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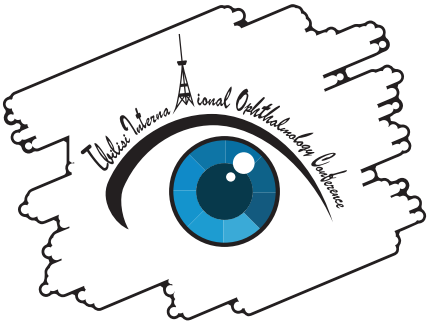

ABSTRACT BOOK

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Contents

OCULAR MANIFESTATIONS OF COVID-19

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Introduction: The COVID-19 pandemic has caused profound modifications in all the fields of ophthalmology practice in order to reduce the risk of infection transmission among the healthcare workers and patients. Although patients infected by SARS-CoV-2 generally present with respiratory distress symptoms, atypical manifestations such as ocular, should always be considered. As SARS-CoV-2 RNA has been found in tears, potential conjunctival transmission route has been highlighted.

Aim/Purpose: To present ocular manifestations of the infection that have been reported in COVID-19-positive patients and to also review possible ophthalmic side-effects of proposed treatments. To highlight how our out-patient clinic adjusted the routine ophthalmology practice to the local government restrictions and protocols/guidelines provided by the international ophthalmology organizations.

Methods: During the pandemic ophthalmologists successfully adopted means of telemedicine providing consultations to the patients via photo or video interactions. In order to sustain our practice we have to implement all the infection measures such as use of personal protective equipment (PPE), environmental and administrative control. Although COVID-19 is mainly associated with mild conjunctivitis, subtle retinal changes have also been reported. Intensive care unit patients due to risk factors are prone to the development of ocular complications like ocular surface disorders and secondary infections. Many drugs used to treat COVID-19 patients may develop ocular side-effects and hence, ophthalmologists should assess the extent of the retinal and visual damage exerted by the life-saving therapies.

Results: Application of safety protocols in healthcare practices is of vital importance. Recognizing conjunctivitis as an early finding of COVID-19 is very important as it might be suggestive of disease severity. Considering the possibility of the infection transmission through the naso-lacrimal duct to

the upper respiratory tract we suggest that blocking the tear drainage by implanting temporary punctal plugs can stop the spread of coronavirus from the eyes to the lungs.

Conclusion: As the number of COVID-19 cases is increasing globally and the epidemiological situation is still unpredictable, ophthalmologists should be aware of ocular manifestations, either as a result of the disease or as a result of the treatment. Maintaining the balance between saving the vision and improving safety measures is the top priority.

DMEK WITH THE ALLOPLANT (CASE REPORT)

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Introduction: With the growing trend toward lamellar keratoplasties the penetrating procedures are being surpassed. Descemet membrane endothelial keratoplasty (DMEK) involves the surgical removal of the diseased endothelial layer as well as the diseased Descemet's membrane from the posterior corneal stroma. Posterior lamellar keratoplasty has become a standard procedure for the treatment of endothelial dysfunctions including Fuchs' endothelial dystrophy, pseudophakic bullous keratopathy (PBK) or failed endothelial grafts. With a global shortage of available donor corneas, it is difficult to meet the increasing demand.

Aim/Purpose: The purpose of this case report is to describe a novel device EndoArt (EyeYon Medical, Ness Ziona, Israel) that may serve as an alternative to DMEK for the treatment of chronic corneal edema due to PBK.

Methods: The patient underwent EndoArt implantation due to secondary endothelial failure (PBK). The procedure was performed in accordance with the guidelines provided by the manufacturer. The implant is a 6.0-mm diameter with the thickness 50-mm and serves as an artificial fluid barrier at the recipient's posterior stroma, replacing the diseased endothelium. Following the EndoArt implantation we observed reduction of Central Corneal Thickness (CCT). Patient did not complain of pain during the post surgery period. Al-

though there was no significant increase in visual acuity, the patient reported improved quality of vision.

Results: No inflammatory reaction was observed in the treated eye during the post-surgical examination. There were no clinically significant severe side-effects and/or complications observed. The implanted eye is quiet, no evidence of haze, flare, fibrin, cells or iris neovascularization. Based on these findings, EndoArt is demonstrating clinical parameters supporting its design as a sterile, inert and biocompatible polymer implant.

Conclusion: Implantation of an artificial endothelial layer offers a range of advantages over using a donor DMEK tissue. Due to possible complications following DMEK (primary or secondary graft failure, immunological graft reaction, or interface keratitis) patients usually require long-term immunosuppressive therapy and frequent follow-up visits. Moreover, DMEK procedure requires extreme delicacy of a skillful surgeon as there is a high risk of donor graft damage during the manipulation which can lead to graft failure in postoperative period. Although no severe adverse events were observed, further studies should be conducted to investigate the safety and efficacy of the novel device.

პოსტოპერაციულად IOL-ის დისლოკაცია, გამოსავალი და მეთოდი

გიორგი პეტრიაშვილი, ნანა ნიკოლაიშვილი,მზია გოისაშვილი, ბაჩანა ომიაძე, ქეთი ბაღაშვილი, ანი ახალაია, ანი ყარსიმაშვილი.

მიზანი: პოსტოპერაციულად ტრავმის, ცინის იოგების სისუსტის შედეგად ზოგიერთ შემთხვევაში ვითარდება IOL-ის დისლოკაცია, რაც იწვევს ისეთ გართულებებს, როგორიცაა: მხდველობის დაქვეითება, დიპლოპია, ბადურას ჩამოცლა, ჰემოფთალმი, მაკულის ცისტოიდური შეშუპება, უვეიტი, მეორადი გლაუკომა.

ჩვენი მიზანია, ამ გართულებების თავიდან აცილების ან მკურნალობის მიზნით, შეირჩეს IOL-ის ფიქსაციისთვის შესაბამისი ქირურგიული მიდგომა.

მეთოდი: ქირურგიულ მკურნალობამდე რეკომენდებულია ფარმაკოლოგიური მიოზი, შემდეგ უნდა შეირჩეს ხელსაყრელი ქირურგიული ტაქტიკა. როგორც წესი გამოიყენება საფიქსაციო რკალი (CTR) ხელოვნურ ბროლთან ერთად, მაგრამ ბოლო შემთხვევებიდან გამომდინე მხოლოდ რკალი არ არის დამცავი მექანიზმი. გვინდა შემოგთავაზოთ ტექნიკა, რომლის დროსაც კომპლექსის, ბროლი რკალთან ერთად, ფიქსაცია მოხდება ფერად გარსზე.

შედეგები: მსგავსი კომპლექსის გამოყენება გვაძლევს საშუალებას თავიდან ავიცილოთ ხელოვნური ბროლის დისლოცირება.

დასკვნა: ქართულ პოპულაციაში ხშირად გვხვდება გართულებული კატარაქტა (ბროლის ღრძობა), ამიტომ პრეოპერაციულად IOL-ის იმპლანტაციის ქირურგიული მეთოდის სწორმა შერჩევამ შესაძლოა თავიდან აგვაცილოს მისი დისლოკაცია.

POSTOPERATIVE IOL DISLOCATION, SOLUTION AND METHOD

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Objective: Postoperative trauma, weakness of the zonules, in some cases develops IOL dislocation, which leads to complications such as: impaired vision, diplopia, retinal detachment, hemophthalmos, macular cystoid edema, uveitis, secondary glaucoma.

Our goal is to select the appropriate surgical approach for IOL fixation to prevent or treat these complications.

