

**21.**

KONGRES

**HRVATSKOG**

OFTALMOLOŠKOG

I OPTOMETRIJSKOG DRUŠTVA

**KNJIGA SAŽETAKA**



## 1. Aleksej Medić

### Naslov:

IFIS sindrom, incidencija, kliničke manifestacije i intraoperativno zbrinjavanje

### Autori:

Medić A., Čulina K., Ivanišević K, Jukić T

### Ustanova:

Poliklinika Medić Jukić

### Cilj:

Prikazati incidenciju sindroma, kliničke reperkusije i intraoperativne postupke

### Bolesnici i metode:

Pacijenti sa mrenom naručeni na operativni zahvat u našoj ustanovi

### Rezultati:

Kod 3.6 % ( 21/ 589) operiranih pacijenta smo primjetili IFIS sindrom za vrijeme operacije, od kojih je 32% bilo na terapiji tamsulosinom

### Zaključak:

Incidencija IFIS sindroma kod operiranih pacijenata nije ovisila samo o primjeni Tamsulosina, uz odgovarajuće postupke za vrijeme operacije nije bilo intraoperativnih komplikacija

### Title:

Clinical Features, Incidence, and Cataract surgery management of Intraoperative Floppy Iris Syndrome

### Authors:

Medić A., Čulina K., Ivanisević K., Jukić T.

### Institution:

Eye Clinic Medic Jukic

**Aim:**

To evaluate the incidence, clinical findings and approach to the problems of intraoperative floppy-iris syndrome (IFIS) in cataract surgery

**Patients and methods:**

Patients with cataract scheduled for phacoemulsification

**Results:**

The incidence of IFIS was 3.6% ( 21/ 589) and 32% of them were using tamsulosin.

**Conclusion:**

Incidence of IFIS is not depended only on tamsulosin use, a staged approach in managing pupils in IFIS effectively prevented serious intraoperative complications.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Aleksej

**Ime i prezime / First and Last Name:-Last**

Medić

**Ustanova / Institution:**

Poliklinika Medić Jukić

## 2. Sanja Perić

### Naslov:

Multipla endkrina neoplazija tip2b-uloga oftalmologa

### Autori:

Sanja Perić, Marija Barišić Kutija, Martina Galiot Delić

### Ustanova:

KBC Zagreb; Medicinski fakultet-Sveučilište u Zagrebu

### Cilj:

Multipla endokrina neoplazija tipa 2b (MEN2b) je rijedak, ali često fatalan, nasljedni autosomno dominantni sindrom, uzrokovan aktiviranjem mutacija zametne linije u RET protoonkogenu (M918T u oko 95% pacijenata sa MEN2b). Poboljšana svijest o ranim neendokrinim znakovima višestruke endokrine neoplazije tipa 2b mogla bi dovesti do ranije dijagnoze prije razvoja medularnog karcinoma štitnjače i moguće njegove metastaze. Prevalencija MEN2b procjenjuje se između 1 na 600000 do 1 na 4 milijuna. Cilj nam je bio prikazati bolesnike sa MEN2b sindromom dijagnosticirane od strane oftalmologa na temelju karakterističnih oftalmoloških nalaza.

### Bolesnici i metode:

U razdoblju od 2012-2022 godine pronašli smo dva pacijenta (u dobi od 12 i 7 godina) sa genetski dokazanim MEN 2b sindromom, koji su liječeni u Kliničkom bolničkom centru Zagreb. Oba pacijenta su klinički pregledana, napravljena je opsežna laboratorijska i radiološka obrada koje su detaljno dokumentirane. Kod oba pacijenta kirurški je odstranjena štitnjača.

### Rezultati:

Bolesnici su imali istaknute živce rožnice, nodularne promjene vjeđa, konjunktive, usna i jezika. Genetski je dokazana mutacija kodona 918 RET protoonkogena za koju se zna da je prisutna u 95% slučajeva MEN2b sindroma. Kod oba pacijenta serumski kalcitonin bio je povišen. Kirurško liječenje i histološka analiza potvrdili su medularni karcinom štitnjače (MTC). U jednog pacijenta dokazane su metastaze MTC u limfne čvorove vrata. Do sada obavljene pretrage ne pokazuju znakovne feokromocitoma, koji se može razviti u oko 50% bolesnika s MEN2b sindromom. Oba bolesnika imaju povišeni intraokularni tlak.

**Zaključak:**

Prikazani bolesnici su imali karakteristične očne znakove za MEN2b sindrom: istaknuti živci rožnice u čistoj stromi, višestruki submukozni neurinomi konjunktive, kapaka, usana i jezika. Oftalmolozi imaju ključnu ulogu u prepoznavanju ovih znakova, budući da rana dijagnoza medularnog karcinoma štitnjače i feokromocitoma može bolesnicima spasiti život.

**Title:**

Multiple endocrine neoplasia type IIB –the role of ophthalmologist

**Authors:**

Sanja Perić, Marija Barišić Kutija, Martina Galot Delić

**Institution:**

University Hospital Centre Zagreb, Department of Ophthalmology, University of Zagreb School of Medicine, University Hospital Centre Zagreb

**Aim:**

Multiple endocrine neoplasia type 2B (MEN2B) is a rare, but often fatal, hereditary autosomal-dominant cancer syndrome, caused by activating germline mutations in the RET proto-oncogene (M918T in about 95% of patients with MEN2B). Improved awareness of the early non-endocrine signs of multiple endocrine neoplasia type 2B could lead to earlier diagnosis before the development of medullary thyroid cancer and possibly its metastasis. The prevalence of MEN 2B is estimated between 1 in 600,000 to 1 in 4 million. We aim to present patients with multiple endocrine neoplasia (MEN) type IIb diagnosed by ophthalmologists based on characteristic ophthalmic findings.

**Patients and methods:**

Patients with MEN 2B syndrome were treated at University Hospital Centre Zagreb in the period from 2012 to 2022. During that period, we found 2 patients aged 12 and 7 years confirmed as MEN 2B on genetic testing. Both patients were clinically examined, and a detailed records of symptoms, researches and procedures undertaken, as well as family history were obtained and confirmed with medical documentation.

**Results:**

The patients had prominent corneal nerves, eyelid, conjunctival, lip, and tongue nodules; and a characteristic facies. Molecular genetic studies detected in two patients a mutation at codon 918 of the RET proto-

oncogene known to be present in 95% of the cases of MEN type IIB. In both of them serum calcitonin was elevated. Surgical treatment and histologic analysis confirmed medullary thyroid carcinoma (MTC). In one patient, surgical exploration revealed the MTC to be metastatic in the lymph nodes of the neck. The tests performed so far show no signs of pheochromocytoma, which can develop in about 50% of patients with MEN2b syndrome. Both patients have elevated IOP

**Conclusion:**

The patients demonstrate the characteristic findings of MEN type IIB: prominent corneal nerves in a clear stroma and multiple submucosal neuromas of the conjunctiva, eyelids, lips, and tongue. Ophthalmologists have a critical role to play in recognizing these signs, because the early diagnosis of medullary thyroid carcinoma and pheochromocytoma may be life saving.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Sanja

**Ime i prezime / First and Last Name:-Last**

Peric

**Ustanova / Institution:**

University Hospital Centre Zagreb, Department of Ophthalmology, University of Zagreb School of Medicine, University Hospital Centre Zagreb

### 3. Kristina Lončarić

**Naslov:**

Promišljanje izvan knjiga - [www.glaukom.hr](http://www.glaukom.hr): suvremeno rješenje za optimalno i efikasno zbrinjavanje pacijenata s glaukomom

**Autori:**

Kristina Lončarić, Božidar Ševo

**Ustanova:**

Klinički bolnički centar Sestre Milosrdnice, Dares Core d.o.o.

**Cilj:**

Prezentirati web stranicu [www.glaukom.hr](http://www.glaukom.hr) kojoj je cilj poboljšati skrb za pacijente s glaukomom

**Bolesnici i metode:**

Motivirani slučajevima neoptimalnog, ponekad i pogrešnog propisivanja antiglaukomske terapije, otežanog snalaženja u velikom broju novih spoznaja i terapijskih opcija, te inspirirani današnjim tehnološkim dostignućima izradili smo web stranicu [www.glaukom.hr](http://www.glaukom.hr) kao sveobuhvatno rješenje za sve dionike kojih se dotiče glaukom: liječnike, pacijente, osiguravajuće kuće i proizvođače lijekova.

**Rezultati:**

Web stranica se sastoji od dijelova:

1. „Dijagnostički alati“ (OHTS kalkulator, klasifikacije gonioskopije, kalkulatori za izračun ciljnog tlaka).
2. „Terapija“ je alat za optimalan odabir lijeka. Ova jedinstvena funkcionalnost temelji se na smjernicama Europskog glaukomskeg društva i HALMED popisu lijekova prisutnih na hrvatskom tržištu. Liječnik jednostavno i brzo klikom na opcije sučelja, koje sadrži stanja i bolesti koje se moraju razmotriti u odabiru lijeka, dobiva ponudu lijekova koji nisu kontraindicirani za dotičnog pacijenta u preglednom prikazu koji omogućava usporedbu lijekova te njihovo daljnje sortiranje i filtriranje ovisno o pacijentovim preferencama i potrebama, čime je odabir lijeka optimalan i personaliziran svakom pojedinom pacijentu.
3. „Glaukom info“ namijenjen objavljivanju novosti te edukativnih sadržaja za liječnike i za pacijente u svrhu povećanja spoznaja i svijesti o glaukomu.

**Zaključak:**

Zaključak: Interdisciplinarna suradnja rezultirala je inovativnim rješenjem - web stranicom kojom stremimo pomoći svim dionicima da postignu zajednički cilj: poboljšati ishode u pacijenata s glaukomom, optimalno i efikasno.

**Title:**

Thinking outside the book – [www.glaukom.hr](http://www.glaukom.hr): a modern solution for optimal and efficient glaucoma management.

**Authors:**

Kristina Lončarić, Božidar Ševo

**Institution:**

Sestre Milosrdnice University Hospital Center

**Aim:**

To present a website [www.glaukom.hr](http://www.glaukom.hr) with a mission to improve the management of glaucoma patients.

**Patients and methods:**

Motivated by cases of non-optimal, sometimes even erroneous glaucoma drug prescriptions, difficulties in coping with the expansion of the body of knowledge and therapeutic options, and inspired by the current technological possibilities we created a website [www.glaukom.hr](http://www.glaukom.hr) as a comprehensive go-to website for all stakeholders dealing with glaucoma: doctors, patients, health insurance companies and pharmaceutical industry.

**Results:**

The website consists of:

1. „Diagnostic tools“ section (the OHTS calculator, gonioscopy classification, target intraocular pressure calculators)
2. „Therapy“ section is the optimal drug choice tool. This unique feature is based on the European Glaucoma Society Guidelines for glaucoma and enriched with HALMED information regarding glaucoma medications registered in Croatia. After rapidly and straightforwardly ticking the relevant options of the multi-choice interface, which takes into account all important considerations when choosing a glaucoma drug, the doctor gets results of applicable drugs on the market in a table comparison fashion



n which can be further sorted and filtered regarding patient's preferences, thus making a personalized and optimal drug choice.

