim: The Aim of the study is to investigate the benefits of SLT in relation to reaching the target intraocular pressure (IOP) and reducing topical medication.
Materials and Methods: SLT was performed on 43 patients, or 54 eyes, in both eyes in 11 patients and in one eye in 32 patients. There were 23 patients with Primmary open angle glaucoma (POAG), 11 patients with Pseudoexfoliation glaucoma (PXFG), 7 patients with Pigmentary glaucoma, and two with Ocular hypertension (OHT). All patients, except for two, used topical medication before SLT treatment (monotherapy, combination therapy, double or triple therapy). Intraocular pressure (IOP) was measured before SLT, as well as 1 week, 1 month (5 weeks), 3 months and 6 months after SLT. The use of topical medication before and after SLT was also recorded.
Results: The average decrease in IOP after SLT was 2.7 mmHg, with a standard deviation of ± 2.05 mmHg. The decrease in IOP after SLT ranged from 1 mmHg to 10 mmHg. We found that 80.48% or 44 eyes had a lower IOP after SLT, while the same IOP had 9.26% or 5 eyes and elevated IOP had 9.26% or 5 eyes. Elevated IOP was in the range of 1-3 mmHg, the one patient had an elevated IOP of 3 mmHg in both eyes, but with the exclusion of dual topical medication. IOP values at control measurements 1, 3, and 6 months after SLT were almost the same, and IOP values one week after SLT were elevated in 16.66% or 9 eyes and in the range of 3–8 mmHg. According to the use of topical medication, in 53.70% or 29 eyes, the therapy remained the same before and after SLT, in 35.18% or 19 eyes (14 patients), the therapy was reduced by one or two topical drugs, and in 5.55% or 3 eyes (2 patients), topical drugs were completely excluded. In 3.70% or 2 eyes, it was necessary to add one topical drug or combination drug, and one patient was left without a topical drug before and after SLT.
Conclusion: SLT is effective and safe procedure, and has its place in the treatment of patients with OAG and OHT in order to reach the target IOP with the least possible use of topical medication, or as a substitute for topical medication, or as an initial treatment in some cases. Wider use of SLT, especially in newly diagnosed and selected cases, will contribute to even better results in treatment.

FILTRATED SURGERY – VISCOSINUSOTRABECULOTOMY OF CONGENITAL GLAUCOMA ASSOCIATED WITH STURGE-WEBER-KRABBE SYNDROME

Bobrova NF

The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine

Odessa, Ukraine

Introduction: The problem of increasing efficiency of congenital glaucoma surgery in pediatrics is extremely relevant. Complicated glaucoma and its treatment in patients with Sturge-Weber-Krabbe (S/W/K) syndrome due to its rare occurrence not well described in modern literature.

Material and methods: 13 children (26 eyes) aged from 2 months to 17y.o. average (56,2 ± 66,3m.o.) with S/W/K syndrome were carried out full ophthalmological examination & filtrated surgery of congenital glaucoma on 7 eyes.

The item - to work out the features of clinical features & filtrative congenital glaucoma surgery in children with S/W/K syndrome.

Results: Nevus flammeus observed in all children: in 8 cases it was on one side of the face, in 5 cases – on both. Glaucoma was diagnosed in 11 children – on 8 eyes it was monocular on the nevus side, in 3 cases (6 eyes) binocular in binocular nevus cases. All children at the beginning were treated by hypotensive eye drops instillation. Intraocular pressure (IOP) normalization on 5 eyes. 7 eyes were operated by the new elaborated technique of congenital glaucoma treatment – viscosinusotrabeculotomy (Bobrova NF et all, 2009). Elaborated technique in S/W/K syndromes additionally allowed to stop hemorrhage complications during operation. IOP were normalized after operation in all cases without complications. Stable hypotensive effect was observed for 2 years follow up.

Conclusion: Dispersive viscoelastic (v/e) usage as temporary “liquid” implant allowed to separate mechanically surgically formed filtrate channel surfaces & reduce aseptic inflammation of operated tissues due to anti-inflammatory effect of hyaluronic acid, what in general allows to decrease the proliferative phase of connective tissue formation. Viscosinusotrabeculotomy is capable to create and save the new ways of liquid out facility & receive stable IOP compensation in long follow-up in congenital glaucoma cases in S/W/K syndrome.

EFFECTIVENESS OF SAR INTERVENTION IN THE TREATMENT OF REFRACTORY GLAUCOMA

Irina Celac [1], Aglaia Lobcenco [1], Eugeniu Bendelic [2]

[1] Ophtalmology Clinic Republic Hospital "T.Moșnega"

[2] University of Medicine and Pharmacy "N.Testemițanu", Deparment of Oftalmology Chisinau, Republic of Moldova

Purpose: An anti-glaucoma surgical technique is presented that shows hypotensive efficiency in refractory glaucoma.

Material and method: We present the case of a 41-year-old patient with uncompensated posttraumatic refractory glaucoma (IOP >35 mmHg), multiple anterior staphylomas, aphakia, who presented to the glaucoma clinic for consultation. Previously, he underwent 2 anti-glaucoma surgeries at another ophthalmology clinic, without hypotensive efficiency. The patient was repeatedly subjected to anti-glaucoma surgery using the scleroangulorеconstruction method.

Results: In the early and late postoperative period (at 12 months), intraocular pressure compensated, with preservation of existing visual functions (0.01exc).

NON-PENETRATING SURGERY IN THE TREATMENT OF NEOVASCULAR GLAUCOMA

Aglaia Lobcenco, Irina Chetrari
Ophtalmology Clinic Republic Hospital "T.Moșneaga"
Chisinau, Republic of Moldova

Introduction: Secondary neovascular glaucoma represents 3.2-4% of all glaucoma hospitalizations. Among the conditions that cause vascular glaucoma in order of frequency: occlusion of the central vein of the retina, diabetic retinopathy, carotid occlusions, chronic uveitis, tumors. In all cases, the condition was characterized by significant tissue destruction with evolution towards irreversible vision loss. We present the surgical intervention - resection of the non-penetrating sclera in patients with painful uncompensated neovascular secondary glaucoma.

Aim of the study consists in evaluating the effectiveness of the surgical intervention "Resection of the non-penetrating sclera", the performance of which is less traumatic and as a result complications such as uveitis, postoperative hypotony, hyphema, choroidal detachment, expulsive hemorrhage in terms of IOP compensation and reduction of the pain syndrome do not occur.

Methods and Materials: A retrospective study was during the last year of 12 patients over 50 years old, with uncompensated neovascular glaucoma.

In the late postoperative period in 3 patients Compensated IOP on the basis of monotherapy, in 5 patients on the basis of combined therapy (2 preparations), 2 patients IOP on the basis of undercompensated treatment, and in 2 patients IOP at high limits, but without painful syndrome.

Results:

-Resection of the non-penetrating sclera in neovascular glaucoma leads to an IOP compensation of 25-35% from the initial indicators.

- A decrese of IOP is a result of the activity of intraocular fluid dranaige through the uveo-scleral pathway.

- The intervention is characterized by minimal trauma to the eye and intra- and post-operative complications.

COMBINATION OF ANTI-VEGF INJECTIONS AND MICROSECOND PULSE CYCLOPHOTOCOAGULATION IN THE MANAGEMENT OF NEOVASCULAR GLAUCOMA

[12]Palarie Natalia, [1]Palii Natalia

[1]Department of Ophthalmology, International Clinic, Orhei, Moldova

[2]Department of Biochemistry and Clinical Biochemistry, Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, Moldova

Purpose: Neovascular glaucoma (NVG) is a particularly challenging and prognostically poor form of glaucoma. This research evaluated the effectiveness of a dual treatment approach combining intraocular VEGF inhibitor injection and microsecond pulse cyclophotocoagulation (µCPC) for managing secondary neovascular glaucoma.