Method: Pharmacological miosis is recommended before surgical treatment, then appropriate surgical tactics should be selected. Fixed arc (CTR) is usually used in conjunction with artificial crystal, but in recent cases only the arc is not a protective mechanism. We would like to offer you a technique in which a complex, IOL with a CTR, is fixed on a colored membrane

Results: Using a similar complex allows us to avoid artificial IOL dislocation.

Conclusion: Complicated cataracts (with or without lens dislocation) are common in the Georgian population, so the correct selection of surgical method of IOL implantation preoperatively may prevent its dislocation.

MULTIFOCAL-EDOF HYBRID IOL

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Abstract Purpose: To evaluate the clinical outcomes, patient-reported visual performance after bilateral implantation of TECNIS Synergy IOL Model ZFR00V and Tecnis Synergy Toric II IOL Model ZFV (Johnson & Johnson Vision, Santa Ana, Ca ,USA).

Design: Prospective, non-randomized clinical study.

Methods: 18 Patients were enrolled for bilateral surgery. 11 patient received bilateral implantation of Tecnis Synergy Model ZFR00V, 7 patient were elected to undergo bilateral implantation of Tecnis Synergy Toric II IOL due to corneal astigmatism 0.75D. Binocular visual acuity was measured at far distance, intermediate at 60 cm distance, and near vision at 40 cm distance, the patient-reported visual performance, including spectacle-independence and level of satisfaction after the surgery was determined at 3 months postoperatively.

Results: A total of 94.4% (17 of 18) and 83.3% (15 of 18) of patients achieved 1.0 or better binocular distance and near visual acuity, respectively. All patients achieved 0.8 or better binocular near visual acuity at 40 cm distance. In terms of binocular intermediate visual acuity, 94.4% (17 of 18) of patients achieved 1.0 or better vision at 60 cm distance. All patients reported complete spectacle-independence after the surgery at 3 months postoperatively. Level of satisfaction among the patients was exceptionally high. Only 1 patient (5.6%) reported the presence of severe photic phenomena in mesopic conditions, mostly starbursts, which significantly interfered with night driving.

Conclusion: Tecnis Synergy IOL and Tecnis Synergy Toric II IOL provided an excellent vision at all distances, resulting in a high level of patient satisfaction by giving to the patients an unique opportunity to live spectacle-free life.

Conflict of Interest Disclosures: None.

AN OVERVIEW OF USING THE SUPRACOR METHOD IN REFRACTIVE SURGERY

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Introduction - The aim of this study is to investigate the SUPRACOR method and evaluate the safety measures and effectiveness of the SUPRACOR excimer laser algorithm to treat presbyopia in hyperopes and myopes.

Materials and methods - This is a retrospective case review of 25 patients (50 eyes) who have undergone SUPRACOR excimer laser treatment on both eyes. The patients were subdivided into two groups: Group A (36 eyes, 18 patients) had hyperopia; and Group B (14 eyes, 7 patients) had myopia. The age of patients was ranged between 45 to 65 years old. The minimum follow-up period was 1 month.

Preoperatively, for Group A -mean manifest refraction spherical equivalent (MRSE) was +2.16±1.5D, mean K-reading was 43.49±3.2D, astigmatism was up to 1.0D, mean uncorrected distance visual acuity (UDVA) and mean uncorrected near visual acuity (UNVA) was 20/60 (0.48LogMAR) and N12 (Jeager 8), respectively.

For Group B- mean MRSE was -3.64±1.25D, mean K-reading was 44.23±1.5D, astigmatism was up to 1.0D, mean UDVA and mean UNVA was 20/200 and N12(Jeager8) respectively.

All patients underwent a standard ophthalmological examination (visual acuity testing, determination of manifest and cycloplegic refraction, keratometry, corneal topography, pachymetry, tonometry and slit lamp examination). Diagnostics and surgical treatment were carried out on the diagnostic platform ACETM and the Technolas Teneo 317 excimer laser (Bausch and Lomb, Munich, Germany). The recommended refractive target spherical equivalent(SE) was 0.0 for Group A, and -0.5D for Group B. The optical zone size was 6.0mm.

Results - Patients' manifest refraction, monocular and binocular distance and near visual acuity measurements were obtained on the next day after surgery, 1 week and 1-month postsurgical follow-up. At 1 month postoperatively, the binocular mean UDVA and mean UNVA for both Group A and Group B was 20/25(0.1LogMAR) or better and N8(Jeager6) or better, respectively. The mean MRSE at 1montn postoperatively for Group A was +0.25D, the mean astigmatism -0.5D, for Group B was -0.25D, the mean astigmatism -0.5D.

Conclusions - SUPRACOR excimer laser algorithm is safe and effective for the treatment of presbyopia and provided similarly good binocular vision outcomes for hyperopes and myopes. However, further study of this method is necessary with the involvement of a larger group of patients and longer postoperative follow up period.

გამჭოლი კერატოპლასტიკის შედეგების კლინიკური ანალიზი, მეოთხე სტადიის კერატოკონუსის მქონე პაციენტებში, „FS200" ფემტოლაზერის გამოყენების დროს

მიხეილ ომიაძე, რევაზ ომიაძე, ნიკოლოზ ანთელავა

მიზანი - შევისწავლოთ "FS200" ფემტოლაზერის ეფექტურობა და პოსტოპერაციული შედეგები, მეოთხე სტადიის კერატოკონუსის მქონე პაციენტებში სოკოს ფორმის გამჭოლი კერატოპლასტიკის ჩატარებისას.

მეთოდები - "FS200" ფემტო ლაზერის გამოყენებით ჩატარდა სოკოს ფორმის გამჭოლი კერატოპლასტიკა , მეოთხე სტადიის მქონე კერატოკონუსის მქონე პაციენტებში 26 პაციენტის 26 თვალზე. დონორის რქოვანის ტრანსპლანტანტი ამოიჭრა ფემტო ლაზერით, რომლის გარე დიამეტრი შეადგენდა 8.5მმ-ს, ხოლო შიდა დიამეტრი 7.4მმ-ს. რეციპიენტის რქოვანის ამოჭრილი შიდა და გარე დიამეტრი 0.2მმ-ით მცირე იყო დონორის შიდა და გარე დიამეტრთან შედარებით. გამნაკვეთის

გერმეტიზაცია მიიღწეოდა ნეილონის 10/0, ერთი უწყვეტი ნაკერის მეშვეობით.

შედეგები - პოსტოპერაციული მხედველობის სიმახვილე შეადგენდა 0.3 - 0.7 კორექციის გარეშე. ასტიგმატიზმის საშუალო სიდიდე შეადგენდა 4.0 დიოპტრიას.

ტრანსპლანტანტის შემღვრევა აღინიშნა ორ პაციენტში ,პოსტოპერაციული რეჟიმის დაუცველობის და ტრავმის გამო. დაკვირვების ვადა 24 თვე.

დასკვნა-სოკოსფორმისგამჭოლიფემტოლაზერულიკერატოპლასტიკა, განაპირობებს ჭრილობის მყარ ჰერმეტიზაციას, შედარებით მცირე პოსტოპერაციულ ასტიგმატიზმს და რეაბილიტაციის დროს.

ტრანსპლანტატნტის სპეციფიური ფორმა მინიმუმამდე ამცირებს მის შეუთავსებლობას პოსტოპერაციულ პერიოდში.

CLINICAL ANALYSIS OF MASHROOM SHAPE PENETRATING KERATOPLASTY IN FOURTH STAGE KERATOCONUS PATIENTS, USING "FS200" FEMTOLASER

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Purpose: To observe the postoperative outcome of "FS 200" femtosecond laser-assisted mushroom shape penetrating keratoplasties.