3. „Glaucoma info“ section is a hub for glaucoma news, medical education and patient-oriented information intended to raise knowledge and awareness of glaucoma.

**Conclusion:**

Conclusion: Interdisciplinary collaboration resulted in a novel solution - a website that strives to help all glaucoma stakeholders to reach their common goal: improving glaucoma patient care, optimally and efficiently.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

KRISTINA

**Ime i prezime / First and Last Name:-Last**

LONČARIĆ

**Ustanova / Institution:**

Klinički bolnički centar Sestre Milosrdnice

## 4. Ana Srdoč

### Naslov:

Prikaz slučaja: Demijelinizacijski optički neuritis koji nije multipla skleroza

### Autori:

Ana Srdoč, dr. med; Sara Tibauth dr. med, Tamara Mišljenović Vučerić, dr. med; prof.dr.sc. Tea Čaljkušić - Mance, dr. med.

### Ustanova:

Klinički bolnički centar Rijeka, Klinika za oftalmologiju

### Cilj:

Optički neuritis je upala očnog živca. Upalom može biti zahvaćen intrabulbarni ili retrobulbarni dio vidnog živca kod koje je papila normalnog izgleda. Retrobulbarni optički neuritis često se po vezuje s multiplom sklerozom, te može biti prva manifestacije bolesti.

### Bolesnici i metode:

Pacijentica, starosti 22 godine, javlja se na Kliniku za očne bolesti KBC Rijeka radi pada vidne ošt rine i bolova u lijevom oku. Postavlja se sumnja na optički neuritis lijevog oka, te se pacijentica u pućuje na daljnju laboratorijsku i radiološku obradu.

### Rezultati:

MR mozga pokazao je lezije bijele tvari i lijevog optičkog živca koje su odgovarale demijelinizaciji te ispunjavale McDonaldove kriterije za multiplu sklerozu. S druge strane, učinjena lumbalna p unkcija bila je potpuno uredna, odnosno u cerebrospinalnom likvoru nije bilo elemenata koji bi ukazivali na multiplu sklerozu.

### Zaključak:

Najčešći uzrok demijelinizacijskih promjena na mozgu je multipla skleroza. Prilikom postavljanja dijagnoze treba misliti i na druge autoimune bolesti koje mogu uzrokovati demijelinizacijske lez ije mozga i kralježničke moždine, a mogu se prezentirati optičkim neuritisom.

### Title:

Demyelinating optic neuritis other than multiple sclerosis

**Authors:**

Ana Srdoč, MD; Sara Tibauth, MD; Tamara Mišljenović Vučerić, MD; prof.dr.sc. Tea Čaljkušić - Manca, MD

**Institution:**

Clinical Hospital Center Rijeka, Department of Ophthalmology

**Aim:**

Optic neuritis is an inflammation of the optic nerve. It can affect intrabulbar or retrobulbar part of the optic nerve with normal optic disc appearance. Retrobulbar optic neuritis is usually associated with multiple sclerosis and it can be the first manifestation of the disease.

**Patients and methods:**

22 year old patient came to Clinical Hospital Center Rijeka due to vision loss and pain in the left eye. Optic neuritis was suspected and the patient was referred for further laboratory and radiological treatment.

**Results:**

Magnetic resonance imaging of the brain showed demyelinating lesions of the white matter and left optic nerve which met McDonald's criteria for multiple sclerosis. On the other side, the performed lumbar puncture was completely normal and there were no elements in cerebrospinal fluid that would indicate multiple sclerosis.

**Conclusion:**

The most common cause of demyelinating changes of the brain is multiple sclerosis. Other autoimmune diseases, which sometimes lead to demyelinating lesions of the brain and spinal cord, may present with optic neuritis and should be considered when making the diagnosis.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ana

**Ime i prezime / First and Last Name:-Last**

Srdoč

**Ustanova / Institution:**

Klinički bolnički centar Rijeka/ Clinical Hospital Center Rijeka

## 5. Marin Radmilović

### Naslov:

Bilateralna očna toksokarijaza komplicirana obostranom fovealnom koroidnom neovaskularizacijom

### Autori:

Marin Radmilović, Ivan Jerković, Jelena Škunca Herman, Biljana Andrijević Derk, Zoran Vatavuk

### Ustanova:

Klinika za očne bolesti, Klinički bolnički centar Sestre milosrdnice, Zagreb, Hrvatska

### Cilj:

Prikaz slučaja bilateralne očne toksokarijaze komplicirane obostranom fovealnom koroidnom neovaskularizacijom

### Bolesnici i metode:

Djevojka u dobi 14 godina upućena je na našu kliniku radi daljnje obrade i liječenja suspektnog bilateralnog panuveitisa. Subjektivno se tada žalila na progresivno pogoršavanje vida u prethodnih godinu dana, uz povremene blage bolove i crvenilo očiju, liječena u jednom navratu topičkom kombinacijom kortikosteroida i antibiotika pod dijagnozom konjunktivitisa. Pregledom su otkriveni znakovi bilateralnog intermedijarnog uveitisa s upalnim precipitatima na rožnici, opsežnim stražnjim sinehijama, blagim do umjerenim edemom glave vidnog živca i obostranim solitarnim bijelim lezijama u fovei. Nalazom optičke koherentne tomografske angiografije i fluoresceinske angiografije utvrđena je obostrana prisutnost i aktivnost subfovealne koroidne neovaskularne membrane. Sustavnom obradom pronađeni su povišeni IgM i IgG titri na *Toxocara* spp., uz isključenje alternativne infektivne ili upalne etiologije. Provedeno je liječenje sistemskim i topičkim kortikosteroidima te topičkim nesteroidnim protuupalnim lijekovima, kao i specifično liječenje usmjereno na *Toxocara* spp. Sekundarne fovealne koroidne neovaskularizacije tretirane su intravitrealnim aplikacijama aflibercepta.

### Rezultati:

Na provedeno liječenje došlo je do regresije uvealne upale te do zadovoljavajućeg odgovora koroidnih neovaskularnih membrana na anti-VEGF terapiju, uz popravak najbolje korigirane vidne oštine s 0.8 na 0.7 LogMAR jedinica na oba oka.

**Zaključak:**

Opisujemo neobičan slučaj bilateralnog Toxocara uveitisa sa obostranom fovealnom koroidnom neovaskularizacijom. Očna toksokarijaza se obično manifestira unilateralno, ali je bilateralna bolest moguća. Sekundarne koroidne neovaskularne membrane javljaju se kao komplikacija korioretinalnih granuloma, koji su tipičan nalaz u očnoj toksokarijazi, ali se mogu razviti i u slučajevima intermedijarnog ili prednjeg uveitisa bez prethodno vidljivih korioretinalnih lezija.

**Title:**

A case of bilateral ocular toxocariasis with foveal choroidal neovascularization

**Authors:**

Marin Radmilović, Ivan Jerković, Jelena Škunca Herman, Biljana Andrijević Derk, Zoran Vataavuk

**Institution:**

Department of Ophthalmology, Sestre milosrdnice University Hospital Center, Zagreb, Croatia

**Aim:**

We report an unusual case of bilateral ocular toxocariasis presenting with foveal choroidal neovascularization.

**Patients and methods:**

A 14-year-old girl was referred to our clinic for further management of suspected bilateral panuveitis. At the time of referral, she had been experiencing a progressively worsening vision over the previous year, along with occasional mild ocular pain and hyperemia, treated at one point with topical steroid/antibiotic combination for presumed conjunctivitis. She presented with signs of bilateral intermediate uveitis with keratic precipitates, extensive posterior synechiae, mild-to-moderate optic disc edema, and with bilateral solitary whitish foveal lesions. Optical coherence tomography angiography and fluorescein angiography verified subfoveal choroidal neovascular membranes. Systemic workup revealed positive IgM and IgG titers for Toxocara spp., and excluded alternative infectious or inflammatory etiology. The patient was treated with systemic and topical steroids and with topical NSAIDs for the inflammation, as well as with specific medication for Toxocara spp. The secondary foveal choroidal neovascularizations were treated with intravitreal aflibercept applications.

**Results:**

The specific treatment applied according to the systemic workup data resulted in regression of uveal inflammation, and choroidal neovascular membranes responded well to the anti-VEGF therapy, with BCVA improving from 0.8 to 0.7 LogMAR in both eyes.

**Conclusion:**

We report an unusual case of bilateral Toxocara uveitis with foveal choroidal neovascularization . Ocular toxocariasis usually presents unilaterally, but bilateral involvement, however rare, is possible. Secondary choroidal neovascular membranes have been documented to complicate chorioretinal granulomas, which are a typical finding in ocular toxocariasis, but can also develop in cases of intermediate or anterior uveitis without apparent previous chorioretinal lesions.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA UVEA-u / Uvea section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Marin

**Ime i prezime / First and Last Name:-Last**

Radmilović

**Ustanova / Institution:**

Klinika za očne bolesti, Klinički bolnički centar Sestre milosrdnice

## 6. Čaljkušić-Mance Tea

### **Naslov:**

Bilateralni periferni ishemični retinalni vaskulitis kod djeteta-prikaz slučaja

### **Autori:**

Čaljkušić-

Mance Tea, Mišljenović Vučerić Tamara, Alpeza Dunato Zvezdana, Pelčić Goran, Novak Maja, Šimić Tin, Thibaut Sara

### **Ustanova:**

KBC Rijeka

### **Cilj:**

Prikazati rijedak slučaj idiopatskog bilateralnog retinalnog vaskulitisa kod djeteta te domete trogodišnje kontrole kronične bolesti paletom dostupnih terapijskih opcija.

### **Bolesnici i metode:**

Prikaz slučaja: Retrospektivni prikaz slučaja jedanaestogodišnje djevojčice koja je prije 3 godine u pratnji roditelja došla na našu Kliniku s evidentnim padom oštine na oba oka, predominantno na desnom na kojem je zabilježena vidna oština mahanje ruke, a na lijevom 0.9 kod prethodno zdravog djeteta čija je vidna oština na oba oka ranije bila 1.0. Nakon provedenih opsežnih dijagnostičkih pretraga postavljena je dijagnoza idiopatskog bilateralnog retinalnog vaskulitisa. Tijekom tri godine liječenja paletom dostupnih terapijskih opcija (laserska fotokoagulacija retine, anti-

VEGF vitrealne injekcije, oralni kortikosteroidi, imunomodulatorni lijekovi) uspjeli smo očuvati vidnu oštrinu oba oka od 1.0 unatoč povremenim pogoršanjima s vitrealnim krvarenjem prilikom smanjivanja doze oralnih kortikosteroida.