Methods: The study included 58 patients (67 eyes) suffering from secondary neovascular glaucoma due to diabetes or thrombosis of the central retinal vein or its branches. The best corrected visual acuity (BCVA) ranged from hand motion to 0.4, with an average initial intraocular pressure (IOP) of 42 ± 12 mm Hg. Treatment consisted of an intraocular injection of Bevacizumab, a VEGF inhibitor, followed within 5-7 days by 810 nm infrared diode laser application in microsecond pulse mode at 2000 mW for a total duration of 220-240 seconds (145 – 160 J) and a duty cycle of 33.3%. Treatment success was determined by a decrease in anti-glaucoma drop (AGD) usage and maintaining an IOP between 11-21 mm Hg at the final follow-up. Follow-up assessments occurred at baseline, 1 week, and 1, 3, and 6 months post-treatment.

Results: On average, 1.3 treatments were administered per eye, with 20 eyes (30%) needing additional treatment with continuous-wave CPC within the first month. The mean IOP dropped to 28.5 ± 5.0 mm Hg after 1 week, 23.0 ± 5.3 mm Hg after 1 month, 19.5 ± 3.2 mm Hg after 3 months, and 18.5 ± 2.5 mm Hg after 6 months, showing a stable reduction in IOP starting at 3 months. The treatment was successful in 74% of cases. The use of AGD decreased from 2.0 ± 1.0 at baseline to 1.1 ± 1.2 at 1 month, then increased to 1.7 ± 1.0 at 3 months and 2.2 ± 1.2 by 6 months. No severe complications or hypotony were reported.

Conclusion: The combination of VEGF inhibitor injections and µCPC offers an effective, safe, and prompt treatment for NVG over a six-month period.

ASSOCIATION OF BASELINE LEVELS OF INTERCELLULAR ADHESION MOLECULE-1 AND GLYCATED HAEMOGLOBIN WITH REPEATED TRANSSCLERAL CYCLOPHOTOCOAGULATION PROCEDURES IN PATIENTS WITH DIABETIC NEOVASCULAR GLAUCOMA

Olga Guzun, Oleg Zadorozhnyy, Liudmyla Velychko, Oleksandra Bogdanova, Andrii Korol

SI "The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine"
Odessa, Ukraine

Introduction. Some patients with diabetic neovascular glaucoma (NVG) do not fully respond to transscleral (TSC) cyclophotocoagulation (CPC) due to significant inflammation and insufficient glucose control. Biomarkers of neuroinflammation, neurodegeneration, and vasculopathy are found in intraocular fluids, and their concentration changes at different stages of diabetic retinopathy (DR). CD-54 is a cell surface glycoprotein, expressed on immune, endothelial and epithelial cells, and induced by various inflammatory cytokines. The involvement of CD-54 as a signalling cellular receptor in the initiation of inflammatory responses and the resolution of inflammation is an interesting problem.

Aim of the study to determine the effect of baseline blood levels of intercellular adhesion molecule-1 (ICAM-1) and glycated haemoglobin (HbA1c) on the management of patients with diabetic NVG by TSC CPC.

Methods and Materials This open prospective study included 70 diabetic patients (75 eyes; aged Me 63.0 years) with painful NVG and 20 healthy individuals (aged Me 61.5 years) as an immunological control. All patients underwent TSC CPC with a diode laser. ICAM-1 (CD54) expression in baseline blood samples was determined on peripheral blood lymphocytes using an immunocytochemical peroxidase-anti-peroxidase (PAP) technique and monoclonal antibodies. HbA1c levels were measured by high-performance liquid chromatography from whole blood in all patients. Baseline HbA1c levels and ICAM-1 expression in blood samples were determined. Follow-up was 12 months. Data processing was performed using the Statistica program (version 10.0, StatSoft Inc., USA).

Results and Conclusions One month after TSC CPC, IOP decreased by 28% compared to baseline. The effectiveness of laser treatment after 12 months of follow-up was 63% with IOP decrease by 46%. In patients with NVG, the initial level of ICAM-1 was 2,5 times higher than in the control group. Patients who did not fully respond to the first TSC CPC (30 eyes) and required additional laser procedure, had high initial HbA1c (9,5%) and high expression values of the ICAM-1 (609,0 cells/µL). Repeated procedures of TSC CPC at high IOP in diabetic patients with NVG are associated with high initial values of expression of ICAM-1 in peripheral blood and high HbA1c. The strategy of management of patients with diabetic NVG should be aimed at intensive glucose control and local anti-inflammatory treatment.

FEATURES OF THE CONDITION OF THE PERILIMBAL TISSUES OF THE EYE DURING THE SURGICAL TREATMENT OF PATIENTS WITH OPEN-ANGLE GLAUCOMA

Iryna Shargorodska, Olha Sas
Department of ophthalmology and optometry of postgraduate education of Institute of Postgraduate Education Bogomolets National Medical University (NMU)
Kyiv, Ukraine

Introduction: Today, the pathogenetic mechanisms that lead to increased intraocular pressure (IOP) are still unclear, previous studies have identified the area of the inner wall of Schlemm's canal in combination with the juxtacanal tissue (JCT) - the area of the trabecular meshwork, as the main site of outflow resistance.
Purpose: To study the condition of the perilimbal tissues of the eye during the surgical treatment of patients with open-angle glaucoma.
Methods: We included in the examination 29 patients who underwent surgical treatment for cataracts and made up the main examination group (these are patients who had complicated cataracts, namely patients with primary open-angle glaucoma), as well as a comparison group (patients who had cataracts and did not suffer from glaucoma). The main group, in turn, was divided into two subgroups. In the first subgroup of the main group, the Tenon's sheath of the area where the anti-glaucomatous intervention was performed was studied, in the second subgroup - the trabeculae.
Results: On histological preparations of patients of I subgroup of main group signs of neovascularization with proliferation of endotheliocytes were found, which may indicate a chronic inflammatory process. It was established that the changed nuclei of fibrous tissue cells, namely increased in size and more intensely colored, may indicate changes in functions of cells of examined tissue and subsequently, as a result, may affect postoperative scarring. A significant swelling of surrounding tissue was observed that could lead to increase in outflow resistance and increase in IOP. On samples of II subgroup pathological deposition of diffusely located pigment was noted, which can cause increase in IOP due to blockage of outflow path of intraocular fluid
Conclusion: The results obtained in the course of the study of changes in the perilimbal tissues of the eye in patients with primary open-angle glaucoma will open up new ways of personalized management of such patients. This will make it possible to formulate additional criteria for the diagnosis and treatment of glaucoma aimed at overcoming the inflammatory process and prolonging the postoperative result.

HISTOLOGICAL CHANGES IN THE INTRAOCULAR STRUCTURES OF RABBIT EYES AFTER DIODE TRANSSCLERAL CYCLOPHOTOCOAGULATION

Olga Guzun, Oleg Zadorozhnyy, Petr Chechyn, Alexander Artemov, Illia Nasinnyk, Chargui Wael, Andrii Korol

State Institution "The Filatov Institute of Eye Diseases and Tissue Therapy of the NAMS of Ukraine"

Odessa, Ukraine

Introduction. Currently, the issue of choosing the energy characteristics of laser radiation to ensure the optimal effect on the structures of the ciliary body during diode (810 nm) transscleral cyclophotocoagulation (TSC CPC) remains debatable.

Purpose. To determine the histopathological changes occurring in the sclera and ciliary body after transscleral diode cyclophotocoagulation with different energy characteristics of laser radiation in the experiment.