Methods: We performed 26 femtosecond laser-assisted mushroom shaped penetrating keratoplasties in 26 patients using "FS 200' laser.The anterior cut diameter of donor cornea was 8.5 mm and posterior cut diameter was 7.4 mm. Recipient corneal cut was 0.2 mm less than donor cornea cut. Runing 12 bite 10/0 nylon sutures was placed.

Results: Visual acuity was 0.3 -0.7 . Mean astigmatism in Pentacam topography was 4.1 ± 3.0 diopters. Corneal opacification was observed in two cases due to inappropriate post op regime and post. op trauma.

Conclusions: Femtosecond laser-assisted mushroom shape penetrating keratoplasty is a safe surgical technique. Due to the steps in profiled trephinations, the wound area is larger and theoretically the wound healing is, thus, faster and more stable.

КОРРЕКЦИЯ МИОПИИ И МИОПИЧЕСКОГО АКСТИГМАТИЗМА С ИСПОЛЬЗОВАНИЕМ ТЕХНОЛОГИ RELEX SMILE

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Цель работы - проанализировать результаты фемтосекундной лазерной технологии ReLEx SMILE у пациентов миопией и миопическом астигматизмом.

Материалы и методы. Обследовано 250 пациентов (498 глаз) с миопией и миопическим астигматизмом, которым проведены оперативные вмешательства по методике ReLEx SMILE. Среди них 116 мужчин (46,4 %) и 134 женщины (53,6 %) в возрасте от 18 до 40 лет (средний возраст 27,5 лет). На всех глазах диагностирована миопия различной степени и миопический астигматизм. Миопия слабой степени отмечена на 221 глазу (44,3 %), средней степени на 188 (37,8 %), на остальных – миопия высокой степени (89 глаз, 17,9 %). Оперативные вмешательства выполнялись под эпибульбарной анестезией на фемтосекундной лазерной установке VisuMax (K. ZEISS) по методике ReLEx SMILE. Использовался доступ длиной 3 мм в меридиане 120°. Оценивались острота зрения без коррекции, показатели авторефрактометрии через сутки и 1 месяц после проведения операции, а так же переносимость вмешательства пациентами. За ожидаемую остроту зрения была принята острота зрения с максимальной оптической коррекцией до проведения операции. Целевая рефракция – эмметропия. Все пациенты получали в качестве предоперационной подготовки и в период реабилитации инстилляции противовоспалительных препаратов и заменителей слезы.

Результаты и обсуждение. При обследовании после проведения фемтосекундной лазерной коррекции по методике ReLEx SMILE 88 % пациентов отмечали чувство инородного тела, дискомфорт, светобоязнь, которые продолжались около 2 часов. На 7 глазах (14,1 %) отмечены дефекты эпителия в зоне вмешательства. Через сутки

больные жалоб не предъявляли, предполагаемая острота зрения была достигнута на 487 глазах (97,8 %), на остальных глазах наблюдалась высокая острота зрения, которая, однако, была ниже ожидаемой. Полная адаптация краев роговичного доступа отмечена на всех глазах. Показатели авторефрактометрии варьировали от -0,5 до +0,5 дптр. Через 1 месяц после операции ReLEx SMILE в ряде случаев пациенты предъявляли жалобы, характерные для синдрома «сухого глаза» (53,6 %), что потребовало продолжения использования слезозамещающих глазных капель. Максимальная коррегированная острота зрения была достигнута в подавляющем большинстве случаев – на 491 глазу (98,6 %), на остальных наблюдалось высокое зрение – 0,8-0,9. Показатели авторефрактометрии варьировали от + 0,25 до - 0,25 дптр.

Выводы. Использование технологии ReLEx SMILE является высокоэффективным и малотравматичным вмешательством с коротким периодом послеоперационной реабилитации у пациентов с миопией и миопическим астигматизмом.

Максимальная коррегированная острота зрения у пациентов с миопической рефракцией достигнута в первые сутки у 97,8 %, через 1 месяц у 98,6 %.

CORRECTION OF MYOPIA AND MYOPIC AKSTIGMATISM USING RELEX SMILE TECHNOLOGY

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The results of the femtosecond laser technology ReLEx SMILE in 250 patients (498 eyes) with myopia and myopic astigmatism were analyzed. Among them, 116 men (46.4%) and 134 women (53.6%) aged 18 to 40 years (average age 27.5 years). Mild myopia was noted in 221 eyes (44.3%), moderate in 188 (37.8%), in the rest - high myopia (89 eyes, 17.9%). It was found that the use of the ReLEx SMILE technology is a highly effective and low-traumatic intervention, it allows obtaining the maximum corrected visual acuity on the first day in 97.8% of patients, after 1 month in 98.6%.

DIRECT SELECTIVE LASER TRABECULOPLASTY – THE NEW APPROACH TO GLAUCOMA TREATMENT

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Introduction: Glaucoma is multifactorial chronic disease, which is a leading cause of irreversible blindness. It affects millions of people all over the world, mainly over the age of 50. Glaucoma usually involves both eyes and is characterized by progressive visual field loss due to damage to the optic nerve resulting from gradual loss of retinal ganglion cells. The etiology of glaucoma is still unknown, but there are potential risk factors such as: older age, high IOP (intraocular pressure), pseudoexfoliation deposits, decreased central corneal thickness (CCT), family history of glaucoma, high myopia, and African population. The current strategy for glaucoma treatment is the reduction of IOP. IOP can be decreased by hypotensive eye drops, laser trabeculoplasty or surgical intervention. Before the release of the pivotal LiGHT study about 2 years ago, the first line treatment for glaucoma was only hypotensive eye drops. Currently, based on the LiGHT clinical trial results (which demonstrated that selective laser trabeculoplasty (SLT) is a good as, and even superior to hypotensive eye drops), the European Glaucoma Society (EGC) strongly recommend the use of SLT as a first line treatment for primary and secondary open angle glaucoma (OAG). The new device - Direct Selective Laser Trabeculoplasty (DSLT) is a rapid, noncontact automated procedure performed directly through the limbus without gonioscopy.

Aim of GLAUrious clinical trial is to compare the safety and effectiveness of trans-limbal Direct Selective Laser Trabeculoplasty with conventional Selective Laser Trabeculoplasty in reducing intraocular pressure in participants with open angle glaucoma including exfoliative and pigmentary glaucoma or ocular hypertension.

Results: The new device - DSLT has already demonstrated early evidence for safety and efficacy in OAG patients. Fifteen patients (15 eyes: 10 with open-angle glaucoma, 4 with ocular hypertension, and 1 with pseudoexfoliation glaucoma), naive or after medication washout, with an IOP 22 mm Hg, underwent DSLT by irradiation with 100 or 120 sequential noncontact 532-nm, Q-switched laser shots (0.8−1.4 mJ) automatically applied during 1.5 or 2.3 seconds on the limbus, guided by image analysis

and eye tracking. Results were assessed at 1 and 3 hours, 1 day, 1 week, and 1, 3, and 6 months. Yet, there is a need to further demonstrate that this new treatment is both safe and effective in a randomized controlled trial (RCT) and to compare it to the standard SLT treatment.

Conclusions: Automated DSLT appears to be an effective and safe non-contact, rapid modality for reducing IOP in patients with OAG. Higher energy usage led to better results. The primary effectiveness endpoint of GLAUrious clinical trial is difference between the two treatment group's change from baseline IOP, where change-from-baseline is defined as the difference between baseline (wash-out for medicated patients) IOP and IOP measured at 6month (wash out for medicated patients) and IOP measured at 6month for each subject.