### **Rezultati:**

Tijekom trogodišnjeg liječenja uspjelo nam je održati zadovoljavajuću vidnu oštrinu od 1.0 na oba oka, savladati neovaskularizacije, a pojava epiretinalne membrane za sada ne remeti arhitekturu makule.



**Zaključak:**

Vaskulitis koji je liječen agresivnom protuupalnom i imunomodulatornom terapijom rezultira povoljnim vidnim ishodom.

**Title:**

Bilateral peripheral ischaemic retinal vasculitis in a child-case report

**Authors:**

Čaljkušić-

Mance Tea, Mišljenović Vučerić Tamara, Alpeza Dunato Zvezdana, Pelčić Goran, Novak Maja, Šimić Tin, Thibaut Sara

**Institution:**

University Hospital Rijeka

**Aim:**

Present a rare case of idiopathic bilateral retinal vasculitis in a child and reach three years of chronic disease control with a range of available therapeutic options.

**Patients and methods:**

Case report: A retrospective case report of an 11-year-old girl who, 3 years ago, accompanied by her parents, came to our Clinic with an evident visual loss in both eyes, predominantly on the right. Visual acuity of the hand movement was recorded in the right eye and on the left was 0.9 in a previously healthy child whose visual acuity in both eyes was previously 1.0. After conducting extensive diagnostic tests, the diagnosis of idiopathic bilateral retinal vasculitis was made. During three years of treatment with a range of available therapeutic options (laser photocoagulation of the retina, anti-VEGF vitreal injections, oral corticosteroids, immunomodulatory drugs) we were able to preserve the visual acuity of both eyes of 1.0 despite occasional deterioration with vitreal bleeding when reducing the dose of oral corticosteroids.

**Results:**

During three years of treatment, we managed to maintain a satisfactory visual acuity of 1.0 in both eyes, to master neovascularizations, and the appearance of the epiretinal membrane so far does not disturb the architecture of the macula.

**Conclusion:**

Vasculitis who was treated with aggressive anti-inflammatory and immunomodulatory therapy resulting in a favorable visual outcome.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA UVEA-u / Uvea section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Tea

**Ime i prezime / First and Last Name:-Last**

Čaljkušić-Mance

**Ustanova / Institution:**

KBC Rijeka

## 7. Bože Mihaljević

### **Naslov:**

ABCD sustav stupnjevanja keratokonusa - praćenje progresije keratokonusa u pedijatrijskoj populaciji

### **Autori:**

Mihaljevic B. 1, Krolo I. 2, Vatavuk Z. 1

### **Ustanova:**

Klinički bolnički centar Sestre milosrdnice, Zagreb, Hrvatska, 2 Optical Express Group, Zagreb, Hrvatska

### **Cilj:**

Prikazati i ocijeniti ABCD sustav stupnjevanja keratokonusa na Pentacamu u praćenju progresije keratokonusa u pedijatrijskoj populaciji s dijagnostičiranim keratokonusom.

### **Bolesnici i metode:**

ABCD sustav stupnjevanja keratokonusa uključuje podatke o prednjoj i stražnoj zakrivljenosti rožnice dobivene u zoni od 3 mm u središtu najtanje točke (A i B), najtanja vrijednost pahimetrije (C) i najbolje dobivene vidne oštine (D). Retrospektivna kohortna analiza cjelokipne pedijatrijske populacije s keratokonusom praćena je u KBC- u Sestre milosrdnice između 2020. i 2021. godine. ABCD stupnjevanje je uspoređeno između pacijenata kojima je bilo potrebno učiniti cross linking s onima kojima nije. Uključena su oba oka pacijenata.

### **Rezultati:**

Analizirano je 14 očiju sedmero djece. Prosječna dob bila je  $15,15 \pm 2,36$  godina. Kod šest očiju zabilježena je progresija keratokonusa i proveden je cross linking rožnice (CXL skupina). Na prezehtaciji stabilna i CXL skupina se nisu značajno razlikovale u svojim kliničkim parametrima. U CXL skupini uočen je statistički značajan porast u ABCD stupnjevanju ( $p < 0.001$ ). U stabilnoj skupini ABCD stupnjevanje nije pokazalo statistički značajne razlike pri praćenjima ( $p = 0.77$ ). Povećanje o d jednog boda u ukupom broju ABCD pokazalo je pet puta veći rizik podvrgavanju CXL- u (odds ratio = 5.28; 95% CI, 1.72-15.30). Nije bilo značajnih promjena u Amsler-Krumeich klasifikaciji u CXL skupini.

**Zaključak:**

ABCD sustav stupnjevanja vrlo je koristan alat za rano otkrivanje progresije bolesti u pedijatrijskoj populaciji, u kojoj je rano prepoznavanje od iznimne važnosti. U usporedbi s Amsler-Krumeichovom klasifikacijom gdje nije uočena značajna promjena, ABCD sustav stupnjevanja je povezan s progresijom bolesti.

**Title:**

The ABCD Keratoconus Grading System - a keratoconus progression monitoring in pediatric population

**Authors:**

Mihaljevic B. 1, Krolo I. 2, Vataavuk Z. 1

**Institution:**

1. University Hospital Center Sestre milosrdnice, Zagreb, Croatia; 2. Optical Express Group, Zagreb, Croatia

**Aim:**

The aim of this study is to show and evaluate ABCD Keratoconus grading system on Pentacam in the monitoring of keratoconus progression in pediatric population with keratoconus.

**Patients and methods:**

The ABCD keratoconus grading system incorporates data regarding the anterior and posterior curvature obtained at a 3-mm zone centered on the thinnest point (A and B), the thinnest pachymetry value (C), and BCVA (D). A retrospective cohort analysis of all pediatric population with keratoconus followed up in University Hospital Center Sestre milosrdnice between 2020 and 2021. The ABCD grading was compared between patients who required cross linking with those who did not. A both eyes of each patient was included.

**Results:**

Fourteen eyes of 7 children were analyzed. The mean age at presentation was  $15.15 \pm 2.36$  years. In 6 eyes, progression of keratoconus was recorded and cross linking was performed (CXL-group). On presentation, the stable and CXL groups did not differ significantly in their clinical pa

rameters. In the CXL-group, a statistically significant increase was seen in the ABCD staging ( $P < 0.001$ ). In the stable group, the ABCD staging did not change significantly in parallel visits ( $P = 0.77$ ). An increase of 1 point in the sum of the ABCD staging showed a 5-fold risk for undergoing CXL (odds ratio = 5.28; 95% CI, 1.72–15.30). There was no significant change in the Amsler–Krumeich classification in the CXL group.

**Conclusion:**

The ABCD grading system is a very useful tool for early detection of disease progression in the pediatric population, in which early recognition is of main importance. In comparison with old Amsler–Krumeich classification where no significant change was showed, worsening in the ABCD grading system is associated with disease progression

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJAU ZA KONTAKTOLOGIJU / Contactology section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Boze

**Ime i prezime / First and Last Name:-Last**

Mihaljevic

**Ustanova / Institution:**

University Hospital Center Sestre milosrdnice

## 8. Maja Malenica Ravlić

### Naslov:

DISTIROIDNA ORBITOPATIJA I RESTRIKTIVNI STRABIZAM - SERIJA SLUČAJEVA

### Autori:

Maja Malenica Ravlić, Jelena Škunca Herman, Lana Knežević, Zoran Vataavuk

### Ustanova:

Klinika za očne bolesti, Klinički bolnički centar Sestre milosrdnice

### Cilj:

Cilj rada je prikazati uspjeh operativnog liječenja kod serije pacijenata s restriktivnim strabizmom kao posljedicom distiroidne orbitopatije.

### Bolesnici i metode:

U rad je uključena serija od 13 pacijenata operiranih zbog strabizma nastalog u sklopu distiroidne orbitopatije tijekom 2019.g. u Kliničkom bolničkom centru Sestre milosrdnice. Preoperativno i 4 mjeseca postoperativno je učinjeno: ispitivanje vidne oštine, mjerenje kuteva škiljenja na daljinu i na blizinu, ispitivanje bulbomotorike, stupanj binokularnog vida, Bagolini test. Osim na navedenih pretraga analizirana je ranije provedena terapija bolesti distiroidne orbitopatije, anamnestički podaci o početku javljanja i vrsti dvoslike. Operacija strabizma je učinjena nakon najmanje 6 mjeseci remisije bolesti distiroidne orbitopatije. Operativni zahvat je kod svih pacijenata učinjen u općoj anesteziji standardnom operativnom metodom slabljenja ekstraokularnih ravnih mišića.

### Rezultati:

Serijski slučajevi uključili su 13 pacijenata (8 žena, 5 muškaraca), prosječne životne dobi od 57 godina.

Svi pacijenti preoperativno su imali ograničenje bulbomotorike uz prisutnost dvoslike: 46% pacijenata je imalo horizontalnu, 39% pacijenata vertikalnu, a 15% pacijenata kosu dvosliku.

Poboljšanje stupnja binokularnog vida zamijećeno je kod 8 pacijenata, a 3 pacijenata su bili ambliopi od djetinjstva bez mogućnosti uspostavljanja fine stereopsije postoperativno.

U 85% pacijenata nije bio potreban dodatni operativni zahvat niti prizmatska korekcija, a kod 15% pacijenata je bio potreban dodatni operativni zahvat.

### Zaključak:

Standardna operativna metoda slabljenja ekstaokularnih mišića se pokazala kao uspješna metoda liječenja strabizma kod bolesnika s distiroidnom orbitopatijom.

**Title:**

DYSTYROID ORBITOPATHY AND RESTRICTIVE STRABISM – CASE SERIES

**Authors:**

Maja Malenica Ravlić, Jelena Škunca Herman, Lana Knežević, Zoran Vataavuk

**Institution:**

Department of Ophthalmology, University Hospital Center Sestre milosrdnice

**Aim:**

The aim of this case series is to present the success of surgical treatment in a series of patients with restrictive strabismus as a result of dystrophic orbitopathy.

**Patients and methods:**

A case series of 13 patients operated on for strabismus caused by dystrophic orbitopathy during 2019 is included in the study. at the Clinical hospital centre Sestre milosrdnice. Preoperatively and 4 months postoperatively we performed: examination of visual acuity, measurement of squinting angles at a distance and at near, examination of bulbomotor skills, binocular vision, Bagolini test. In addition to the tests mentioned above we researched the previously performed therapy of dystyroid orbitopathy and we analyzed the anamnestic data on the onset and type of double vision. Strabismus surgery was performed after at least 6 months of remission of dystyroid orbitopathy. In all patients, the operation was performed under general anesthesia by the standard operative method of weakening extraocular right muscles.

**Results:**

The case series included 13 patients (8 women, 5 men), with an average age of 57 years. All patients preoperatively had a deficit in bulbomotoric motility and had presence of double vision: 46% of patients had horizontal, 39% of patients had vertical, and 15% of patients had oblique double vision. Improvement in the degree of binocular vision was observed in 8 patients, and 3 patients had amblyopia since childhood without the possibility of establishing fine stereopsis postoperatively. 85% of patients did not require additional surgery or prismatic correction, and 15% of patients required additional surgery.