Material and methods. The study was conducted on the eyes of 2 rabbits (4 eyes). TSC CPC was carried out using a diode laser with a wavelength of 810 nm and a contact fibre-optic G-probe. Two energy regimes were used: 1 - power 2000 mW, exposure 1.5 s (3 J energy per pulse) and 2 - power 1000 mW, exposure 1.5 s (1.5 J energy per pulse). The study of results of experimental studies included light microscopy of histological sections on the 10th day after TSC CPC.

Results. After 2000 mW/1,5 s TSC CPC (energy 3 J) per pulse, pronounced destruction of ciliary processes and underlying stroma of the ciliary body, as well as pigmented and non-pigmented ciliary epithelium, was observed. The coagulation necrosis of collagen fibres of the sclera was detected. After 1000 mW/1,5 s TSC CPC (energy 1.5 J) per pulse, the destruction of the pigmented and non-pigmented epithelium of the ciliary body was observed, with less disorganization the stroma of the ciliary body. The sclera was not affected when the energy was reduced.

Conclusion. Diode TSC CPC (810 nm) with a laser radiation power of 1000 mW (exposure 1.5 s) is a more selective form of cyclophotocoagulation, which leads to less destruction of the ciliary body and sclera and at the same time ensures damage to the epithelium of the ciliary body, compared to the use of laser radiation with 2000 mW power.

INFLUENCE OF ANTIGLAUCOMA SHUNT ON PROTEIN LEVELS IN AQUEOUS HUMOR

Maria Iacubitchii[1], Ala Paduca[1], Eugeniu Bendelic[1], Valeriana Pantea[2], Oleg Arnaut[3]
[1]Ophthalmology Department, "Nicolae Testemiţanu" State University of Medicine and Pharmacy
[2]Biochemestry Laboratory, "Nicolae Testemiţanu" State University of Medicine and Pharmacy
[3]Department of Human Physiology and Biophysics, "Nicolae Testemiţanu" State University of Medicine and Pharmacy
Chisinau, Republic of Moldova

Introduction: Glaucoma remains the leading cause of irreversible blindness worldwide. Worldwide, the number of people with glaucoma is expected to increase to 111.8 million by 2040 [Tham YC, Li X, Wong TY, 2014]. In glaucoma, particularly primary open-angle glaucoma (POAG), studies have shown that the levels of certain proteins in the aqueous humor are altered. These changes are thought to reflect both neurodegenerative and inflammatory processes associated with glaucoma [Williams PA, 2017]. All of these characteristics influence the functioning of the filtering antiglaucoma devices.
Aim: To compare the protein level in aqueous humor after implantation of the antiglaucoma shunt with valve versus trabeculectomy in white New Zeeland rabbits.
Material and Methods: The preclinical study included 2 groups: Group A (20 rabbits) implanted with the antiglaucoma shunt with valve and Group B (20 rabbits), the control group, undergoing trabeculectomy. Both groups received the same local antibacterial treatment and the follow-up was made by the same ophthalmologist.
Results: The preoperative total protein level in both groups included in the study ranged from 2.32- 3.63 g/L, with a mean value of 3.02 ± 0.33 g/L for Group B and 3.03 ± 0.34 g/L for Group A. Postoperatively, at the 3-month interval, a decreasing trend in protein concentration is observed, with a return to the initial values in both groups, with no significant differences between the two groups. This fact points to the efficacy of the new treatment method vs in trabeculectomy.
Conclusion: Antiglaucoma shunt implantation is an effective filtering procedure for glaucoma surgery and is a good alternative to trabeculectomy.

South-East European Ophthalmological Society
Ophthalmological Association from Moldova
Nicolae Testemitanu State University of Medicine and Pharmacy
THE 19TH SEEOS Congress
OCTOBER 18-19TH, 2024
CHISINAU, MOLDOVA

UVEITIS AND RETINA

EMERGING TREATMENT POSSIBILITIES IN NONINFECTIOUS OCULAR INFLAMMATION: WHAT'S ON THE HORIZON?

Natasa Vidovic Valentincic, MD, PhD
Eye Hospital, University Medical Centre
Faculty of Medicine, Universty of Ljubljana
Ljubljana, Slovenia

Noninfectious ocular inflammation, particularly uveitis, continues to be a leading cause of visual impairment and blindness globally. Traditionally, the management of these conditions has depended on corticosteroids and immunosuppressive therapies. However, in cases of severe inflammatory ocular disease, it is crucial to balance the benefit of vision preservation against the risk of potentially serious treatment-related side effects, which are often significant and may lead to long-term complications.

Recently, novel therapeutic strategies have emerged, bringing renewed hope. Advances in biologic therapies, small molecule inhibitors, and targeted immunomodulators are transforming the management of uveitis. These innovative treatments are designed to reduce inflammation with greater precision, minimize systemic adverse effects, and enhance long-term outcomes.

In this presentation, we will explore the potential of these groundbreaking therapies, including IL-6 inhibitors, JAK inhibitors, and other targeted treatments, in shaping the future of patient care.

PECULIARITIES OF THE MOLECULAR MARKERS EXPRESSION ON PERIPHERAL BLOOD LYMPHOCYTES IN COMPLICATED RELAPSE OF RECURRENT IDIOPATHIC ANTERIOR UVEITIS

Khramenko NI, Velychko LM, Konovalova NV, Bogdanova OV
SI "The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine"
Odessa, Ukraine

Uveitis is one of the most common ophthalmic diseases with many phenotype and clinical manifestations, involves a complex of immune-related cells interactions, including neutrophils and lymphocytes. It is important to determine biomarkers of complicated uveitis course because due to opacity of the media it is not always possible to see the eye fundus.

Objective. We aimed to examine ratio of expression of activation markers on peripheral blood lymphocytes (marker of intercellular adhesion (ICAM-1, CD54) to apoptosis marker (Fas,CD95) ratio and autoimmune marker CD5 to "early" marker of lymphocyte activation CD25 ratio in uncomplicated and complicated relapse of recurrent idiopathic anterior uveitis (AU).

Material and methods. Examinations of patients with the relapse of recurrent idiopathic AU were carried out. Group 1 - 12 patients with complicated AU (macular edema and macular dystrophy), group 2 - 15 patients with uncomplicated AU. The age of patients was 39.6±15.0 years. Group 3 (control) - 27 healthy volunteers. An immunohistocytochemical analysis using monoclonal antibodies (the PAP-method) was employed to assess the expression of activation markers on CD3 lymphocytes. The monoclonal antibody panel for immunophenotyping included CD5, CD54 (ICAM-1), CD25 and CD95 (FAS) antigens.

Results. Absolute number of CD3 with molecular markers was determined; CD54/CD95 (predominance of early activation of cellular immunity) and CD5/CD25 (predominance of autoimmune activation) ratios were calculated. In the group 1 the CD54/CD95 ratio was 1.35±0.54. This value was increased by 42% ($p=0.009$) in comparison with the control and increased by 38% ($p=0.047$) in comparison with the 2-d group. The CD5/CD25 ratio was 1.43±0.48 in the group 1. This value was increased by 40% ($p=0.04$) in comparison with the control and increased by 33.6% ($p=0.04$) in comparison with the 2-d group. A direct correlation between the CD5/CD25 and the CD8 (cells\μl) was: $r=0.4$ ($p<0.05$). A negative correlation was between the CD54/CD95 and the CD4 (%) ($r=-0.4$,$p<0.05$) and CD19 (cells\μl) ($r=-0.4$, $p<0.05$)

Conclusions. The CD54/CD95 and CD5/CD25 ratios in patients with complicated AU were more than 42% in comparison with control and more than 38% in comparison with uncomplicated AU. The values ratios increase over 40% can be considered as biomarkers of complicated course of uveitis.