WITH SELECTIVE LASER TRABECULOPLASTY AND 1 TYPE OF EYE DROPS

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Introduction - Glaucoma is a group of disorders which leads to progressive degeneration of optic nerve, with loss of retinal ganglion cells and thinning of retinal nerve fiber layer. [1] Glaucoma is the most frequent cause of irreversible blindness.[2] Lowering the intraocular pressure reduces the risk of glaucoma. [3] Open angle glaucoma (OAG) is the most common form, with a prevalence of about 2% among adults older than 40 years. [4] The main types of treatment of first and second stages of glaucoma are eye drops and SLT. [5] [6]

Materials and methods - We performed randomized, controlled study from October 2019 to April 2021. Inclusion criterion was the 1-st or the 2-nd stage of open angle glaucoma without prior treatment. Exclusion criterion was other concomitant ocular disease. Participants have been divided into 2 groups using random sampling method: group I which used eye drops (1 medication: either Timolol or Taflotan) and group II which re-

ceived SLT (once). Fifty two eyes were included in the first group and 50 eyes formed the second group.

IOP in two groups was measured by I-care handheld rebound tonometer before and after usage of eye drops and performance of SLT. Two follow-ups were performed after 1 month and 6 months.

Results - In the 1-st group, the initial mean IOP was 17.98±4.5 (SD) mmHg, after eye drop usage it became 16.3±3.8 (SD) 1 month later and 16.1±4.1(SD) mmHg 6 months later (in all cases 95% CI, p-value < 0.001)

In the 2-nd group the initial IOP was 18.22± 4.2(SD) mmHg, after SLT it reduced to 15.44±4.1 (SD) mmHg 1 month later and 14.38±4.7 (SD) mmHg 6 months later (in all cases 95% CI, p-value < 0.001)

After 1 month of follow-up, the IOP decreases by 9.34% and by 10.33 % in the first and second groups respectively.

After 6 months of follow-up, the IOP decreases by 10.5% and by 21.07 % in the first and second groups respectively.

Conclusion - The results of the study have shown that SLT is moderately more effective than eye drops. The study limitations are small sample size and short follow-up time. Therefore, the further research is recommended.

Abbreviations

SLT - selective laser trabeculoplsty

OAG – open angle glaucoma

IOP – intraocular pressure

SD – standard deviation

CI – confidence interval

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TEN YEARS WITH SLT

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Introduction - The purpose of this study was to evaluate the pattern of IOP reduction following SLT retreatment (in 1-3 years after first procedure) of OAG patients and long-term results of SLT treatment when it used as first-line.

Method and Patients This study was prospective, nonrandomized, interventional study conducted at Eye Clinic "AkhaliMzera" between October 2011 and November 2021. Patients (age 45 years and older) with early to moderate primary open-angle glaucoma (POAG) or pseudoexfoliation glaucoma (PXG) Phakic and pseudophakic were included in the study. IOP between 19 and 27 mmHg measured on at least two visits up to 1-3 years after SLT treatment or in non-treated (in "virgin") eyes .

Procedure Before to laser Pilocarpine 1% single drop was used to keep the pupil constricted and prevent peripheral-iris crowding 60 min before

SLT. Topical anesthesia (tetracaine 0.5%) was applied 1 to 2 minutes before the procedure. The laser procedure involved the Ellex Solo SLT Laser and a Latina SLT Gonio Lens (Ocular Instruments, WD, USA). Treatment was realised in two stages with 1 month interval. During one procedure I placed 150-190 contiguous spots along 180° of the TM. Immediately, after the completion of the procedure brimonidine 0.2% drop was applied and IOP was measured after an hour. All patients were prescribed topical diclofenac sodium 0.1% for 10days 3-4 times a day after laser treatment.

Result A total of 783 eyes of 504 patients were involved in the study. The mean age of the study participants was 50.3 ± 4.2 years (range, 45 to 78 years) and 322 (63.8%) were males. The glaucoma diagnosis was POAG in 656 (83.8%) eyes and PXG in 127 (16.2%) eyes. Diabetes mellitus in 8% and systemic hypertension in 30% were noted . 665 eyes (84.9%) were on medications, and 118 (15%) eyes were treated with laser as primary therapy. Pre-SLT baseline IOP was 24.3 ± 2.5 mmHg (range, 19 to 32 mmHg), and pre-SLT mean number of antiglaucoma drugs used was 1.9 ± 1.01.

Overall, the mean IOP after SLT was 17.6 ± 2.4 mmHg, 18.8 ± 2.6 mmHg and 25.4 ± 2.5 mmHg in 12th month, 24th month and 36th month respectively. So, in 2 years the overall percentage of IOP reduction from the baseline was 22.9%.

In 3 years after first SLT procedure the majority of patients were retreated. In 1-2 months after repeated treatment IOP reduction was the same like after first SLT (in 10% of cases even more effective). About 15% of patients with POAG lost efficacy in 18 months post-treatment and in these eyes second SLT procedure was more effective than first time.

The number of drugs reduced from an average of 1.4 to an average of 1.0 was statistically significant with the inter-eye correlation .

Those patients who were treated with laser as primary therapy with a baseline IOP of 25.4 mmHg ± 2.9 mmHg had IOP reduction of 8.5 ± 3.1 mmHg at the last visit, and those who were on antiglaucoma medication with baseline IOP 23.9 ± 2.2 mmHg had IOP reduction of 6.8 ± 2.8 mmHg.

IOP reduction at the last visit between POAG, PXG was 6.5 mmHg and 7.9 mmHg, respectively.

Conclusion - SLT is a safe and innovative technology that uses lasers to target only certain cells of the trabecular meshwork of the eye, leaving the tissue surrounding these cells untouched.

In our study, the patients were treated with laser as primary therapy or adjunct laser with medication. The overall IOP reduction was 22.9 mm HG%, and the success rate was 75% at 1-2 years.

IOP reduction was similar in POAG and PXG . Overall IOP reduction at different follow-up visit ranges from 4.5% to 28.2% with the highest IOP reduction noted at 18th month follow-up period.

We concluded that SLT appears to be repeatable in eyes with OAG and PXG that have previously been successfully treated.

We have found that it is more effective to begin treatment at closer to about 0.8 mJ (if the TM has 1 to 2-plus pigment) and titrate by 0.1 mJ increments. The energy level is titrated to the targeted response looking for bubbles forming in the anterior chamber. Once bubbles are visualized, titration is not decreased.

SLT is most effective in a virgin eye that has not received any medications yet. If the patient drop maximal medications, SLT usually doesn't work well at all, or it has a minimal effect. Drops suppressed aqueous production and enhanced outflow so much, that the additive effect of SLT is reduced. We should be offering it to our patients first-line, because it's so safe that they have practically nothing to lose.

ACUTE CLOSED-ANGLE GLAUCOMA - MANAGEMENT METHODS AND MODERN APPROACHES

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Objective: To present the risk factors for the development of acute closed-angle glaucoma, I will focus on a condition that is important for clinicians using a variety of compounds, as well as for ophthalmologists who examine patients.

Literary Overview: Acute closed-angle glaucoma (MDG) in which the intraocular pressure (GHG) is often elevated to 58-80 mmHg. Is a narrow anterior cell. Gonioscopy: Closing the angle 360 degrees. Most attacks of acute closed-angle glaucoma, which include PUPIL blockade, occur in individuals who are unaware that they have narrow iridocorneal angles. Acute closed-angle glaucoma is a potentially «blinding» side effect of a number of topical and systemic medications, including adrenergic, anticholinergic, and cholinergic, antidepressant, and anti-anxiety, sulfate-based, and anticoagulants.