**Conclusion:**

The standard operative method of exocular muscle weakening has proven to be a successful method of treating strabismus in patients with dystyroid orbitopathy.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Maja

**Ime i prezime / First and Last Name:-Last**

Malenica Ravlić

**Ustanova / Institution:**

Klinički bolnički centar Sestre milosrdnice



## 9. Rašeljka Tadić

### **Naslov:**

Perimetrijske strategije za uspješnije plesanje kod „floor effect“ fenomena.

### **Autori:**

Rašeljka Tadić, Mia Zorić Geber, Katia Novak-Lauš, Zoran Vatavuk

### **Ustanova:**

Klinika za očne bolesti, Klinički bolnički centar Sestre milosrdnice

### **Cilj:**

Cilj ove prezentacije je prikazati trenutno dostupne perimetrijske strategije uspješnijeg otkrivanja i progresije kod pacijenata sa uznapredovalim glaukomom kao i korisnosti implementacije istih u svakodnevnu kliničku praksu.

### **Bolesnici i metode:**

pregled dostupne publicirane literature kao i dostupnih tehnoloških noviteta koje se koriste u dijagnosticiranju glaukoma.

### **Rezultati:**

Različite studije procjenjuju da se trećina do četvrtina novootkrivenih glaukopskih pacijenata nalazi u uznapredovalom stadiju u trenutku otkrivanja bolesti. Istraživanja pokazuju da je brzina progresije oštećenja vidnog polja 11.7 puta brža u očiju s većim početnim oštećenjima vidnog polja te da oko 70% očiju sa uznapredovalim glaukomom pokazuje progresiju unatoč liječenju. S obzirom da strukturne metode podliježu fenomenu „floor effect“, a uobičajeni perimetrijski testovi često daju nepouzdanu rezultate, otkrivanje progresije u takvim očima je vrlo izazovno. Novije perimetrijske strategije i pristupi pokazuju veću korisnost u praćenju takvih bolesnika. Studije sugeriraju da, iako je njihova konačna validacija još potrebna, imaju potencijal otkrivanja klinički značajne progresije s većom točnošću.

### **Zaključak:**

Recentna saznanja i prateće tehnološke mogućnosti mogu biti korisne u svakodnevnoj kliničkoj praksi za otkrivanje progresije u pacijenata sa uznapredovalim glaukomom.

**Title:**

Perimetry strategies for successful dancing on the “floor effect”

**Authors:**

Rašeljka Tadić, Mia Zorić Geber, Katia Novak-Lauš, Zoran Vataavuk

**Institution:**

Department of Ophthalmology, University Hospital Center Sestre milosrdnice

**Aim:**

The goal of this presentation is to show currently available perimetric strategies for detecting progression in advanced glaucoma patients and possible benefits of their incorporation into clinical practice.

**Patients and methods:**

Review of published current literature and available novelties in technologies in use.

**Results:**

Different studies estimate that one third to one quarter of newly diagnosed glaucoma patients have advanced disease in the time of diagnosis. Also, several studies have shown that the rate of deterioration was approximately 11.7 times faster in eyes with more advanced field loss at presentation and that 70% of the affected eyes had progressed after a mean of 7.6 years despite being treated. Detection of progression in such eyes is challenging due to low accuracy of structural thickness measurements that are subject to a “floor effect” and commonly used perimetric test is often unreliable. Different perimetric strategies and approaches show better utility in follow up those patients. Recent findings suggests that, even though further validation of these techniques is still required, they have potential of detecting clinically significant progression with better accuracy.

**Conclusion:**

Recent knowledge and subsequent modalities in available technologies could be beneficial in everyday clinical practice in detecting progression in advanced glaucoma.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Rašeljka

**Ime i prezime / First and Last Name:-Last**

Tadić

**Ustanova / Institution:**

Klinički bolnički centar Sestre milosrdnice

## 10. Tin Šimić

### Naslov:

Citomegalovirusni retinitis kod HIV negativnog pacijenta

### Autori:

Tin Šimić, Vedran Markušić, Tea Čakljušić Mance, Damir Kovačević, Tamara Paravić

### Ustanova:

Klinički bolnički cetar Rijeka

### Cilj:

Prikaz slučaja bilateralnog retinitisa uzrokovanim citomegalovirusom kod pacijenta bez faktora rizika za CMVR kao šta su HIV infekcija te primjena imunosupresivne terapije.

### Bolesnici i metode:

Prikaz slučaja 33-godišnjeg pacijenta koji se javlja na Kliniku za oftalmologiju zbog mutnijeg vida na oba oka, dom inantnije lijevog oka. Pacijent do obrade nije teže bolovao te negira primjenu kronične terapije. U tijeku obrade učini se kompletna oftalmološka obrada: fluoresceinska angiografija, optičku koherentna tomografija te se dokumentira fundus kamerom. Pacijent upućen na radiogram pluća, kompletnu laboratorijsku i serološku obradu te HLA tipizaciju.

### Rezultati:

Učinjenom oftalmološkom obradom postavi se dijagnoza retinitisa, sa sumnjom na retinitis uzrokovan CMV-om. Potvrda dijagnoze dobije se pozitivnim PCR testom na CMV DNA (detektira se 451 486 kopij a/mL) iz aspirata očne vodice. Učinjenom proširenom serološkom obradom isključi se HIV infekcija kao i drugi standardni uzročnici imunodeficijencije. Tijekom obrade kod pacijenta proveden a ciljana antimikrobna terapija valganciklovoriom te primjenom terapije dolazi do poboljšanja vi dne oštine i kliničke slike.

### Zaključak:

Retinitis uzrokovan citomegalovirusom (CMVR) klinički je opasno stanje kod kojeg dolazi do nekr oze pune debljine retine što za posljedicu ima stvaranje atrofičnog ožiljkastog tkiva retine. Ovim

prikazom slučaja želimo ukazati na važnost kompletne obrade kao i tipiziranje uzročnika retinitisa kako bi se mogla provesti ciljana terapija.

**Title:**

Cytomegalovirus retinitis in Non-HIV patient

**Authors:**

Tin Šimić, Vedran Markušić, Tea Čakljušić Mance, Damir Kovačević, Tamara Paravić

**Institution:**

Clinical Hospital Center Rijeka

**Aim:**

Case report of bilateral retinitis caused by cytomegalovirus in patients with no evident risk factors for CMVR, such as HIV infection or use of immunosuppressive therapy.

**Patients and methods:**

Case report of a 33 years old patient admitted at the Clinic of Ophthalmology at the Clinical Hospital Center Rijeka complaining of blurred vision in both eyes, dominating in the left eye. Patient has no prior medical history and denies the usage of any chronic therapy. During medical examination a complete ophthalmic examination was conducted, including: fluorescein angiography, optical coherence tomography, and fundus camera photography. Patient underwent further examinations: chest x-ray, complete blood and antibody serology examination and HLA typization.

**Results:**

After a full ophthalmic examination, retinitis caused by CMV was suspected. Diagnosis was confirmed after obtaining a positive PCR test on CMV DNA (451 485 copy/mL was detected) from aqueous humor aspirate. Conducting a further antibody serology examination HIV infection and other standard causes of immunodeficiency were excluded. During investigation specific valganciclovir antimicrobial therapy was applied which resulted in increased visual acuity and better clinical picture.

**Conclusion:**

Retinitis caused by cytomegalovirus (CMVR) is a dangerous condition which can result in retinal necrosis prompting the creation of atrophic retinal scar tissue. With this case report we want to bring forward the importance of a complete examination as well as retinitis causative agent typizations so that a specific therapy could be applied.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Tin

**Ime i prezime / First and Last Name:-Last**

Šimić

**Ustanova / Institution:**

Klinički bolnički centar Rijeka

## 11. Bože Mihaljević

### Naslov:

Utjecaj COVID-19 pandemije na postupke uzimanja očnih tkiva u tercijarnom očnom centru

### Autori:

Bože Mihaljević<sup>1</sup>, Iva Krolo<sup>1,3</sup>, Danijela Rac<sup>1</sup>, Ivan Sabol<sup>2</sup>, Ivana Radman<sup>1</sup>, Marin Radmilović<sup>1</sup>, Ivanka Petric-Vicković<sup>1</sup>, Zoran Vataavuk<sup>1</sup>

### Ustanova:

Klinički bolnički centar Sestre milosrdnice, Zagreb, Hrvatska, 2 Ruđer Bošković, Zagreb, Hrvatska, 3 Optical Express Group, Zagreb, Hrvatska

### Cilj:

Analiza učinaka koje je pandemija SARS CoV-2 imala na eksplantacije tkiva rožnica i postupke čuvanja u tercijarnim bolničkim ustanovama

### Bolesnici i metode:

Provedena je retrospektivna analiza svih postupaka koji čine eskplantaciju rožnica, uključujući broj umrli, potencijalnih darivatelja, pregledanih rožnica, dobijenih suglasnosti obitelji i samih eksplantacija. Podaci su prikupljeni u tercijarnom centru od siječnja 2018. do prosinca 2021. godine. Sve rožnice su uzete od osoba koje su upisane u državni registar darivatlja organa i uz odobrenje najbližih rođaka, kako bi se poštivale želje darivatelja.

### Rezultati:

Naša studija je pokazala smanjenje svih parametara vezanih za prikupljanje oćnog tkiva 2020. godine u usporedbi s dvije prethodne godine i godinom kasnije. Ukupan broj eksplantiranih rožnica u tom razdoblju je bio 329 kod "non-hart beating" (NHB) pacijenata i 55 kod "heart-beating" (HB). Broj NHB postupaka u 2020. je bio smanjen za 43.1%, 37.6% te 23.7% u odnosu na 2018., 2019. i 2021. godinu. Postupci kod HB darivatelja također su pokazali smanjenje u 2020. za 47.1%, 35.7% te za 40% u odnosu na 2018., 2019. i 2021. godinu. Uoćen je znaćajan pad ukupnog broja postupaka (NHB + HB) u 2020. godini u odnosu na 2018., 2019. i 2021. kako u razdoblju "lockdown-a" (od ožujka do svibnja) tako i u preostalim mjesecima (chi-square test, p=0.0006).

**Zaključak:**

Iako su i COVID-19 i ostale posljedične mjere dovele do zamjetnog smanjenja eksplantiranog očno tkiva tijekom 2020. godine, 2021. godine je uočen značajan porast zahvata, brojčano slično prepandemijskom vremenu. Naša studija preporučuje i naglašava pridržavanje propisanih proceduralnih preporuka Očne banke kako bi se smanjio potencijalni rizik prijenosa virusa tijekom operacije transplantacije rožnice.