CLINICAL COURSE OF UVEITIS OF TUBERCULOUS ETIOLOGY

Nataliya Konovalova [1], Ludmila Venger [1], Olga Guzun [2], Aleksii Kovtun [1]

[1]*Odessa National Medical University*

[2] *SI "The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine"*

Odessa, Ukraine

Introduction. Tuberculosis is a common socially dependent infectious disease that can affect any organs and tissues of the human body. The relevance of the problem of ocular tuberculosis is determined by the high incidence (14–27.6%) of diseases in the structure of inflammatory pathology of the organ of vision. Late diagnosis for tuberculosis is almost synonymous with incurability, since advanced tuberculosis can rarely be cured.

Aim. To conduct a clinical analysis of the features of the clinical course of uveitis of tuberculous etiology.

Material and methods. We examined 45 patients aged 23-48 years with newly diagnosed tuberculosis infection (19 women and 26 men), 19 of them associated the onset of the disease. Anterior uveitis was present in 18 patients, keratitis in 7 patients, posterior uveitis in 12 patients, and pan uveitis in 8 patients. All patients underwent a general blood test, radiography or MRI, CT of the lungs, lymph nodes, CT of the orbit and paranasal sinuses, a study of visual acuity, visual fields, OCT, FA, and photographic recording of the fundus.

Results. Anterior uveitis was characterized by the presence of large sebaceous precipitates, exudate in the anterior chamber, coarse stromal posterior synechiae, and fibrosis in the vitreous body. In 5 patients, optic neuritis in the form of papillitis was diagnosed against the background of anterior uveitis. For patients with keratitis, there was moderate corneal syndrome and mixed injection of the eyeball. Precipitates on the corneal endothelium are polymorphic, initial vascularization of the cornea; yellowish infiltrates in the middle and deep layers. In addition, fibrosis was observed in the vitreous body in the form of fibril disintegration. During the development of exudative foci in the uveal tract, circulatory deficiency occurs, which leads to disruption of microcirculation mechanisms and the development of complications. Poor circulation is associated with slow blood circulation in the microvascular bed, which in turn leads to lymphocytic and lymphoplasmacytic infiltrates, promotes changes in the rheological properties of blood (as a result of the development of an exudative reaction with increased vascular permeability), which leads to a decrease in tissue metabolic processes with the development of ischemia and hypoxia in the retina and optic nerve. The mycobacteria tuberculosis is sensitive to nerve ganglia and in 5 of the patient's neuralgia of the first branch of the trigeminal nerve was observed. Patients underwent endonasal electrophoresis with nonsteroidal anti-inflammatory drugs and desensitizing drugs. As a result of treatment in the group of patients with iridocyclitis, visual acuity was 0.82 (SD 0.12), and in the group with chorioretinitis and choroiditis it was 0.55 (SD 0.16), $p = 0.006$.

Conclusions. With tuberculous eye lesions in combination with a viral infection, a wide range of complications are recorded, leading to a significant decrease in visual function. In anterior uveitis, the development of optic neuritis was more often observed in patients with a developed sinus of the main bone, which was revealed by radiography of the additional nasal sinuses.

THE POSSIBILITY OF DEVELOPING OPTIC NEURITIS IN PATIENTS WITH ANTERIOR IRIDOCYCLITIS

Nataliya Konovalova[1], Ludmila Venger[1], Olga Guzun[2], Aleksii Kovtun[1]
[1]Odesa National Medical University, Odesa, Ukraine
[2] SI "The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine"
Odessa, Ukraine

Introduction. Optic neuritis as a complication of idiopathic iridocyclitis is one of the significant problems of modern ophthalmology. Among the reasons that contribute to this are infectious diseases, viral infection and pathology of additional nasal sinuses, including the main sinus.

Aim. To determine the possibility of a connection between the size of the main sinus of the sphenoid bone and the development of optic neuritis in patients with anterior idiopathic iridocyclitis.

Material and methods. There are 54 patients with anterior idiopathic iridocyclitis, whose average age was 29.2±4.5 years, were examined. All patients underwent acuity and field of vision, ophthalmoscopy, tomography and X-ray of additional sinuses. The first cancellous group includes patients (4 people) in whom the first line passes through the chiasma groove on the inspection craniogram of the main bone (when analyzing the craniogram of the main bone, we divide it vertically into three parts by lines). In the second pneumospongiosy group (11 patients), the border with its posterior border reaches the line passing through the Turkish saddle. The third group consists of patients whose sinuses are located from the middle of the Turkish saddle (39 patients).

Results. The development of optic neuritis was observed only in 6 patients of the third group (15.3%) in comparison with patients of the first and second groups, in whom inflammation of the optic nerve was not detected. These patients had decreased visual acuity, the appearance of relative and absolute scotoma in the field of vision, swelling near the optic disc. The rehabilitation of these patients lasted 2 weeks longer. Given that with a developed sinus of the main bone, its walls become thinner, the optic nerve is in close proximity to the sinus, due to which the penetration of the inflammatory process and infection directly from the sinus to the optic nerve is facilitated.

Conclusions. Optic neuritis was observed only in 6 patients of the third group, which is 15.3% of the total number of examined persons, in whom a decrease in visual acuity, a deterioration of the field of vision, and the appearance of edema near the optic disc were noted.

EYE CHANGES OBSERVED IN THE FIRST YEARS AFTER A RADIATION DISASTER: SOME RESULTS OF THE REANALYSIS

Fedirko P. [1] , Babenko T. [1] , Pilmane M. [2] , Garkava N. [3] , Dorichevska R. [1]

[1]Institute of Radiation Hygiene and Epidemiology, National Research Center for Radiation Medicine, Hematology and Oncology of the National Academy of Medical Sciences of Ukraine, Kyiv, Ukraine

[2]Department of Morphology, Rīga Stradziņš University, Rīga, Latvia

[3]Department of Ophthalmology, Dnipro State Medical University, Dnipro, Ukraine

Aim. The prospect of the emergence of new zones of radiation contamination as a result of nuclear incidents makes it relevant to describe in detail the changes in the state of the eye, the appearance of which ophthalmologists should expect in the first years after radiation exposure. Among these conditions are vitreous changes and retinal angiopathy, their features in the early period after radiation exposure are insufficiently described.

Methods and Materials. A reanalysis of the results of ophthalmological examination vitreous body and retina in 217 inhabitants of radiation-contaminated regions of Ukraine, conducted in 1992, 6 years after the Chornobyl disaster, was carried out. 148 residents of Zhytomyr region, 30 residents of Kyiv region, 33 residents of Rivne region and 6 residents of Chernihiv region were examined. Of the population, 18.9% were 20-29 years old, 23.0% – 30-39 years old, 16.6% – 40-49 years old, 30.4% – 50–59 years and 11.1% were 60 years or older.

Ophthalmological examination during this period was carried out according to a standardized technique, which allows for a qualitative reanalysis of these results and comparison with the data obtained from studies carried out later.

Results. Vitreous changes in the form of clearly detected opacities and significant destruction were observed during the study in 29.5% of those examined. The incidence of optically visible vitreous pathological changes was statistically significantly higher in the group with a total content of cesium isotopes ^{137}Cs and ^{134}Cs greater than 3,700 Bq/whole body. The relative risk was 1.97 (1.03–3.75) with Chi-square = 4.54, p = 0.017.