Conclusions: Acute closed-angle glaucoma due to blockage of the pupils, which can be cured by peripheral iridotomy, was mainly caused by adrenergic agents, topically (phenylephrine drops, nasal ephedrine or nebulized salbutamol, or systemic eloxamine) (systemic). Including tropicamide and atropine drops.

Methods: Acute closed-angle glaucoma is a condition that requires urgent management that involves rapidly lowering the intraocular pressure and removing the block. Emergency strategies to reduce intraocular pressure include medical treatment and argon laser peripheral iridoplasty. Anterior cell paracentesis and diode laser transcirculation cyclophotocoagulation may be considered in special situations. Lens extraction can be combined with procedures such as gonosinectomy, trabeculectomy, or endoscopic cyclophotocoagulation.

Conclusion: A number of medications cause patients to have narrow anterior cell angle closure and develop acute closed-angle glaucoma that required urgent medical intervention.

CRITERIONS, TERMS AND RESULTS OF REPEATED MICROPULSE CYCLOPHOTOCOAGULATION IN GLAUCOMA PATIENTS

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Relevance: In recent years micropulse technology with various options for the duration and intensity of laser exposure has presented itself as an effective and safe procedure in the treatment of glaucoma. However, the issues of choosing the optimal laser parameters, the duration of hypotensive effect of the performed micropulse transscleral cyclophotocoagulation (MP-TSCPC) depending on the stage of glaucoma, the possibility and terms of repeated MP-TSCPC are still discussed.

Purpose: to evaluate the results of repeated application of micropulse cyclophotocoagulation in patients with refractory glaucoma.

Methods. The study included 103 patients aged 73.7 ± 10.8 years with different stages of refractory glaucoma: moderate (19), advanced (67) and severe stages (17). All patients had previously undergone penetrative and non-penetrative glaucoma surgeries.

Before and after MP-TSCPC operation all patients underwent a comprehensive ophthalmological examination. The MP-TSCPC procedure was carried out under topical anesthesia (SUPRA 810 device, Quantel Medical, France) with a standard set power of 2000 mW, a duty cycle of 31.3%, and a total exposure time of 160 seconds and the total energy of laser exposure is 100 J. Operations was performed without complications. The observation period was 15 months. Success results were assessed using the Kaplan-Meier criterions.

Results. Early postoperative period was areactive. After 1 week the hypotensive effect was achieved in all cases. In 15 patients with advanced stage of glaucoma the recognized statistical indicator of IOP from 29.0 ± 8.0 mmHg. to 18.4 ± 2.3 mmHg (by 36.6%; $p < 0.05$), in 52 patients with advanced stage from 30.1 ± 7.9 to 19.4 ± 1.9 mmHg (by 35.5%; $p < 0.05$) in

12 patients with terminal stage from 33.9 ± 8.3 mm Hg to 27.1 mm ± 3.5 mmHg (by 20.1%; p <0.05) after 15 months of observation.

After the first MP-TSCPC procedure with energy in 100 J, after 15 months, stable IOP remained in 79 (76.7%) cases, also after the first procedure in 24 patients IOP decompensation was noted within 3-9 months of follow-up. In 79 patients with stable IOP statistically significant changes in BCVA, vision and the state of the optic nerve head were not accepted according to OCT results. In 24 (23.0%) patients with unstable intraocular pressure after the first MP-TSCPC, indications for a second procedure were shown (IOP> 21 mm Hg, decrease in IOP <20% of the baseline, negative dynamics of the optic nerve head). A repeated session of MP-TSCPC was performed in patients with moderate (4), advanced (15) and severe stages (5) with a total laser energy of 125J. Additional functions in postoperative period after repeated MP-TSCPC are not accepted. An early hypotensive effect was achieved in all cases. IOP compensation lasted up to 6 months of follow-up in patients with moderate (18.0 ± 1.8 mm Hg; p <0.05; decrease by 32.8% from the initial level) and advanced stage (18.9 ± 1,3 mm Hg; decrease by 32.3%; p <0.05). The least effective decrease in IOP was recorded in patients with end-stage glaucoma: in 2 patients after 6 months the IOP was 21 mm Hg, in 3 patients was 26.5 ± 1.9 mm Hg (decrease by 20.0%; p <0.05). However, patients noted a subjective and clinical improvement: a decrease of pain in the eye, redness and corneal edema. The number of hypotensive medications used at stages 2 and 3 significantly decreased, on average, from 2.9 ± 0.4 to 2.3 ± 0.3.

Conclusion. First MP-TSCPC with laser energy 100 J was effective procedure in 79 (76.7.0%) in the follow-up period of 15 months. Repeated MP-TSCPC procedure in 24 patients with laser energy 125 J showed high efficiency within 6 months - IOP compensation was noted: moderate (4) and advanced stage (12), severe stage - in 2 out of 5 patients. The selection criterions for the repeated MP-TSCPC procedure were unstable IOP, negative dynamics in the stratified peripapillary retina according to OCT data. Use of laser exposure in the range of 100–125 J.

მწვავე დახურულკუთხიანი გლაუკომა- მართვის მეთოდები და თანამედროვე მიდგომები

გიორგი პეტრიაშვილი; ნანა ნიკოლაიშვილი; მზია გოისაშვილი; ანი ახალაია; ბაჩანა ომიაძე; ქეთევან ბაღაშვილი; ანა ყარსიმაშვილი. (ავერსის კლინიკა)

მიზანი: მწვავე დახურულკუთხიანი გლაუკომის განვითრების რისკ-ფაქტორების წარმოჩენა, ყურადღების გავამახვილება მდგომარეობაზე, რომელიც მნიშვნელოვანია კლინიცისტებისთვის, რომლებიც იყენებენ სხვადასხვა ნაერთებს, აგრეთვე ოფთალმოლოგებისთვის, რომლებიც ახდენენ პაციენტების გასინჯვას.

ლიტერატურული მიმოხილვა: მწვავე დახურულკუთხიანი გლაუკომა (მდკგ) რომლის დროსაც თვალშიგა წნევა (თშწ) ხშირად მომატებულია 58-80 მმ.ვწყ.სვ.-მდე. არის ვიწრო წინა საკანი. გონიოსკოპიით: კუთხის დახურვა 360 გრადუსით. მწვავე დახურულკუთხიანი გლაუკომის შეტევების უმეტესობა, რომელიც მოიცავს გუგის ბლოკადას, ხდება იმ პირებში, რომლებმაც არ იციან, რომ მათ აქვთ ვიწრო ირიდოკორნეალური კუთხეები. მწვავე დახურულკუთხიანი გლაუკომა არის რიგი ადგილობრივი და სისტემური მედიკამენტების პოტენციურად „დამაბრმავებელი“ გვერდითი ეფექტი, მათ შორის ადრენერგული, ანტიქოლინერგული და ქოლინერგული, ანტიდეპრესანტი და შფოთვის საწინააღმდეგო, სულფაზე დაფუძნებული და ანტიკოაგულანტები. ბოლო დასკვნებით: მწვავე დახურულკუთხიანი გლაუკომა გუგების ბლოკადის გამო, რომელიც პერიფერიული ირიდოტომიით განკურნებადი შეიძლება იყოს, ძირითდად გამოწვეული იყო ადრენერგული აგენტებით, ლოკალურად (ფენილეფრინის წვეთები, ცხვირის ეფედრინი ან ნებულაიზირებული სალბუტამოლი) ან სისტემურად (ეპინეფრინი ანაფილაქსიური შოკის საწინააღმდეგო ეფექტებით), წამლებით. მათ შორის ტროპიკამიდის და ატროპინის წვეთებით.
მეთოდები: მწვავე დახურულკუთხიანი გლაუკომა ესაა მდგომარეობა რომლიც საჭიროებს გადაუდებელ მენეჯმენტს, რომელიც გულისხმობს თვალშიდა წნევის სწრაფ დაწევას და ბლოკის მოხსნას. ინტრაოკულური წნევის შემცირების გადაუდებელი სტრატეგიები