**Title:**

Impact of COVID-19 pandemic on eye tissue harvesting procedures in a tertiary eye care center

**Authors:**

Bože Mihaljević<sup>1</sup>, Iva Krolo<sup>1,3</sup>, Danijela Rac<sup>1</sup>, Ivan Sabol<sup>2</sup>, Ivana Radman<sup>1</sup>, Marin Radmilović<sup>1</sup>, Ivanka Petric-Vicković<sup>1</sup>, Zoran Vataavuk<sup>1</sup>

**Institution:**

1 University Hospital Centre Sestre milosrdnice, Zagreb, Croatia 2 Ruđer Bošković Institute, Zagreb, Croatia 3 Optical Express, Zagreb

**Aim:**

To analyze the effect that SARS-CoV-2 pandemic had on harvesting of corneal tissue and eye banking procedures in a tertiary eye care center during the pandemic.

**Patients and methods:**

A retrospective analysis of all procedures constituting the ocular tissue harvesting was performed, including number of deaths, potential donors, screened corneas, obtained family consents, and explantation itself. The data was collected at a tertiary eye care center during period from January 2018 until December 2021. All corneas were recovered from individuals listed on state's organ donor registry and upon the authorization by a next of kin, ensuring that the donor's wishes are observed.

**Results:**

Our study showed a reduction in all ocular tissue harvesting-related parameters during 2020, compared to the two previous years and year later. Total number of harvesting tissues in that period was 329 of non-heart beating (NHB) and 55 Heart beating (HB) procedures. There was a 43.1%, 37.6% and a 23.



7% reduction in number of NHB procedures in 2020, compared to 2018, 2019 and 2021, respectively. HB procedures also showed a reduction in 2020, of a 47.1%, 35.7% and a 40%, compared to 2018, 2019 and 2021, respectively. A significant decrease was noticed in total number of both types of procedures (NHB and HB) in the year 2020, compared with 2018, 2019 and 2021, both in the lockdown period (from March to May) and during the non-lockdown months (chi-square test,  $p=0.0006$ ).

**Conclusion:**

Although both COVID-19 and mitigation measures have led to noticeable decrease in ocular tissue procurement during the year 2020, a significant increase of procedures was noticed in 2021, achieving numbers required during a pre-pandemic time. Our study strongly recommends following the Eye bank regulations to reduce the potential risk of viral transmission through corneal transplant surgery

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Boze

**Ime i prezime / First and Last Name:-Last**

Mihaljevic

**Ustanova / Institution:**

University Hospital Center Sestre milosrdnice

## 12. Aleksej Medić

### **Naslov:**

Ab externo versus ab interno XEN45 Gel Stent implantacija

### **Autori:**

Medić A., Čulina K., Ivanišević K, Jukić T

### **Ustanova:**

Poliklinika Medić Jukić

### **Cilj:**

Prikazati razlike u padu IOT i sigurnosnom profilu dviju metoda ugradnje Xen stenta

### **Bolesnici i metode:**

U studiju je uključeno 23 pacijenata sa glaukomom kod kojih je implantiran Xen stent

### **Rezultati:**

U ab externo grupi, nakon 12 mjeseci, prosječni pad IOT-  
a je bio  $11.2 \pm 2.7$  mmHg, a u ab interno grupi  $8.7 \pm 1.8$  mmHg.  
Incidencija postoperativnog needling-  
a je bila viša u ab interno grupi u odnosu na ab externo grupu (38,1%; 19,8%).

### **Zaključak:**

Iako rezultati našeg istraživanja pokazuju viši pad IOT te niži postotak needling-  
a u ab externo grupi pacijenata smatramo da je potrebno provesti studiju na većem broju pacij  
enata

### **Title:**

Ab Externo Versus Ab Interno Implantation of the XEN45 Gel Stent

### **Authors:**

Medic A., Culna K., Ivanisevic K., Jukic T.

**Institution:**

Eye Clinic Medic Jukic

**Aim:**

To compare the safety and efficacy of two different techniques for implantation of the XEN Gel Stent

**Patients and methods:**

23 patients with glaucoma who underwent XEN45 implantation via ab externo or ab interno were enrolled in study

**Results:**

The ab externo group demonstrated a mean IOP reduction of  $11.2 \pm 2.7$  mmHg by 12 months, compared to a mean reduction of  $8.7 \pm 1.8$  mmHg in the ab interno group. Postoperative needling rates were higher in the ab interno group compared with the ab externo group (38.1% vs. 19.8%)

**Conclusion:**

There is a need for further studies that utilize a greater sample size to more definitively compare the safety and efficacy of the two approaches.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Aleksej

**Ime i prezime / First and Last Name:-Last**

Medić

**Ustanova / Institution:**

Poliklinika Medić Jukić

### 13. Marija Barišić Kutija

#### Naslov:

Utjecaj odabira različitih mjera ishoda na rezultate liječenja uveitisa u sklopu juvenilnog idiopatskog uveitisa

#### Autori:

Marija Barišić Kutija<sup>1</sup>, Nenad Vukojević<sup>1,2</sup>, Sanja Perić<sup>1,2</sup>, Petra Kristina Ivkić<sup>1</sup>, Martina Galot Delić<sup>1</sup>

#### Ustanova:

1 Klinički bolnički centar Zagreb, Klinika za očne bolesti; 2 Sveučilište u Zagrebu, Medicinski fakultet

#### Cilj:

Različit odabir mjera ishoda za prikaz rezultata o učinkovitosti imunomodulacijske terapije (IMT) u bolesnika s uveitisom u sklopu juvenilnog idiopatskog artritisa (JIA-U) otežavaju usporedbu studija. Cilj nam je bio prikazati razliku između dobivenih razina učinkovitosti terapije na istom uzorku bolesnika s JIA-U ovisno o odabranim ishodima.

#### Bolesnici i metode:

Longitudinalna opservacijska studija s JIA-U pacijentima liječenim IMT-om provedena je u KBC-u Zagreb u razdoblju od 2011. do 2018. godine. Uključeno je 38 pacijenata (69 očiju) s JIA-U u dobi od 2 do 15 godina.

#### Rezultati:

Rezultati učinkovitosti IMT-a prikazani su prema potrebi za topikalnim kortikosteroidima (TKS) i postignutom stupnju upale u prednjoj očnoj sobici (POS). Rezultati dobre kontrole JIA-U u određenim vremenskim točkama bili su povoljni, ali različiti ovisno o odabranim kriterijima i shoda. Kontrola bolesti postignuta je u 60-90% bolesnika s JIA-U u 12. mjesecu praćenja, ovisno o odabranim mjerama ishoda (stupanj upale 0 i 0 TKS u 60%, stupanj 0 i ≤ 2 TKS u 75 %, stupanj ≤ 0,5+ i ≤ 2 TKS doze u 90 %). Slična razlika pokazala se u 48. mjesecu praćenja (stupanj upale 0 i 0 TCS u 50%, stupanj 0 i ≤ 2 TCS u 61,1%, stupanj ≤ 0,5+ i ≤ 2 TCS doza u 100%).

**Zaključak:**

U našem istraživanju rezultati liječenja tijekom praćenja uvelike ovise o odabranim mjerama ishoda. Postavljanje različitih kriterija u studijama učinkovitosti lijekova u JIA-U može dovesti do povoljnijeg ishoda. Postoji potreba za preciznijim preporukama za izvješćivanja o mjerama ishoda i prikazu rezultata u JIA-U.

**Title:**

The influence of selecting variable outcome measures for juvenile idiopathic arthritis-associated uveitis on treatment results

**Authors:**

Marija Barišić Kutija<sup>1</sup>, Nenad Vukojević<sup>1,2</sup>, Sanja Perić<sup>1,2</sup>, Petra Kristina Ivkić<sup>1</sup>, Martina Galot Delić<sup>1</sup>

**Institution:**

1 University Hospital Centre Zagreb, Department of Ophthalmology; 2 University of Zagreb, School of Medicine

**Aim:**

Variabilities in selecting outcome measures for reporting results on the effectiveness of immunomodulatory therapy (IMT) in juvenile idiopathic arthritis associated uveitis (JIA-U) make it difficult to compare studies. We aimed to show the difference between obtained levels of therapy efficacy on the same sample of JIA-U patients depending on the selected outcomes.

**Patients and methods:**

The longitudinal observational study with JIA-U patients treated with IMT was conducted at University Hospital Centre Zagreb in the period from 2011 to 2018. We included 38 JIA-U patients (69 eyes) aged 2 to 15 years.

**Results:**

The results of the effectiveness of IMT are presented according to the need for topical corticosteroids (TCS) and achieved grade of inflammation in the anterior chamber (AC). The results of good JIA-U control at specific time points were favorable, but different depending on outcome criteria selected. Disease control was achieved in 60-90% JIA-U patients in the 12th month of follow-

up, depending on the selected outcome measures (AC inflammation grade 0 and 0 TCS in 60%, grade 0 and  $\leq 2$  TCS in 75 %, grade  $\leq 0.5+$  and  $\leq 2$  TCS dose in 90 %). Similar difference was shown in 48th month of follow-

up (AC inflammation grade 0 and 0 TCS in 50%, grade 0 and  $\leq 2$  TCS in 61.1%, grade  $\leq 0.5+$  and  $\leq 2$  TCS dose in 100 %).

**Conclusion:**

In our study the results of treatment outcomes during follow-up largely depend on the selected outcome measures. Therefore, setting different limits for the specific study can lead to a more favorable outcome. There is a need for more precise recommendations for reporting outcome measures in JIA-U.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Marija

**Ime i prezime / First and Last Name:-Last**

Barišić Kutija

**Ustanova / Institution:**

KBC Zagreb, Klinika za očne bolesti; University Hospital Centre Zagreb, Department of Ophthalmology; University of Zagreb, School of Medicine

## 14. Ivan Škegro

### **Naslov:**

Povezanost operacije katarakte s kvalitetom spavanja

### **Autori:**

Ivan Škegro, Miro Kalauz, Tomislav Kuzman, Sanja Masnec, Rajko Kordić

### **Ustanova:**

Klinički bolnički centar Zagreb

### **Cilj:**

Ustanoviti da li operacija mrežne utječe na kvalitetu spavanja

### **Bolesnici i metode:**

Samoispitivanje pomoću Pitsburškog upitnika za procjenu kvalitete spavanja kod 200 bolesnika koji će ići na operaciju mrežne

### **Rezultati:**

Ustanovilo se da postoji statistički značajna razlika u kvaliteti spavanja prije i poslije operacije katarakte.

### **Zaključak:**

Operacija katarakte poboljšava kvalitetu spavanja.

### **Title:**

Connection between cataract surgery and quality of sleep

### **Authors:**

Ivan Škegro, Miro Kalauz, Tomislav Kuzman, Sanja Masnec, Rajko Kordić

### **Institution:**

University hospital centre Zagreb

### **Aim:**



To determine whether cataract surgery affects sleep quality

**Patients and methods:**

Self assessment using the Pittsburgh Sleep Quality Index questionnaire in 200 patients undergoing cataract surgery

**Results:**

There was a statistically significant difference in sleep quality before and after cataract surgery.