Analysis of the state of the choroid of the retina depending on the content of ^{137}Cs and ^{134}Cs throughout the body showed a statistically significant increase in the incidence of retinal vascular changes with an increase in the content of cesium radioisotopes in the body (Mantel-Haenszel Chi-square = 4.87; p = 0.027). The relative risk of retinal vascular abnormalities in the group with a total content of ^{137}Cs and ^{134}Cs greater than 3,700 Bq/whole body compared to the group with an incorporated radioisotope content of less than 3,700 Bq/whole body was 1.42 (1.08–1.87).

Conclusions. Thus, already in the period from 6 years after the radiation incident, there may be a significant increase in the frequency of retinal vascular changes, destruction and opacity of the vitreous body in residents of areas exposed to radiation contamination.

OCULAR INJURY AFTER LASER-ASSISTED EYEBROW HAIR REMOVAL

Rodica Ciala[1], Alina Moscalciuc[1,2], Ala Paduca[2], Angela Corduneanu[1,2]
1. Ophthalmology Department, Republican Clinical Hospital "Timofei Mosneaga";
2. SUMPh "Nicolae Testemitanu"
Chisinau, Republic of Moldova

Aim: To report a case of ocular injury after laser-assisted eyebrow hair removal.
Material and method: Case report of a patient with eye pain, photophobia and blurred vision following laser epilation of the eyebrow using Lumenis Light Sheer diode 790-830 nm laser (class IV laser) with inadequate ocular shielding. The eye examination included visual acuity, slit-lamp examination, tonometry, fundoscopy and OCT macula.
Results: The eye examination revealed conjunctival hyperaemia in both eyes, anterior chamber pigmentary cells, posterior synechiae and iris stromal defects causing pupillary distortion with sluggish reaction. Her best corrected visual acuity was 0.5 - OD and 0.6 - OS. The intraocular pressure was within normal limits. No macular damage was detected. Topical steroids and cycloplegics was indicated to address the anterior uveitis, continuing to follow-up regularly.
Conclusions:
Ocular structures are known to be susceptible to damage from exposure to laser emission.
Therefore, all class IV labelled lasers require a proper eye shielding to protect against laser-induced damage to ocular tissues.

QUANTITATIVE ANALYSIS OF CHOROIDAL PARAMETERS IN PATIENTS WITH SYSTEMIC SCLEROSIS

Alina Moscalciuc[12], Angela Corduneanu[12], Agachi Svetlana[3], Maria Iacubitchii[2]
1. Republic Clinical Hospital „Timofei Mosneaga", Department of Ophthalmology
2. State University of Medicine and Pharmacy „Nicolae Testemitanu", Department of Ophthalmology
3. State University of Medicine and Pharmacy „Nicolae Testemitanu", Department of Rheumatology
Chisinau, Republic of Moldova

Purpose: Systemic sclerosis (SSc) is a rare multisystemic autoimmune disorder characterized by microvascular damage and generalized fibrosis. The choroid has the highest blood flow per volume of the entire body which renders it particularly susceptible to systemic vascular changes, such as in SSc. Much of the published data concerning SSc and the choroid alterations consists of small case studies. This review aims to provide an overview of the current level of evidence for the role of choroidal quantitative parameters in patients with SSc as a potential disease biomarker.
Materials and Methods: A review of literature was performed using Pubmed without limitation on publication date. Outcomes of interest included optical coherence tomography (OCT)- based quantitative measurements of choroidal parameters: mean macular choroidal thickness and volume, choroidal vascularity index (CVI) in patients with systemic sclerosis compared to health controls.
A combination of following keywords was used: "Systemic Sclerosis", "Scleroderma" and "Choroid". We solely included case-control studies that investigated specific choroidal quantitative parameters by using OCT in SSc patients compared to healthy controls.
Results: Eleven out of 43 articles were retained. Lower choroidal thickness and volume in the SSc compared to controls were observed in 10 articles out of 11. In terms of CVI, this parameter was analyzed only in 2 articles and it was significantly higher in SSc patients. No significant differences in choroidal parameters were found within the SSc subtypes.
Conclusion: Our review of literature demonstrates proven associations between SSc and choroid quantitative parameters, mainly in terms of choroidal thickness and volume. Because of a paucity of case-control studies investigating the choroidal vascularity index parameter, future standardized prospective studies are needed to confirm the previous published results.

CENTRAL SEROUS CHORIORETINOPATHY - WHAT SOLUTIONS DO WE HAVE

Radu Ochinciuc
Retina Eye Clinic, Bucharest, Romania

Will be presented some of the results of a study that includes 44 patients with central serous chorioretinopathy (CSC) in one eye. One of the main purposes of the study was to calculate and compare photoreceptor densities between affected and healthy eyes using the rtx1TM Adaptive Optics Retinal Camera. Using the principles of adaptive optics (AO), this fundus camera allows the acquisition of high-resolution images, up to the level of microns. Image analysis can be used to calculate the density of photoreceptors in the central area of the retina. Also, some clinical cases and the therapeutic methods used in each case will be presented.

RHEGMATOGENOUS RETINAL DETACHMENT ASSOCIATED WITH CHOROID DETACHMENT

Radu Ochinciuc
Retina Eye Clinic, Bucharest, Romania

Choroidal detachment is a complication that can be associated with retinal detachment. We present the case of a patient with retinal detachment who, at the presentation, also associated serous choroidal detachment. Theoretically, there are surgical methods that allow the drainage of fluid from the suprachoroidal space. In this case, we preferred not to drain the fluid and to attach the retina by two surgeries.

SCLERAL FIXATED IOL- COMPLICATIONS, SOLUTIONS, TECHNIQUES

Radu Ochinciuc
Retina Eye Clinic, Bucharest, Romania
Ophtamax Eye Hospital, Ploiești, Romania

We present a series of cases in which, in the absence of capsular support, a method of the IOL fixation was used. The paper includes patients with dislocated lens, dislocated IOL, or dislocated IOL-tension ring complex. Each case is different, the particularity of each one being a possible intraoperative complication, postoperative complication or the IOL fixation technique used.

FOUR-POINT FIXATION OF A SINGLE PIECE IOL AFTER POSTERIOR VITRECTOMY

Bobescu Nicolae, Cusnir Vitalie, Dumbraveanu Lilia, Bobescu Doina, Tabaranu Doinita Cusnir Valeriu

State University of Medicine and Pharmacy "Nicolae Testemițanu", Department of Ophthalmology and Optometry
Chisinau, Republic of Moldova

To study a new technique for 4 point fixation of the foldable artificial lens with polypropylene 8/0.
We retrospectively reviewed the medical records of 20 patients, who underwent transscleral fixation of the 4-point foldable lens with polypropylene 8/0. Preoperative data and follow-up was performed at least 3 months postoperatively. Postoperative best corrected visual acuity was 0.5 - 0.7. The lens was well attached and centered. Associated complications were: hemophthalmos and hyphema.
The four-point 8/0 transscleral fixation technique is safe and can be used in all cases of missing ligaments or aphakia.

DIAGNOSTIC CONTROVERSIES IN OCULAR TRAUMA

Angela Corduneanu [1,2], Ala Paduca[1], Rodica Ciala[2], Elena Popov[2]

[1]*Ophthalmology Department, "Nicolae Testemițanu" State University of Medicine and Pharmacy*

[2]*Ophthalmology Department, Republican Clinical Hospital "Timofei Mosneaga" Chisinau, Republic of Moldova*

Introduction. Ocular trauma with small objects can unfortunately be overlooked leading to the development of sometimes serious complications with total loss of visual functions, one of which is metallosis. Post-traumatic lens reabsorption in elderly patients is rare, but it can still occur and unique cases are reported in the literature1.