მოიცავს, სამედიცინო მკურნალობას და არგონ ლაზერულ პერიფერიულ ირიდოპლასტიკას. სპეციალურ სიტუაციებში შეიძლება განიხილებოდეს წინა საკნის პარაცენტეზი და დიოდური ლაზერული ტრანსკლერული ციკლოფოტოკოაგულაცია. ლინზების ექსტრაქცია შეიძლება კომბინირებული იყოს პროცედურებთან, როგორიცაა გონიოსინექიალიზი, ტრაბეკულექტომია ან ენდოსკოპიური ციკლოფოტოკოაგულაცია.

დასკვნა: რიგი სამკურნალწამლო საშუალებები იწვევენ პაციენტებში რომლებსაც აქვთ ვიწრო წინა საკანი კუთხის დახურვას და ვითრდება მწვავე დახურულკუთხიანი გლაუკომა რომელიც საჭიროეს გადაუდებელ სამედიცინო ჩრევას.

CENTRAL RETINAL VEIN OCCLUSION AFTER MRNA SARS-COV-2 VACCINATION: REALITY OR COINCIDENCE? A CASE REPORT

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Purpose: To describe a case report of Non ischemic central retinal vein occlusion 24 hours after second dose injection of BNT162b2 mRNA vaccine .

Method: We present a central retinal vein occlusion (CRVO) case, developed 24 hours after the second COVID-19 vaccine dose. 40 years old female patient developed sudden blurred vision in her right eye, maintaining 20/20 vision. Anterior segment examination was within normal limits. Initial retinal findings were venous dilation and tortuosity with dispersing dot hemorrhages.

Fluorescein angiography (FA) and optical coherence tomography angiography (OCTA) confirmed a non-ischemic CRVO diagnosis. MRI of the brain and orbits with and without contrast was ordered. Complete blood panel was done including coagulation factors and platelet factors. Infectious

workup included FTA-ABS, VDRL, RPR, Quanti-FERON Gold. Systemic workup included ANA, SLE panel, Sarcoidosis panel, Serum protein electrophoresis, Antiphospholipid Antibody Panel, p-ANCA, c-ANCA, RF.

Results: FA was performed on admission showing a delay of normal fluorescence in the arterial phase in the RE. Early phases showed hypo -fluorescence near the temporal and inferonasal branches, with blocking areas corresponding to hemorrhages in the superior quadrants. In late phases, it was evident that there was a temporal occlusion given by the absence of venous filling and slight hyper -fluorescence in the nasal and temporal portion of the optic nerve. OCTA demonstrated Non perfusion areas in SCP and more remarkable in DCP. Vessel density reduction was seen more in DCP with prominent FAZ changes in the same slab. After three days from initial presentation, patient developed Cystoid macular edema (CME) on OCT macular line scan with some additional, new retinal findings, including intra-retinal hemorrhages and Roth's spots. Intravitreal aflibercept injection was done followed by complete resolution of CME during the first week after injection. All requested laboratory tests results came back negative except for Antiphospholipid antibody panel that demonstrated Cardiolipin Ab IgM 56 U/ml (norm.: 7U/ml). Antiphospholipid syndrome diagnosis was made. Later on patient admitted having two episodes of spontaneous abortion and treatment episode for Antiphospholipid syndrome.

Conclusion: BNT162b2 is a mRNA vaccine developed by Pfizer-BioNTech to prevent the disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). To the best of our knowledge, there are no reported cases in the world literature documenting CRVOs related to vaccination for COVID-19. Common risk factors include cardiovascular disease, hypertension, glaucoma, diabetes mellitus, and, in young patients, hematologic disorders, infectious and systemic disorders .Our patient had previous history of Antiphospholipid syndrome that she did not mention on initial visit. Antiphospholipid antibodies (APLA) were significantly associated with the risk of retinal vein occlusion (RVO). Advanced analyses showed that anti-

cardiolipin antibodies (ACA) rather than lupus anticoagulants (LA) affected the risk of RVO development. Accordingly, additional well-designed and well-conducted epidemiological studies are required to deepen our understanding on the relationship between APLA and RVO risk.

TIMELY OR UNTIMELY SURGICAL TREATMENT OF RETINAL HEMANGIOBLASTOMA (CASE REPORT)

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Purpose: to present a clinical case of retinal hemangioblastoma (RH) removal before the development of pronounced secondary complications, which prevented a further decrease in visual function.

Methods: Interventional case report. Patient, who underwent vitrectomy for advanced RH was assessed by genetic test, diagnostic tests for systemic lesions and clinical eye examination. Magnetic Resonance Imaging with contrast confirmed a nodular formation of 5x4x3 mm in the retina of the left eye. Visual acuity (VA) and clinical course were assessed during a follow-up of 1 year before and 1 year after surgery. During the observation before vitrectomy VA decreased from 20/20 to 8/20. The RH increased in size, the macular and peripapillary zones showed a significant amount of hard exudates. Optical coherent tomography of the posterior segment revealed significant increase in retinal thickness to 630 microns with foveal serous neuroepithelium detachment, multiple hyperreflective deposits in the outer layers, cystoid macula edema with a tendency to spread to the temporal superior segment, as well as the presence of a fibrous membrane over the altered vessels with paravasal fixation to the retina. Direct laser photocoagulation and cryotherapy were not performed due to the predicted low efficiency because of RH large size. A collegial decision was made to perform pars plana vitrectomy with excision of the RH.

Results: A complete vitrectomy was performed, with special attention being paid to the detachment of the posterior hyaloid from the retina. Epiretinal membranes (ERM) and inner limiting membrane (ILM) were extensively peeled up to the lesion borders, with visualization of the ILM enhanced by Infracianin Green. After vitrectomy, peeling, perilesional and 360° peripheral endolaser at the vitreous base, intraocular pressure (IOP) was increased, and endodiathermy was applied to the lesion's afferent and efferent vessels and around the lesion. Excision of the RH was then performed with the vitrectomy. Extra endodiathermy was applied to all bleeding sites. The procedures were completed with silicon tamponade.

The postoperative period was uneventful. Two month after an increase in IOP to 28 mm Hg was observed, which required the use of carbonic anhydrase inhibitor eye drops. After the removal of silicone oil and complete resorption of SF6, VA increased to 0.5 two weeks postoperatively, IOP normalized without the additional use of anti-glaucoma drops. Two months later, VA increased up to 0.6 and remained stable until the end of the observation period. Fluorescence angiography 2 months after removal of silicone oil showed the absence of the new RH and absence of exudation.

Conclusion. This clinical case demonstrated the possibility of pars plana vitrectomy with the removal of the hemangioblastoma without the development of intra- and postoperative complications with the improvement of visual acuity. Important points to be considered during surgery are complete removal of posterior hyaloids, epiretinal membranes and ILM as well as adequate closure of feeder and draining vessels to prevent the development of retinal detachment and proliferative vitreoretinopathy due to disease progression, thereby at least preventing further loss of visual function. Unfortunately the high VA at the first examination and diagnosis of the disease in this patient deceptively reduced his motivation for a quick follow-up examination and to the second appointment. Only one year later adequate treatment for RH was performed.