**Conclusion:**

Cataract surgery improves the quality of sleep.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ivan

**Ime i prezime / First and Last Name:-Last**

Škegro

**Ustanova / Institution:** Klinički bolnički centar Zagreb

## 15. Robert Stanić

### **Naslov:**

Ultrazvučne biomikroskopske kratkotrajne i dugoročne karakteristike duboke sklerektomije bez skleralnog implantata

### **Autori:**

Robert Stanić, Martina Paradžik Šimunović

### **Ustanova:**

Očna klinika, KBC Split, Hrvatska

### **Cilj:**

Procijeniti anatomske karakteristike, kratkoročne i dugotrajne mehanizme snižavanja intraokularnog tlaka (IOT) kod duboke sklerektomije (DS) bez skleralnog implantata primjenom ultrazvučne biomikroskopije (UBM).

### **Bolesnici i metode:**

Dvadeset jedno oko pacijenata s medicinski nekontroliranim glaukomom 1 mjesec do 10 godina nakon duboke sklerektomije proučavano je u opservacijskoj, uzastopnoj seriji slučajeva i podijeljeno u dvije skupine, kratkotrajnu (1-3 mjeseca postoperativno; n = 9) i dugotrajna skupina (1-10 postoperativnih godina; n = 12). Procijenjeni su parametri: preoperativni IOT, IOT prilikom ultrazvučne biomikroskopije, UBM izgled mjesta DS, veličina intraskleralnog jezera, prisutnost filtracijskog jastučića i suprahoroidalno hipoehogeno područje.

### **Rezultati:**

Očni tlak se značajno smanjio u obje skupine s  $26,8 \pm 9,5$  mmHg;  $26,25 \pm 8,3$  mmHg prije operacije do  $15,3 \pm 2,3$ ;  $16,2 \pm 2,5$  mmHg u vrijeme UBM. UBM je pokazao subkonjunktivalni prostor u 88% (n = 8) u kratkotrajnoj skupini i 33% (n = 4) u dugotrajnoj skupini. U svim očima uočena je intraskleralna šupljina bez statističke značajnosti srednjeg volumena između skupina ( $p > 0,05$ ); u kratkotrajnoj skupini srednji volumen bio je 1,82 (raspon 1,11–2,73) mm<sup>3</sup>, u dugotrajnoj skupini bio je 1,69 (raspon 0,36–3,73) mm<sup>3</sup>. Uočili smo hipoehogeno područje u suprahoroidalnom prostoru u 66% u kratkotrajnoj skupini i u 88% u dugotrajnoj skupini.

**Zaključak:**

UBM pregled pokazao je nekoliko puteva drenaže očne vodice. Formirana intraslekalna šupljina u svim UBM pregledima značila je trajnu filtraciju u svim očima. Preostala intraskleralna šupljina bila je usporediva po veličini nakon 1 mjeseca i nakon 10 godina postoperativno izostavljajući i potrebu za skleralnim implantom. Suprachoroidalno otjecanje uočeno je više u dugoročnim rezultatima (88%) u usporedbi sa 66% kod kratkoročne skupine ukazujući na adekvatno dugoročno stvaranje uveoskleralnih drenažnih puteva nakon duboke sklerektomije.

**Title:**

UBM short vs. long-term study of deep sclerectomy without scleral implant

**Authors:**

Robert Stanić, Martina Paradžik Šimunović

**Institution:**

Eye clinic, University hospital centre Split, Croatia

**Aim:**

To evaluate the anatomic characteristics, short and long term intraocular pressure (IOP) lowering mechanisms of deep sclerectomy (DS) without scleral implant using ultrasound biomicroscopy (UBM).

**Patients and methods:**

Twenty one eyes of patients with medically uncontrolled glaucoma 1 month to 10 years after deep sclerectomy were studied in an observational, consecutive case series and divided in two groups, short term (1-3 month postoperative; n=9) and long term group (1-10 years postoperative; n=12). Parameters were evaluated: preoperative IOP, IOP when UBM performed, UBM appearance of the site of DS, size of the intrascleral lake, presence of a filtering bleb and suprachoroidal hypoechoic area.

**Results:**

Intraocular pressure decreased significantly in both groups from  $26.8 \pm 9.5$  mmHg;  $26.25 \pm 8.3$  mmHg preoperatively to  $15.3 \pm 2.3$ ;  $16.2 \pm 2.5$  mmHg at the time of UBM. UBM demonstrated a subconjunctival space in 88% (n=8) in short term group and 33% (n=4) in long term group. In all eyes an intrascleral cavity was observed without statistical significance in mean volume between groups ( $p > 0.05$ ); in short term group mean volume was 1.82 (range 1.11–

2.73) mm<sup>3</sup>, in long term it was 1.69 (range 0.36–3.73) mm<sup>3</sup>. We observed a hypoechoic area in the suprachoroidal space in 66 % in short term group and in 88% in long term group.

**Conclusion:**

UBM examination demonstrated several aqueous humour drainage pathways. Formed intrascleral cavity in all UBM examinations meant persistent filtration in all eyes. Remaining intrascleral cavity was comparable in size after 1 month and 10 years postoperatively without scleral implant implicating possible no need for implant. Suprachoroidal outflow was observed more in long term results (88%) compared to 66% in short term group showing a potentiality of adequate long term formation of uveoscleral drainage pathways after deep sclerectomy.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Robert

**Ime i prezime / First and Last Name:-Last**

Stanić

**Ustanova / Institution:**

KBC Split

## 16. Mira Knežić

### Naslov:

PRVI PACIJENT LIJEČEN SUPRAKOROIDNIM „BUCKLINGOM“ NA KLINICI ZA OČNE BOLESTI KLINIČKE BOLNICE „SVETI DUH“

### Autori:

Mira Knežić, Damir Bosnar, Mladen Bušić, Biljana Kuzmanović Elabjer, Senad Ramić, Mirjana Bjel oš

### Ustanova:

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilište Josipa Jurja Strossmayera Osijek, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### Cilj:

Prikazati slučaj liječenja traumatske regmatogene ablacije mrežnice (RRD, engl. rhegmatogenous retinal detachment) suprakoroidnim „bucklingom“ (SCB, engl. suprachoroidal buckling) kod pacijenta s visokom miopijom

### Bolesnici i metode:

Muškarac u dobi od 42 godine s visokom miopijom i anizometropskom ambliopijom javio se hitnu oftalmološku službu zbog mutnijeg vida na lijevom oku (OS) u posljednja četiri dana nakon tupe ozljede oka prilikom cijepanja drva. Njegova najbolje korigirana vidna oštrina (BCVA, prema engl. best-corrected visual acuity) bila je 1,0 logMAR na desnom oku (OD) i 0,3 logMAR OS s polutvrdim kontaktnim lećama. Pregledom na biomikroskopu detektirana je hifema i ruptura sfinktera šarenice na 3 sata OS. Pregledom fundusa u midrijazi dijagnosticirana je ruptura mrežnice na 11 sati s perifernom ablacijom mrežnice OS i miopskim degenerativnim promjenama u makuli oba oka. Demarkacijska laserska fotokoagulacija učinjena je s ciljem prevencije progresije RRD. Zbog posteriorne i inferiorne ekstenzije RRD, tjedan dana nakon inicijalnog pregleda pacijent je liječen SCB kako bi se omogućila korioretinalna apozicija injiciranjem kohezivnog viskoelastika u suprakoroidni prostor te endolaserskom fotokoagulacijom kako bi se stvorila korioretinalna adhezija. Dodatno, C3F8 plin insufliran je u vitrealni prostor.

**Rezultati:**

Nisu zabilježene intraoperativne ni postoperativne komplikacije. Viskoelastik u suprakoroidnom prostoru uzrokovao je fokalnu indentaciju žilnice na mjestu ruptуре mrežnice. Postignuto je uspješno priljubljenje mrežnice uz poboljšanje BCVA na 0,18 logMAR OS. Postoperativni status ostao je stabilan 4 mjeseca nakon zahvata.

**Zaključak:**

SCB je učinkovita metoda liječenja u izabranim slučajevima RRD. Na ovaj način mogu se izbjeći i invazivnije metode liječenja, kao što su pars plana vitrektomija i skleralni „buckling“, posebice kod mladih fakičnih pacijenata s visokom miopijom.

**Title:**

FIRST PATIENT TREATED WITH SUPRACHOROIDAL BUCKLING AT UNIVERSITY EYE DEPARTMENT OF UNIVERSITY HOSPITAL "SVETI DUH"

**Authors:**

Mira Knežić, Damir Bosnar, Mladen Bušić, Biljana Kuzmanović Elabjer, Senad Ramić, Mirjana Bjeloš

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To present a case of suprachoroidal buckling (SCB) in the management of traumatic rhegmatogenous retinal detachment (RRD) in a patient with high myopia

**Patients and methods:**

A 42-year-old male patient with high myopia and anisometropic amblyopia presented to the emergency eye department with a 4-day history of blurred vision in the left eye (LE) after blunt eye injury during wood chopping. His best-corrected distance visual acuity (BCVA) was 1.0 logMAR in the right eye (RE) and 0.3 logMAR in L

E with rigid gas permeable contact lenses. Slit-lamp examination revealed hyphema and iris sphincter tear at 3-o'clock in LE. Dilated fundus examination showed retinal tear at 11-o'clock with peripheral retinal detachment in LE with myopic macular degeneration in both eyes. Demarcation laser photocoagulation was performed to prevent the progression of RRD. Due to posterior and inferior extension of RRD, 7 days after the initial presentation the patient was treated with SCB to allow chorioretinal apposition by injecting cohesive ophthalmic viscosurgical device (OVD) in suprachoroidal space, and endolaser photocoagulation to create chorioretinal adhesion. Additionally, C3F8 gas was insufflated in the vitreous cavity.

**Results:**

No intraoperative or postoperative complications were recorded. OVD in the suprachoroidal space caused a focal choroidal indentation effect at the location of the retinal tear. Successful retinal reattachment was achieved and BCVA improved to 0.18 logMAR in LE. Postoperative results remained stable during the 4 months of follow-up.

**Conclusion:**

SCB is an effective management option in selected cases of RRD. It may avoid more invasive treatment options, such as pars plana vitrectomy and scleral buckling, especially in young phakic, highly myopic patients.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Mira

**Ime i prezime / First and Last Name:-Last**

Knežić

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb



## 17. Lea Škrinjarić

### **Naslov:**

Uveitis i retinalni vaskulitis kao komplikacija intravitrealne aplikacije brolicizumaba u liječenju ek-  
sudativnog oblika senilne makularne denegeracije

### **Autori:**

Lea Škrinjarić, dr.med.; prof.dr.sc. Nenad Vukojević, dr.med.

### **Ustanova:**

Klinika za očne bolesti Medicinskog fakulteta Sveučilišta u Zagrebu, KBC Zagreb

### **Cilj:**

Prikazati dvije pacijentice s komplikacijama uveitisa i retinalnog vaskulitisa nakon intravitrealne aplikacije brolicizumaba prilikom liječenja eksudativne senilne makularne degeneracije. Obje pa-  
cijentice su prethodno tretirane intravitrealnom aplikacijom bevacizumaba sa slabim odgovoro-  
m na primijenjenu terapiju.