Aim: To describe a case of penetrating ocular trauma with an intraocular foreign body.

Materials and methods. Anamnestic, clinical and paraclinical data were taken from the medical record. The patient was investigated by biomicroscopy, orbits Rg, and USG-B scan OD.

Results: A male, 65 years old, was urgently hospitalized in the ophthalmology department of SCR "T.Mosneaga" with the following complaints: OD accentuated decrease of visual acuity, tearing, photophobia and Diagnosis OD Posttraumatic aphakia with remnants of lens capsule. Intraocular metallic foreign body. Secondary glaucoma: 6 months ago he suffered an ocular trauma (while cutting with an angle grinder he felt a sharp injury) at OD. When he was referred to an Ophthalmologist, ophthalmologic pathologies were not detected. After a follow-up visit to the local ophthalmologist after 6 months, the patient was urgently referred to the Ophthalmology Department of SCR "T.Mosneaga" with the diagnosis of lens dislocation in the vitreous body. During the examination,: OF Posttraumatic Aphakia with fragments of the lens capsule. Intraocular metallic foreign body. Secondary glaucoma. Vitrectomy with removal of the CIS.

Conclusions. The patient's characteristic features of ocular trauma with suspicion of a foreign body require special attention with a detailed examination and functional diagnostic tests.

Complete spontaneous reabsorption of the injured lens is a rare phenomenon, but it may occur in persons of later adult age

SIGNS OF TRAUMATIC OPTIC NEUROPATHY FOLLOWING MILD TRAUMATIC BRAIN INJURY IN SCHOOL-AGED CHILDREN

Victoria Verejan
Department of Ophthalmology State University of Medicine and Pharmacy" N.Testemițanu"
Chisinau, Republic of Moldova

Aim of the research was to outline signs of traumatic optic neuropathy (TON) caused by mild head trauma(mTBI) in school-aged children.
Methods: Forty eight patients with persisting visual symptoms after mild brain injury have been examined. Visual evoked potentials examination has been undergone in order to establish visual pathways alteration.
Results: VEP exam revealed a possible TON on both eyes in 61,1% patients and a unilateral TON in 16,1% patients after mTBI. This values have been reported as being referred to an increased latency of the N2 wave in 55,6% for the right eye and 66,6% for the left eye, increased latency of the P wave in 55,7% for the right eye and 66,7% for the left eye and increased latency of the N3 wave in 16,7% for the right eye and 33,3% for the left eye. Also a decreased amplitude of the P wave has been determined for the right eye in 16,7% patients and for the left eye 33,3% patients.
Conclusions: Our research has been an attempt to outline the features of traumatic optic neuropathy that may occur after mTBI. Since the ophthalmoscopy findings often come with a clear a picture it is important to determine whether there are present signs of visual pathway alteration.

PAPILLEDEMA SECONDARY TO LYME NEUROBORRELIOSIS IN CHILDREN: A CASE REPORT

Rotaru Irina
"Promed" Clinic
Chisinau, Republic of Moldova

Introduction: Lyme neuroborreliosis (LNB) is a manifestation of Lyme disease involving the central and peripheral nervous system. It is caused by the spirochete Borrelia burgdorferi, transmitted by tick bites to a human host. Clinical signs of LNB develop after the dissemination of the pathogen to the nervous system. The infection occurs in children often present with facial nerve palsy and/or subacute meningitis but subacute headache can be the only manifestation of LNB in children. Non-specific symptoms, such as loss of appetite, fatigue or mood changes, may also occur, especially in young children. This case presentation provides an overview of the spectrum of clinical manifestations, diagnosis, antibiotic treatment, and clinical outcome of LNB in children.

Purpose: Neuroborreliosis may cause various neuro-ophthalmological complications. Meningitis, intracranial hypertension, and papilledema occur more commonly in children than adults. We describe a case with a bilateral papilledema at a 4-years old child after a tick bite.

Case report: A 4-years-old child complaining of headaches, low-grade fever, loss of appetite and fatigue during 2 weeks after an insect bite. After neurological examination the child was referred to ophthalmological examination and blood test for Borrelia burgdorferi. In the serum, raised IgM to Borrelia burgdorferi was detected. On fundoscopic exam, he was found to have bilateral optic disc swelling with elevation, blurring, and large vessels crossing elevated margins consistent with papilledema. Visual acuity was 1.0/1.0, and bilaterally pupillary reactions were normal. Magnetic resonance imaging (MRI) showed bilateral papilledema and normal appearance of the brain tissue. He was started on antibiotic ceftriaxone and azithromycin and completed a total of 14 days of therapy. He did not require any additional therapies including steroids. Follow-up appointment with ophthalmoscopy one month after diagnosis revealed improving disc edema.

Conclusions: Isolated papilledema is a rare manifestation of Lyme disease but a high level of suspicion and early recognition of the various clinical manifestations presented by children with LNB is essential to minimize delay in diagnosis and optimize management.

THE EVOLUTION OF PURULENT ENDOPHTALMITIS IN THE CONTEXT OF KLEBSIELLA PNEUMONIAE INFECTION

Loredana Pelevaniuc, Irina Verdeș, Olga Iasabaș, Angela Corduneanu
Department of Ophthalmology, Nicolae Testemițanu State University of Medicine and Pharmacy
Chisinau, Republic of Moldova

Introduction. Endophthalmitis is a severe inflammation of the internal structures of the eyeball that can affect the vitreous body, retina and choroid, considered an ophthalmological emergency. This condition is caused by a systemic infection in 2 to 8% of cases. Klebsiella pneumoniae is a gram-negative, nosocomial pathogen known for its multi-drug resistance and has increasingly been implicated in cases of bacterial endophthalmitis. Objective of the Study.
This study **aims** to elucidate the clinical course of a patient with endophthalmitis, secondary to a systemic infection with Klebsiella pneumoniae, ultimately necessitating evisceration of the affected eyeball.
Materials and Methods. Comprehensive anamnesis and clinical data were extracted from the patient's medical records. The diagnostic workup included biomicroscopy, ocular discharge smear analysis, B-scan ultrasonography, aqueous humor sampling from the anterior chamber, blood cultures, and a thorough systemic evaluation.
Results. A 64-year-old female patient was urgently admitted to the ophthalmology department following an 11-day hospitalization in a different hospital due to a hypertonic and hyperglycemic crisis. During the previous hospitalization she developed significant ophthalmological symptoms, including left eye blindness, ocular pain, excessive tearing, and eyelid edema. Upon admission, her ocular examination revealed: left eye visual acuity of 0, hypertensive palpation, an irritated eyeball, diffuse corneal edema, hypopyon occupying less than one-third of the anterior chamber, fibrin strands in the pupillary area and a non-reactive pupil. B-scan ultrasonography identified diffuse hyperechogenicity within the vitreous body. Systemic evaluation indicated concurrent COVID-19 infection, pneumonia, fever and decompensated diabetes mellitus and hypertension. Aqueous humor was extracted from the anterior chamber, followed by intravitreal administration of Cefuroxime. Despite combined local and systemic antibacterial therapies, the patient's condition deteriorated, necessitating transfer to the septic ICU for stabilization and preoperative preparation for left eye evisceration. Bacteriological assays confirmed the presence of Klebsiella pneumoniae in both blood cultures and ocular tissue.
Conclusions. The case presented illustrates a rapid progression of endophthalmitis attributed to Klebsiella pneumoniae and underscores the interplay of significant risk factors such as decompensated diabetes mellitus and systemic hypertension, SARS-CoV-2-associated pneumonia, immunocompromised status, and nosocomial infections.