CONTRAST SENSITIVITY TEST IN DRY AGE-RELATED MACULA DEGENERATION

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Actuality. Age-related macular degeneration (AMD) is a chronic progressive degenerative disease of the retina, that leads to irreversible changes in the macula and therefore deterioration or loss of central vision [1]. AMD is the main cause of visual acuity disorders in people over 50 years in some developed countries, the incidence of the disease increases with age [2]. It is known that when AMD is detected in one eye, the other eye is affected in 5 years [3]. Wong and colleagues estimate that by 2040, near 288 million people will suffer from ADM [4, 5]. The British Journal of Ophthalmology reports that by 2050, 77 million people in Europe will have ADM [6]. The biggest growth will be among people aged 75 and older, increasing from 50 to 58 million cases (15%) [7].

Purpose. Compare contrast sensitivity test results in patients with dry age-related macular degeneration and in patients without ophthalmic pathology.

Materials and methods. 2 groups of patients were formed: 1 group (58 eyes) - patients with dry age-related macular degeneration - study group; 2 group (29 eyes) - persons without ophthalmic pathology - control group. There were no differences in gender and age in the groups, with the mean age of patients in both groups being 65 years.

In both groups of patients, the anterior segment structures were almost transparent (inclusion criteria: patients with incipient cataract or artiphakia). The Mars Numeral Contrast Sensitivity Test tables were used for the study - portable, 23×36 cm in size, intended for use at a distance of 50 cm [8].

Results. Visual acuity, checked with the LogMAR scale (ETDRS), was 0.2 ± 0.1in the study group, and 0.1 ± 0.1 in the control group.

In the control group, the logarithmic values of contrast sensitivity (log CS) ranged from 1.52 to 1.64 log CS. For patients in the study group, these numbers were reduced to 0.84-1.16 log CS.

Conclusions. It has been determined that in patients with age-related macular degeneration, functional losses are observed when perceiving objects

of low contrast. Determination of contrast sensitivity using the tables "The Mars Numeral Contrast Sensitivity Test" is performed quickly. It allows to test the contrast sensitivity, and to monitor the functional state of the retina in dynamics. At high visual acuity, this method can serve as a screening for the detection of AMD in the early stages.

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ქუთუთოს კანის ბაზალურუჯრედოვანი კარცინომის მართვა (10 წლიანი დაკვირვება)

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ბაზალურუჯრედული კარცინომა არის კანის ერთ-ერთი ყველაზე გავრცელებული ავთვისებიანი სიმსივნე, საერთაშორისო კანცერ-რეგისტრის მონაცემებით გვხვდება 14,3-19,6 შემთხვევა 100 ათ. მოსახლეობაზე და 11,6% არის ქუთუთოზე და პერიორბიტალურ არეში, რაც შეადგენს ქუთუთოს ავთვისებიანი სიმსივნეების 90%. ხოლო, სიკვდილიანობა საშუალოდ - 0,1%. მისი ძირითადი მკურნალობა ქირურგიულია. ამავდროს, ხშირია რეციდივი, რაც საჭიროებს დამატებით ჩარევას - განმეორებითი ოპერაცია, სხივური თერაპია, და შესაბამისად იწვევს უფრო სერიოზულ კოსმეტიკურ და ფუნქციონალურ პრობლემებს. აღსანიშნავია, რომ ხშირ შემთხვევაში პოსტოპერაციული დეფექტი საკმაოდ დიდია და საჭიროებს მომენტალურ რეკონსტრუქციას ქუთუთოს ფუნქციის შესანარჩუნებლად, რაც შემდგომ განსაზღვრავს პაციენტის ცხოვრების ხარისხის.

მიზანი: 2012წ.-2021წ. ჩატარებული ქუთუთოს კანის ბაზალურუჯრედოვანი კარცინომის რადიკალური ქირურგიული მკურნალობის ეფექტის შეფასება.

მასალა და მეთოდი: კლინიკა „ნიუ ჰოსპიტალსის“ ოფთალმოლოგიურ განყოფილებაში 2012-2021წ. განმავლობაში 129 პაციენტს ჩაუტარდა ჰისტოლოგიურად დადასტურებული, T2bN0M0 ზომის (სიმსივნე დიამეტრით 10-20მმ, საშ. 14,2±4,5მმ.) ქუთუთოს კანის ბაზალურუჯრედოვანი კარცინომის ქირურგიული მკურნალობა დეფექტის მომენტალური რეკონსტრუქციით. მამაკაცი 69 (53,5%), ქალი-60 (46,5%). საშუალო ასაკი 69±10,2 წ. კლინიკური ფორმები: ნოდულური 86 (66,7%), წყლულოვან-კვანძოვანი - 35 (27,1%), ინფილტრაციული - 8 (6,2%). ნოდულარული ფორმისას წარმონაქმნი ამოიკვეთა ხილული კიდეებიდან არა ნაკლებ 3მმ დაშორებით, წყლულოვანი და ინფილტრაციული ვარიანტისას-არა ნაკლებ 4მმ, ფუძის აბლაციით. პოსტოპერაციული მასალის ჰისტოლოგიური კვლევის პასუხის თანახმად ყველა ოპერაცია იყო რადიკალური - ქირურგიული რეზექციის კიდეები თავისუფალი სიმსივნური უჯრედებისგან. მიუხედავად ამისა,

ინფილტრაციული ტიპის შემთხვევაში პაციენტებს მაინც ჩაუტარდათ ლოკალური სხივური თერაპია რეციდივის პროფილაქტიკის მიზნით.

შედეგი: დაკვირვების პერიოდში 01.2012წ.-11.2021წ. (119თვე) განგრძობითი ზრდა ან რეციდივი გამოვლენილი არ იქნა.

დასკვნა: ქუთუთოს კანის ბაზალურუჯრედოვანი კარცინომის რადიკალური ქირურგიული მკურნალობის შემთხვევაში რეციდივის შესაძლებლობა არის მინიმალური და რეკონსტრუქციული ოპერაცია ეფექტური, რაც განაპირობებს პაციენტის სიცოცხლის ხანგრძლივობას და ცხოვრების ხარისხს.

MANAGEMENT OF EYELID SKIN BASAL CELL CARCINOMA (10 YEARS OBSERVATION)

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Basal cell carcinoma(BCC) is one of the most common malignancies of the skin. According to the International Cancer Registry, there are 14,3-1,6 cases per 100 thousand. Population and 11,6% are on the eyelid and periorbital area, accounting for 90% of malignant tumors of the eyelid. And mortality on average – 0,1%.

Its main treatment is surgery. At the same time, recurrence is frequent, requiring additional intervention - repeat surgery, radiation therapy, and consequently leading to more serious cosmetic and functional problems. It should be noted that in many cases the postoperative defect is quite large and requires immediate reconstruction to maintain eyelid function, which further determines the patient's quality of life.

PURPOSE: 2012-2021 Evaluation of the surgical treatment effect of eyelid skin BCC.

METHODS: The 116 patients were operated with histologically confirmed eyelid BCC T2bN0M0 size (tumor diameter 10-20 mm, mean 14,2 ± 4,5 mm) with instant reconstruction of the defect 2012-2021 in the ophthalmology department of the "New Hospitals" clinic. Males 69 (53,5%), females -60 (46,5%). The average age is 69 ± 10,2 years. Clinical forms:

nodular 86 (66,7%), ulcerative-nodular-35 (27,1%), infiltrative - 8 (6,2%). In the nodular form, the formation is excised not less than 3 mm from the visible edges, in the ulcerative and infiltrative variants - not less than 4 mm, with ablation of the base. According to the histological examination of the postoperative material, all surgeries were radical - surgical resection edges free from tumor cells. Nevertheless, in the case of the infiltrative type, patients still underwent local radiation therapy to prevent relapse.