### **Bolesnici i metode:**

Opis kliničkog tijeka i liječenja komplikacija intravitrealne primjene brolicizumaba.

### **Rezultati:**

U prvom slučaju radi se o 72-

godišnjoj pacijentici koja se četiri tjedna nakon druge intravitrealne aplikacije brolicizumaba pre-  
zentirala crvenilom oka te plutajućim mutninama ispred lijevog oka. Prilikom kliničkog pregleda  
nađen je uveitis, vitritis te retinalni i perivaskularni infiltrati. Pacijentica se hospitalizira na razdo-  
blje od 13 dana. Tijekom boravka liječena je lokalnom i sistemskom kortikosteroidnom terapijo-  
m

Drugi slučaj je 67-

godišnja pacijentica, kod koje se četiri tjedna nakon prve intravitrealne aplikacije brolicizumaba  
nađu precipitati endotela te upalne stanice u staklovini te se postavlja dijagnoza intermedijarno  
g uveitisa. Pacijentica je tretirana ambulantno topikalnom i subkonjunktivalnom kortikosteroidn-  
om terapijom.

Primjenom kortikosteroidne terapije dolazi do subjektivnog i objektivnog poboljšanja nalaza ko-  
d obje pacijentice.

**Zaključak:**

Intraokularna upala i retinalni vaskulitis rijetke su komplikacije intravitrealne aplikacije brolicizumaba. Navedeno je vjerojatno rezultat odgođene reakcije preosjetljivosti na lijek. Nužna je rana detekcija intenziteta upale i zahvaćenosti retinalnih krvnih žila. Pravovremeno liječenje kortikosteroidnom terapijom ključno je za zaustavljanje intraokularne upalne reakcije i očuvanje vidne funkcije.

**Title:**

Uveitis and retinal vasculitis as a complication of intravitreal application of brolicizumab in the treatment of wet age-related macular degeneration

**Authors:**

Lea Skrinjaric, dr.med.; prof.dr.sc. Nenad Vukojevic, dr. med.

**Institution:**

Department of Ophthalmology Zagreb University Hospital Center, University of Zagreb School of Medicine

**Aim:**

To present two patients with complications of uveitis and retinal vasculitis after intravitreal administration of brolicizumab in the treatment of wet age-related macular degeneration. Both patients were previously treated with intravitreal administration of bevacizumab with poor response to therapy.

**Patients and methods:**

Description of the clinical course and treatment of complications of intravitreal administration of brolicizumab.

**Results:**

First case is a 72-year-old patient who presented with redness of the eye and floaters in the left eye four weeks after the second intravitreal application of brolicizumab. During the examination uveitis, vitritis, retinal and perivascular infiltrates were found. The patient was hospitalized for a period of 13 days. During her stay she was treated with local and systemic corticosteroid therapy. Second case was a 67-year-old patient who was diagnosed with endothelial precipitates and inflammatory cells in the vitreous four weeks after the first intravitreal administration of brolicizumab and was diagnosed with

h intermediate uveitis. The patient was treated on an outpatient basis with topical and subconjunctival corticosteroid therapy.

Treatment with corticosteroid therapy led to subjective and objective improvement in both patients.

**Conclusion:**

: Intraocular inflammation and retinal vasculitis are rare complications of intravitreal administration of brolicizumab. This is probably the result of a delayed hypersensitivity reaction to the drug. Early detection of the intensity of inflammation and involvement of retinal blood vessels is necessary. Timely treatment with corticosteroid therapy is crucial to stop the intraocular inflammatory reaction and preserve visual function.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Lea

**Ime i prezime / First and Last Name:-Last**

Škrinjarić

**Ustanova / Institution:**

KBC Zagreb (OB Koprivnica)

## 18. Toma Babić

### Naslov:

Okluzivni retinalni vaskulitis u juvenilnom idiopatskom artritisu (JIA)

### Autori:

Toma Babić, dr.med.; prof.dr.sc. Nenad Vukojević, dr.med.

### Ustanova:

Klinika za oftalmologiju KBC-a Zagreb

### Cilj:

Opisati neočekivane retinalne komplikacije prednjeg uveitisa u prikazanog bolesnika s JIA-om.

### Bolesnici i metode:

Dvadesetdvostrana (22) djevojka prezentira se sa prednjim uveitisom povezan s JIA. Opisat će se analiza kliničkog tijeka, dijagnostička metodologija (fotografija fundusa, fluoresceinska angiografija, FAF, SD-OCT), terapijska metodologija i ishod bolesnika.

### Rezultati:

Djevojka od 22 godine boluje od juvenilnog idiopatskog artritisa (JIA), koji je klasificiran kao oligo artikularni i ANA pozitivan, od druge godine života. Više puta je liječena sistemskim kortikosteroidima (KS) i metotreksatom (MTX). Trenutačno se liječi sistemskom terapijom MTX 15 mg/tjedan

Prednji uveitis desnog oka javio se prije tri godine, a liječen je lokalnim kortikosteroidima i cikloplegicima. Nakon razvoja cistoidnog makularnog edema (CME), liječena je peribulbarnom injekcijom (PB) 40 mg triamcinolon acetona (TA) nakon koje se javilo povećanje intraokularnog tlaka (IOT) dijagnosticirano aplanacijskom tonometrijom. Sekundarni glaukom uspješno je liječen lokalnom antiglaukomsom (AG) terapijom (kombinacija timolol + dorzolamid), nakon čega je IOP normaliziran.

Dva mjeseca nakon toga pacijentica se javlja ponovno povišenim IOT na desnom oku (40/12 mmHg). Nadalje, biomikroskopski pregled otkrio je neovaskularizacije šarenice i iridokornealnog kuta. Budući da su se razvile neovaskularizacije, provedena je paracenteza prednje komore (ACP) uz intravitrealnu (IVT) injekciju 1,25 mg bevacizumaba i postupak ciklofotokoagulacije diodnim laserom. Provedena je laserska fotokoagulacija perifernih neperfuzijskih zona. IOP se normalizirao i varirao od 20-

24 mmHg uz lokalnu AG i KS terapiju. Mjesec dana nakon kirurškog zahvata Phaco-trabekulektomije (kombinirana fakoemulzifikacija, implantacija intraokularne leće i trabekulektomija; PTE). Nakon operacije IOP se stabilizirao na oko 16 mmHg. Međutim, CME se ponovno razvio. Zbog prethodno nastalih komplikacija, sada se liječilo lokalnom KS terapijom i sistemskom terapijom adalimumabom od 40 mg svaka dva tjedna.

Kako smo pratili bolesnika u sljedeće dvije godine, simptomi prednjeg uveitisa su ostali mirni, vidna oštrina prema Snellenu je 1.0 na oba oka, a IOP je stabilan oko 16 mmHg.

### **Zaključak:**

Iako rijetke, komplikacije stražnjeg segmenta oka mogu se pojaviti kod prednjeg uveitisa u JIA (CME). U ovih bolesnika obvezno je pažljivo pregledati fundus i periferiju mrežnice. Sve promjene na mrežnici zahtijevaju brzu terapiju kako bi se dobio adekvatan terapijski odgovor kod pacijenta i poboljšala kvaliteta života pacijenta.

Važna je poruka da je kod kombinacije JIA i uveitisa koji ugrožava vid potrebno adekvatno liječenje i sistemskom terapijom (biološki lijekovi i drugi imunosupresivi) i lokalnom terapijom.

### **Title:**

Occlusive retinal vasculitis in Juvenile idiopathic arthritis (JIA)

### **Authors:**

Toma Babić, dr.med.; prof.dr.sc. Nenad Vukojević, dr.med.

### **Institution:**

Department of Ophthalmology, University Hospital Centre Zagreb

### **Aim:**

To describe unexpected retinal complications of anterior uveitis at patient presented with JIA.

### **Patients and methods:**

A 22-year-old girl presented with anterior uveitis in conjunction with JIA. Analysis of clinical course, diagnostic methodology (fundus photography, fluorescein angiography, FAF, SD-OCT), therapeutic methodology, and the outcome of a patient will be described.

### **Results:**

A 22-year-old girl is suffering from Juvenile idiopathic arthritis (JIA), classified as oligoarticular and ANA positive since the second year of life. She has been treated multiple times with systemic corticosteroids.

oids (CS) and methotrexate (MTX). Momentarily, she receives systemic MTX therapy of 15 mg/week.

Anterior uveitis of the right eye occurred three years ago, and it was treated with local CS and cycloplegics. After the development of Cystoid Macular Edema (CME), she was treated with peribulbar injection (PB) of 40 mg Triamcinolone acetonide (TA) with a consequent increase in intraocular pressure (IOP) diagnosed using applanation tonometry. CS glaucoma was successfully treated with local antiglaucoma (AG) therapy (timolol + dorzolamide combination), after which the IOP was normalized.

Two months after, the patient presented with elevated IOP on the right eye again (40/12 mmHg). Furtherly, biomicroscopic examination revealed neovascularisations of the iris and iridocorneal angle. Since neovascularisations developed, Anterior chamber paracentesis (ACP) along with intravitreal (IVT) injection of 1.25mg bevacizumab and diode laser cyclophotocoagulation procedure was performed. Complement laser photocoagulation of peripheral nonperfusion zones was conducted. The IOP normalized and varied from 20-24 mmHg with local therapy. One month after, surgical procedure Phacotrabeculectomy (Combined phacoemulsification, intraocular lens implantation, and trabeculectomy; PTE). After the operation, IOP stabilized around 16 mmHg. However, CME developed again. Because of previously developed complications, now it was treated with local CS therapy and systemic therapy of adalimumab 40mg every two weeks.

As we followed the patient in the next two years, the symptoms of the anterior uveitis were regulated, visual acuity according to the Snellen is 1.0 on both eyes, and IOP is always around 16 mmHg.

### **Conclusion:**

Although rare, complications of the posterior segment of the eye can occur with uveitis in JIA (CME). Mandatory is to carefully examine the fundus and the retinal periphery in these patients. All retinal changes require prompt therapy to receive an adequate therapeutic response in the patient and improve the patient's quality of life.

### **Kongres / Congresses:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

### **Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Toma

**Ime i prezime / First and Last Name:-Last**

Babić

**Ustanova / Institution:**

Sveučilišna Klinika za dijabetes i endokrinologiju "Vuk Vrhovac", KB Merkur

## 19. Ljubica Skelin

### Naslov:

Utjecaj umjetnih suza na biometrijska očitavanja kod bolesnika sa sindromom suhog oka

### Autori:

Skelin Lj, Tadić I, Žarković T, Siničić A, Bućan K.

### Ustanova:

Klinika za očne bolesti, KBC Split

### Cilj:

Odrediti utjecaj nedostatka suznog filma na preoperativni izračun jakosti IOL-a i keratometriju kod bolesnika sa sindromom suhog oka.