EFFICACY AND SAFETY OF INTRAVITREAL ANTI-VEGF THERAPY WITH BEVACIZUMAB

Josan Elena[1], Lupan Valentina[1,2], Bostan Mihaela[2]

[1]Ophthalmology and Microsurgery of the Eye Unit, "Sfânta Treime" Municipal Clinical Hospital

[2]Department of Ophthalmology and Optometry, "Nicolae Testemițanu" State University of Medicine and Pharmacy

Chișinău, Republic of Moldova

Introduction: The intravitreal injection with anti-VEGF (anti-vascular endothelial growth factor) Bevacizumab has now become a routine procedure for retina specialists worldwide, and our department is no exception. The easy availability of this monoclonal antibody molecule has revolutionized the management of various retinal diseases, such as diabetic macular edema, age-related macular degeneration, macular edema following branch and central retinal vein occlusion, myopic choroidal neovascularization, and others.

Aim of the Study: The retrospective evaluation of the efficacy and safety of anti-VEGF therapy with Bevacizumab.

Methods and Materials: The research involves data synthesis from local and international literature, as well as a retrospective study conducted over 1.5 years from January 1, 2023, to June 30, 2024, at the Department of Ophthalmology and Microsurgery of the Eye, "Sfânta Treime" Municipal Clinical Hospital, involving 467 patients receiving intravitreal bevacizumab.

Results: Over the past two years at the Department of Ophthalmology and Microsurgery of the Eye, "Sfânta Treime" Municipal Clinical Hospital, 3265 intravitreal injections of Bevacizumab were performed on 467 patients. The *treat-and-extend* treatment strategy was applied to 358 patients, another 68 patients were treated according to the *fixed* regimen, 29 patients according to the *PRN (Pro re Nata)* tactic, and 12 patients were excluded from anti-VEGF therapy. Repeated treatment imposes an economic and psychological burden on patients, potentially reducing patient compliance rates. Moreover, repeated intravitreal injections can lead to ocular adverse effects, including persistent intraocular pressure elevation, increased risk of retinal pigment epithelium tears, and geographic atrophy.

Conclusions:

1.The anti-VEGF therapy has changed the outlook for patients with retinal vascular diseases.

2.Concerns persist regarding dosage, timing of injections, and long-term functional outcomes of anti-VEGF intravitreal treatment.

3. Early identification of patients, individualized approaches involving the application of several treatment strategies and high patient compliance are crucial to minimize treatment failures.

STUDY OF THE ROLE OF P-SELECTIN IN THE DEVELOPMENT OF DIABETIC MACULAR EDEMA

Sergiy Rykov, Dmytro Chuhaiev
Institute of Postgraduate Education Bogomolets National Medical University (NMU) Kyiv, Ukraine

Introduction: Diabetic retinopathy develops in almost a third of patients with diabetes. The role of inflammatory and prothrombogenic factors in the development and progression of diabetic retinopathy has not been fully elucidated.
Purpose: To investigate the role of P-selectin in the development of diabetic macular edema in diabetic retinopathy and type 2 diabetes.
Methods: We observed 124 patients (124 eyes) with type 2 diabetes mellitus who had mild (29 eyes, group 1), moderate or severe (35 eyes, group 2) nonproliferative diabetic retinopathy according to the ETDRS classification and proliferative diabetic retinopathy (31 eyes, 3rd group). The control group consisted of 29 eyes without diabetes. All patients underwent comprehensive ophthalmological examinations. The content of P-selectin in the blood was determined by the immunoenzymatic method (Invitrogen ThermoFisher Scientific, USA). Statistical processing of the obtained results was performed using MedStat and MedCalc v.15.1 software packages (MedCalc Software bvba).
Results: It was established that the blood level of P-selectin in diabetic retinopathy was statistically significantly increased compared to the control group (by 1.3 times; $p < 0.001$). This persisted when stratified only for proliferative diabetic retinopathy. The increase in P-selectin content had a direct correlation with the level of glycated hemoglobin and the central thickness of the retina. In proliferative diabetic retinopathy, the content of P-selectin in the presence of diabetic macular edema was higher than without it (by 1.2 times; $p < 0.001$). The association of increased P-selectin content with the development of diabetic macular edema was confirmed in regression analysis (OR = 1.02; 95% CI 1.01–1.03). ROC analysis showed that this model had satisfactory criteria only in proliferative DR (AUC = 0.85; 95% CI 0.68–0.95), which allowed us to calculate the threshold level of prediction, which was equal to 128.7 ng/ml (sensitivity of the test is 77.8% and specificity is 69.2%).
Conclusion: Our research established the effect of an increase in P-selectin in the blood with the development of diabetic macular edema in proliferative diabetic retinopathy. Based on the obtained results, a prognostic model of the development of diabetic macular edema in patients with diabetic retinopathy and type 2 diabetes was developed.

VASCULAR ULTRASONOGRAPHIC AND ELECTROPHYSIOLOGICAL STUDY IN PATIENTS WITH DIABETIC RETINOPATHY

Veronica Chişca*, Angela Corduneanu*, Natalia Ciobanu, Stanislav Groppa**,**
Department of Ophthalmology, Department of Neurology **, USMF "Nicolae Testemitanu"*
Chisinau, Moldova

Introduction. Diabetic retinopathy (DR) is one of the leading causes of vision loss in the working-age adult population.
Purpose. Ultrasonographic evaluation of carotid vessels and electrophysiological examination by visual evoked potentials (VEP) in patients with diabetic retinopathy.
Materials and methods. 216 patients suffering from type II diabetes were selected, who were separated into 2 groups, the base group included 108 patients with various degrees of DR, and the control group included 108 patients without DR.
Results. The average age of the participants in the base group was 60.33±10.54 years, and in the control group 66.6±5.7 years. The base group was separated into 2 subgroups, subgroup 1 A included patients with severe forms of DR, such as severe nonproliferative retinopathy and proliferative form of diabetic retinopathy, and subgroup 1B which included early and intermediate forms of DR. Patients with advanced forms of DR associate atherosclerotic plaques at the level of carotid arteries in more than half of cases (62.6%), while diabetic patients who do not present characteristic changes of DR associate atherosclerotic plaques in 29.6%. A correlation was found between the values of the intima-media thickness and total cholesterol, as well as triglyceride levels in both study subgroups, while in the control group rxy=0.34 for total cholesterol.
VEP study demonstrated that in patients with DR the latency of the P wave is statistically significantly increased compared to the control group (p=0.01).
Conclusions. It was highlighted that the degree of diabetic retinopathy is related to the frequency of atheromatous plaques at the level of the internal carotid arteries, the extracranial segment, on the same side as the affected eye. VEP study demonstrated that patients with diabetic retinopathy have a statistically significantly increased P-wave latency period, indicating more severe damage to the optic pathways.

CONTEMPORARY TREATMENT STRATEGIES FOR DIABETIC RETINOPATHY

Cristina Draganel, Lilia Dumbrăveanu, Vitalie Cușnir, Valeriu Cușnir
Department of Ophthalmology and Clinical Optometry,"Nicolae Testemițanu" State University of Medicine and Pharmacy
Chisinau, Republic of Moldova

The conservative treatment of RD was and is one of the contradictory departments of contemporary ophthalmology. It aims to restore the integrity of the vascular wall (the structure and function of the endothelium and the basement membrane of damaged retinal vessels), reduce microthrombosis (improve microcirculation), prevent the development of retinal ischemia areas and the production of vasoproliferative factor, reduce the risk of newly formed vessels and reduction and/or complete elimination of macular edema.

Despite the long history of experimentation and clinical investigations, some preparations still remain of choice and apparently effective, such as: Emoxipine (methylethylperidinol 1%) and Xanthinol Nicotinate / injectable solution 15%.