RESULTS: During the observation period 01.2012-11.2021 (119 months) No continuous increase or recurrence was detected.

CONCLUSIONS: In case of radical surgical treatment of BCC of the eyelid skin, the possibility of recurrence is minimal and reconstructive surgery is effective, which determines the patient's life expectancy and quality of life.

NEW IN DED!

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Introduction: Dry Eye Disease (DED), common condition associated with tear film and ocular surface disturbances, is caused by multiple factors which usually overlap and interact. Although lubricating the ocular surface with artificial tears remains the mainstay of therapy, novel therapeutic modalities are emerging to achieve better clinical outcomes.

Aim/Purpose: To present the effects of intranasal neurostimulation on tear volume and symptoms of ocular dryness and discomfort as wells as to report safety and efficacy of the aqueous nasal spray that is being developed as a pharmacologic neuro-activator of tear film production.

Methods: The new device for the neurostimulation targets the neurophysiology of the lacrimal functional unit. During the stimulation small electrical current is delivered to the inner cavity of the nose that activates the sensory nerve terminals. Stimulating a branch of ophthalmic division of the tri-

geminal nerve activates an afferent limb of the nasolacrimal reflex. Lacrimal nerve and anterior ethmoid nerve stimulation effectively increases tear volume. Highly selective nicotinic acetylcholine receptor (nAChR) agonist in the form of nasal spray binds to the receptors present on the trigeminal nerve within the nasal cavity and promotes tear film production by activating the trigeminal parasympathetic pathway.

Results: Intranasal neurostimulation therapy for DED not only increases tear production via increased lacrimation, but also targets other tear film components, such as mucin and meibum secretion, promoting tear film homeostasis. The route of administration of nasal spray offers several advantages over topical therapy including avoidance of ocular surface that might seem potentially easier treatment modality for some patients.

Conclusion: Neurostimulation for enhanced tear production is a promising new treatment option for DED. The device is noninvasive and increases aqueous tear volume and reduces subjective feeling of ocular discomfort. Nasal spray treatment promotes tear film production and improvement of symptoms via activating the trigeminal parasympathetic pathway. Although above described treatment modalities are safe and show promising results, further studies should be conducted to assess long-lasting therapeutic effects of them among DED patients.

УДК 617.7

ВЛИЯНИЕ ДЫХАТЕЛЬНОЙ ГИМНАСТИКИ НА ПОКАЗАТЕЛИ ГИДРО- И ГЕМОДИНАМИКИ У ФРИДАЙВЕРОВ

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THE INFLUENCE OF BREATHING EXERCISES ON THE INDICES OF HYDRO- AND HEMODYNAMICS IN FREEDIVERS

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Конфликт интересов отсутствует.

Актуальность и цель - В период пандемии COVID-19 весьма актуально исследование влияния различных физических факторов на организм человека, в том числе в стрессовых условиях.

Целью исследования было изучение влияния разработанной авторами дыхательной гимнастики на показатели гемо- и гидродинамики у здоровых лиц, занимающихся фридайвингом.

Материалы и методы - В исследовании участвовали здоровые лица, занимающиеся фридайвингом.

Основная группа составила 30 пациентов (60 глаз). Средний возраст пациентов составил 34,8 (31,92; 37,68), 16 мужчин и 14 женщин.

Группа контроля составила 32 исследования (64 глаза). Средний возраст - 34,9 (32,44; 37,68), мужчин 15; женщин 17.

Группы не различались по возрасту ($p>0,05$) и по полу на уровне $x2=0,26$; $p=0,61$.

Фридайверы основной группы в процессе выполнения разминки и в период восстановления выполняли дыхательные упражнения по

предложенной методике. Фридайверы контрольной группы во время стандартной разминки и в период восстановления дыхательные упражнения не проводили.

В процессе тренировки исследовались следующие показатели: артериальное давление (SAP и DAP); частота сердечных сокращение (Pulse); степень насыщения крови кислородом (So2); внутриглазное давление правого (IOP D) и левого глаз (IOP S).

Результаты - Для определения есть ли различия между основной группой и контрольной по полу, возрасту и исследуемым показателям (SAP, DAP, Pulse, So2, IOP D, IOP S) в начале исследования был использован критерий Mann-Whitney. Статистически значимых отличий между группами по всем исследуемым показателям в начале исследования не обнаружено.

Проведен корреляционный анализ по Spearman на наличие взаимосвязи между показателями.

Анализ полученных результатов в конце тренировки, вследствие перенесенного стресса (в данном случае гипоксического и гипербарического – погружение на глубину с задержкой дыхания), а также расслабления всего организма, показывает тесную взаимосвязь с бóльшим количеством показателей, что авторы расценивают как восстановление баланса всего организма и улучшении взаимосвязи между всеми исследуемыми параметрами. Помимо взаимовлияния показателей артериального и внутриглазного давления, обнаружена корреляция между уровнем диастолического давления и показателями частоты сердечных сокращений, степени насыщения крови кислородом, а также внутриглазным давлением.

Выводы - Анализ полученных корреляционных связей свидетельствует о том, что после перенесенного стресса (в данном случае – погружение на глубину с задержкой дыхания) все исследуемые показатели начинают более тесно коррелировать между собой.

Плаванье с задержкой дыхания статистически значимо снижает уровень насыщения крови кислородом, измеряемый на периферии (пальцы рук) на уровне $T=25,00$; $p<0,0001$.

Включение дыхательных упражнений по предложенной методике в тренировочный процесс фридайверов является важным и эффективным способом быстрой нормализации показателей гемо- и гидродинамики и позволяет минимизировать отрицательное воздействие запредельных нагрузок (гипоксического стресса) у фридайверов в процессе выполнения подводных работ.

Полученные в процессе тренировки данные отражены в таблицах 1-2.

Таблица 1. Оцениваемые показатели в начале исследования
Table 1. Estimated indicators at the beginning of the study

Показатель Significant	**Основная группа Main group**	**Группа Контроля Control group**
SAP 1	128,00 [119,00;134,00]	126,50 [121,00; 130,50]
DAP 1	84,00 [80,00; 89,00]	82,00 [78,00; 86,00]
Pulse 1	87,00 [74,00; 90,00]	83,50 [73,50; 88,50]
S_{o2} 1	97,00 [97,00; 99,00]	98,00 [97,00; 99,00]
IOP D 1	17,00 [16,00; 19,00]	16,50 [15,00; 19,00]
IOP S 1	18,00 [16,00; 20,00]	17,00 [16,00; 19,00]

Таблица 2. Данные в конце тренировки (после восстановления)
Table 2. Data at the end of the workout (after recovery)

Показатель Significant	**Основная группа Main group**	**Группа Контроля Control group**
SAP 4	121 [115,00;125,00]	115,00 [114,00; 121,50]
DAP 4	79,50 [75,00; 81,00]	78,00 [74,50; 82,50]
Pulse 4	88,00 [84,00; 92,00]	88,00 [84,00; 96,00]
S_{o2} 4	98,50 [97,00; 99,00]	98,00 [97,00; 99,00]
IOP D 4	16,00 [12,00; 18,00]	18,00 [15,50; 21,00]
IOP S 4	16,00 [12,00; 17,00]	18,00 [16,00; 21,00]