A new molecule, 2-ethyl-3-hydroxy-6-methylpyridine nicotinate, is under investigation, which includes two pharmacophores: 3-hydroxypyridine and nicotinate. The presence of 3-hydroxypyridine provides a complex of antioxidant and membrane-protective effects. Xanthinol nicotinate dilates peripheral vessels, improves microcirculation in retinal vessels and inhibits platelet aggregation.

Anti-VEGF agents used in ophthalmology include Bevacizumab (Avastin), Ranibizumab (Lucentis), Aflibercept (Trap-Eye), Conbercept, Abicipar Pegol, Faricimab (Vabysmo, the first bispecific monoclonal antibody for intravitreal use that can neutralize VEGF and Ang-2).

A fairly new group are the senolytic drugs, UBX-1325 and UBX-1967, which eliminate senescent cells (cells that resist apoptosis and do not divide but remain metabolically active) without damaging or destroying healthy tissue. Gene therapy, nanotechnology, and digital innovations have made substantial progress in recent decades.

Conclusions: Indisputably all patients with RD require specialized treatment by an ophthalmologist, observation and treatment by an endocrinologist. At the same time, tactics change periodically regarding the indications for vitrectomy, such as vitreous hemorrhages, RDP, EM and tractional macular and/or retinal detachment.

The treatment of RD is quite complex, not to mention the fact that the conservative one is not so eloquent and fully studied, because such studies require quite a long time.

The above-mentioned suggest the idea of developing complex methods or/and a conduct and treatment tactic that will allow partial restoration or improvement of visual functions.

OPTIC ATROPHY IN CHILDREN ASSOCIATED WITH PROGRESSIVE HEARING LOSS.CLINICAL CASE AND REVIEW OF LITERATURE

Liubovi Mazur, Ludmila Cuznet
Department of Ophthalmology ,Discipline of Pediatric Neurology. IMSP Institute of Mother and Child Health Care
Chisinau, Moldova

Introduction: Optic atrophy is one of the most common cause of vision loss in children, the differential diagnosis, clinical investigation and genetic testing are of extreme importance to rule out secondary optic atrophy with potentially reversible processes.
Aim of study. The report aims to describe the genetic and clinical characteristic of hereditary optic neuropathies through the presentation of a case of dominant optic atrophy with loss of visual acuity associated later with progressive bilateral neurosensory hearing loss.
Methods: We summarize current literature, describe genotype and clinical aspect correlations .A systematic literature search was conducted in electronic database PubMed /Medline , and Cochrane Library The analysis of existing literature has been conducted.
Conclusion: Autosomal Dominant Optic Atrophy and Deafness represent a syndromic form of Dominant Autosomal Optic Atrophy, To date OPA 1 is the major gene responsible for Dominant Optic Atrophy accounting for 80% of all the patients. So understanding the molecular pathogenesis of OPA1gene linked to DOA may elucidate many other mitochondrial diseases connected later in life with neurodegenerative progression of glaucoma, Parkinson, dementia and others.

TREATMENT OF ACUTE VASCULAR OPTIC NEUROPATHY

Nataliya Konovalova[1], Olga Guzun[2], Nataliya Khramenko [2], Vera Vasyuta [3]

[1] *Odesa National Medical University, Odesa, Ukraine*

[2] *SI "The Filatov Institute of Eye Diseases and Tissue Therapy of the National Academy of Medical Sciences of Ukraine", Odesa, Ukraine*

[3] *Institute of Neurosurgery named after Acad. A.P. Romodanova National Academy of Sciences of Ukraine, Kyiv, Ukraine*

Abstract. Acute optic vascular neuropathy is a poly etiological condition associated with damage to systemic hemocirculation in the body. The frequency of vascular diseases of the optic nerve, leading to poor vision and blindness, has increased, more often in young people.

The purpose: to determine the features of the course and treatment of patients with acute vascular optic neuropathy using the Arginine is an amino acid that belongs to the class of conditionally essential amino acids and is an active and versatile cellular regulator of numerous vital functions of the body, showing protective effects that are important in a critical state of the body.

Material and methods. Examination 85 patients with acute optic vascular neuropathy (OVN), who were divided into 2 groups: 1 group — 43 patients who, in addition to standard treatment, were prescribed Tivargin-N, 2 group — 42 patients who received only standard therapy. The observation period was 3 months. A standard ophthalmological comprehensive examination of patients with GSON was carried out. All patients underwent acuity and field of vision, ophthalmoscopy, tomography. Arginine exhibits antihypoxic, membrane-stabilizing, antioxidant, antiradical, detoxification activity

Results. After 3 months of follow-up in the group of patients with Arginine, a significant moderate relationship was found with the improvement of visual acuity (r_s=0.66, $p<0.05$), total field of vision (r_s=0.3, $p<0.05$). Volume intraocular blood circulation (r_s=0.33, $p<0.05$), as well as an inverse relationship with the number of relapses (r_s=-0.22, $p<0.05$) and complications (r_s=-0.45, $p<0.05$).

Conclusions. The improvement of visual functions after adequate therapy with the use of arginine and pentoxifylline influenced the normalization of metabolism in nerve cells, increasing the reserve capacity of nerve fiber recovery. There was an increase in visual acuity after 3 months of observation in the group using Arginine by 2 times. Improvement of visual acuity directly correlated with improvement of hemodynamic indicators, normalization of hemostasis indicators, restoration of visual field after 3 months of observation.

THE FUTURE OF PRECISE AND SAFE EYE LASER TREATMENT

Florentina Verega[1 2]

[1] Department of Ophthalmology and Optometry, "Nicolae Testemițanu" State University of Medicine and Pharmacy

[2]Ophthalmology Clinic „Microchirurgia ochiului”

Chisinau, Republic of Moldova

The actuality of the subject The history of the development of laser ophthalmic surgery dates back over 50 years since the American physicist T. Maiman created the first laser based on a ruby crystal back in 1960.

Since then, this remains a current topic in ophthalmology, and modern technologies are in continuous development. A new revolutionary stage in this field began in 2009, when for the first time a navigational system was proposed for diagnostic and therapeutic purposes - Navilas 577.

The purpose of the work - the practical assessment of the working possibilities of the Navilas 577 navigational laser system.

Material and methods - a retrospective analysis of laser coagulation procedures performed on an outpatient basis using the Navilas 577 was performed.

Results and conclusions It is a retinal laser system that brings a number of unique features and benefits thanks to its navigation technology. Here are some of its notable features: **High precision and reliability:** The Navilas 577 system offers precision and reliability by prepositioning and stabilizing the laser beam on the patient's retina, both for contact and non-contact treatment. **Increased speed:** Due to the extended field of view and automatic placement of the laser pattern, the Navilas 577 enables the treatment of the peripheral region faster and more efficiently than conventional lasers with pattern scanning. **Advanced comfort:** The system allows the comfortable application of the laser pattern, optionally under infrared light and without the use of a contact lens. **Digital Workflow Integration:** Navilas 577 facilitates import of external diagnostic images, digital reporting and DICOM integration. **Economic efficiency:** Saving time by fast laser application, improving patient cooperation and optimal use of team resources through digital guidance.

Alcon

LENSES GRUP

Promofarm
strategic partner

Rompharm Company

SIFI

Clinica Oftalmologică
MCI
MED CLINIC INTERNATIONAL

MICROCHIRURGIA OCHIULUI

WORLD MEDICINE
OPHTHALMICS

BALKAN optica

IMPEX CENTRO

KEMBLI-MED

LIQVOR®
pharmaceuticals

VitaPharm®
In armonie cu natura