### Bolesnici i metode:

Proveli smo prospektivno intervencijsko istraživanje. U istraživanje je uključeno 76 očiju kod 41 bolesnika sa sindromom suhog oka kod preoperativne pripreme za fakoemulzifikacijski zahvat. Svakom pacijentu je očitana vrijedost K1 i K2, os cilindra te izračun IOL (Nidek Optical Biometer AL – Scan) prije i 1 minutu nakon ukapavanja umjetnih suza (natrijev hialuronat 0,15%). Svaki bolesnik je pregledan na biomikroskopu uz izračun TBUT testa i klasifikaciji rožnice po Oxfordskoj skali. Kriteriji uključanja su bili bolesnici sa dijagnozom suhog oka kao posljedica reumatske bolesti ili topičke antiglaukomske terapije. Primarni ishod bili su razlika u izračunu jakosti IOL koristeći SRKT formulu prije i nakon korištenja umjetnih suza, te promjena osi cilindra.

### Rezultati:

Kod bolesnika sa sindromom suhog oka utvrđena je statistički značajna razlika u izračunu IOL prije i 1 minutu nakon upotrebe umjetnih suza (prosječna razlika  $0,48D \pm 0,26D$ ,  $p < 0,05$ ). Statistički značajna razlika u promjeni osi cilindra kod bolesnika prije i nakon upotrebe umjetnih suza je zabilježena samo u podskupini bolesnika čija je rožnica klasificirana po Oxford skali kao gradus 4 i 5 (11-18 stupnjeva,  $p < 0,05$ ).

### Zaključak:

Umjetne suze koje stabiliziraju suzni film prije biometrijskog mjerenja značajno su utjecale na očitavanje keratometrijskih vrijednosti i izračuna IOL-a kod bolesnika sa sindromom suhog oka. Ove rezultate bi trebalo imati na umu pri preoperativ



noj pripremi bolesnika koji se podvrgavaju fakoemulzifikacijskom zahvatu.

.

**Title:**

The influence of artificial tears on biometric readings in patients with dry eye syndrome

**Authors:**

Skelin Lj, Tadić I, Žarković T, Siničić A, Bućan K.

**Institution:**

Department of Ophthalmology, University Hospital Centre Split

**Aim:**

To determine the impact of tear film deficiency on preoperative IOL strength calculation and keratometry in patients with dry eye syndrome.

**Patients and methods:**

This is a prospective interventional single-arm pre-post study design. The study included 76 eyes in 41 patients with dry eye syndrome during the preoperative examination and preparation for phacoemulsification. We measured keratometric values (K1 & K2) for each patient, cylinder axis and IOL calculation (Nidek Optical Biometer AL - Scan) before and 1 minute after artificial tear instillation (sodium hyaluronate 0.15%). Each patient was examined on a biomicroscope with TBUT measurement and corneal classification according to the Oxford scale. Inclusion criteria were patients diagnosed with dry eyes as a result of rheumatic disease or topical antiglaucoma therapy. The primary outcome was the difference in IOL strength calculation, using the SRKT formula, before and after the use of artificial tears, and changes in the cylinder axis.

**Results:**

In patients with dry eye syndrome, a statistically significant difference was found in the IOL calculation before and 1 minute after the use of artificial tears (mean difference  $0.48D \pm 0.26D$ ,  $p < 0,05$ ).

In a subset of patients, whose cornea was classified according to the Oxford scale as grades 4 and 5, change in cylinder axis was statistically significant (11 to 18 degrees,  $p < 0,05$ ).

**Conclusion:**

Artificial tears that stabilize the tear film before biometric measurement significantly influenced the reading of keratometric values and IOL calculations in patients with dry eye syndrome. The

se results should be borne in mind during the preoperative preparation of patients undergoing phacoemulsification.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ljubica

**Ime i prezime / First and Last Name:-Last**

Skelin

**Ustanova / Institution:**

KBC Split

## 20. Mia Zorić Geber

### **Naslov:**

Kirurška revizija nefunkcionalnog filtracijskog jastučića glaukomskeg mini implantata

### **Autori:**

Mia Zorić Geber, Rašeljka Tadić

### **Ustanova:**

Klinika za očne bolesti KBC Sestre mlosrdnice

### **Cilj:**

Many blebs fail over time, even if the surgery itself goes perfectly. It's usually the result of scarring which implies that the conjunctiva and supporting tissues have scarred down to the sclera. Preexisting condition as well as postoperative condition influences the final result of bleb surgery. When a bleb becomes less functional because of scarring there are several options: add topical medications, try to release some of the adhesions using needling, or perform a surgical revision. The aim is to present a surgical revision of the failed bleb after successful PreserFlo® MicroShunt implantation.

### **Bolesnici i metode:**

Revision was performed through the same site conjunctival incision. The conjunctiva was dissected and the scar tissue around the implant that impedes the flow of aqueous was carefully cut and excised. 0.4 mg/mL mitomycin soaked sponge was applied for 3 minutes. After confirmation of the implant flow the distal end of the MicroShunt was tucked underneath Tenon's and conjunctiva, making sure that it was straight and free of surrounding tissue. The conjunctiva and the Tenon were closed with 10-0 nylon vertical mattress sutures. Subconjunctival dexamethasone was administered at the end of the procedure. Patient was discharged on topical drops of Maxitrol (1 mg dexamethasone, 6000 IU polymyxin B sulphate, 3500 IU neomycin sulphate) 6 times daily. The drops were tapered according to bleb findings.

### **Rezultati:**

The patient was reviewed the following day and at week 1, 3, 6, and 8 weeks after surgery. At the first two postoperative controls IOP was 9 and 11 mmHg and the bleb did not show signs of subconjunctival scarring. At the third follow up visit the IOP was 29 mmHg and the bleb showed

signs of impending failure (increased vascularity, reduction of extend and encapsulation). A slit lamp subconjunctival injection of 5-FU was administered. IOP decreased on 12 mmHg and the bleb showed regression of scarring signs. The patient received the second subconjunctival injection of 5-FU on the next control visit. After three months IOP was 16mmHg and the bleb was extended with no signs of subconjunctival scarring.

### **Zaključak:**

The surgical bleb revision may play a valuable role in the management of bleb failure and should be considered as low risk procedure that can improve the final outcome of PreserFlo® MicroShunt surgery.

### **Title:**

Surgical revision of failed filtering MicroShunt bleb

### **Authors:**

Mia Zorić Geber, Rašeljka Tadić

### **Institution:**

Department of Ophthalmology, Sestre milosrdnice University Hospital Center

### **Aim:**

Many blebs fail over time, even if the surgery itself goes perfectly. It's usually the result of scarring which implies that the conjunctiva and supporting tissues have scarred down to the sclera. Preexisting condition as well as postoperative condition influences the final result of bleb surgery. When a bleb becomes less functional because of scarring there are several options: add topical medications, try to release some of the adhesions using needling, or perform a surgical revision. The aim is to present a surgical revision of the failed bleb after successful PreserFlo® MicroShunt implantation.

### **Patients and methods:**

Revision was performed through the same site conjunctival incision. The conjunctiva was dissected and the scar tissue around the implant that impedes the flow of aqueous was carefully cut and excised. 0.4 mg/mL mitomycin soaked sponge was applied for 3 minutes. After confirmation of the implant flow the distal end of the MicroShunt was tucked underneath Tenon's and conjunctiva, making sure that it was straight and free of surrounding tissue. The conjunctiva and the Tenon were closed with 10-0 nylon vertical mattress sutures. Subconjunctival dexamethasone was administered at the end

of the procedure. Patient was discharged on topical drops of Maxitrol (1 mg dexamethasone, 6000 IU polymyxin B sulphate, 3500 IU neomycin sulphate) 6 times daily. The drops were tapered according to bleb findings.

**Results:**

The patient was reviewed the following day and at week 1, 3, 6, and 8 weeks after surgery. At the first two postoperative controls IOP was 9 and 11 mmHg and the bleb did not show signs of subconjunctival scarring. At the third follow up visit the IOP was 29 mmHg and the bleb showed signs of impending failure (increased vascularity, reduction of extend and encapsulation). A slit lamp subconjunctival injection of 5-FU was administered. IOP decreased on 12 mmHg and the bleb showed regression of scarring signs. The patient received the second subconjunctival injection of 5-FU on the next control visit. After three months IOP was 16mmHg and the bleb was extended with no signs of subconjunctival scarring.

**Conclusion:**

The surgical bleb revision may play a valuable role in the management of bleb failure and should be considered as low risk procedure that can improve the final outcome of PreserFlo® MicroS hunt surgery.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Mia

**Ime i prezime / First and Last Name:-Last**

Zorić Geber

**Ustanova / Institution:** Department of Ophthalmology Sestre milosrdnice

## 21. Lana Knežević

### Naslov:

Bifokalne naočale kod bolesnika s visokom AC/A ezotropijom - naša iskustva

### Autori:

L.Knežević, J. Škunca Herman, M. Malenica Ravlić, I. Vrtar, Z. Vataavuk

### Ustanova:

KBC Sestre milosrdnice

### Cilj:

Prikazati rezultate liječenja bifokalnim naočalama kod bolesnika s akomodativnom ezotropijom uz visoki AC/A omjer.

### Bolesnici i metode:

Retrospektivni prikaz liječenja bolesnika Dječje oftalmološke ambulante Kliničkog bolničkog centra (KBC) Sestre milosrdnice bifokalnim naočalama u periodu od 1. veljače 2021. do 31. veljače 2022. godine. U studiju su uključeni pacijenti s akomodativnom ezotropijom s visokim AC/A omjerom čiji je kut škiljenja (KŠ) na daljinu (ND) s punom skijaksopskom korekcijom hiperopije ili 0,50 dsph manjom (kod školske djece) bio jednak ili manji od 10 prizma dioptrija (PD), a KŠ na blizinu (NB) barem 10PD veći u odnosu na KŠ na daljinu. Analizirana je prisutnost i oporovak stereopsije, vrijeme nošenja bifokalnih naočala, te AC/A omjer mjeren metodom gradijenta.

### Rezultati:

30 pacijenta je zadovoljilo uvjete uključivanja u studiju, od toga je bilo 13 dječaka i 17 djevojčica. Prosječna dob ordiniranja bifokalnih naočala je 7 godina. Kut škiljenja na daljinu s punim skijasopskim nalazom hiperopije ili 0,50 dsph manjom sferom (kod školske djece) kretao se od 0 do +10PD, a kut škiljenja na blizinu od +10 do +34PD. Kod 25 pacijenta došlo je do oporavka stereopsije dok je kod dvoje stereopsija bila nepromijenjena. AC/A omjer mjeren metodom gradijenta a kretao se od 5 do 11,11. Kod 12 pacijenta bilo je moguće barem jedanput smanjiti adiciju u bifokalnim naočalama od početka ordiniranja naočala dok su iste ukinute samo kod jednog pacijenta od tih 12.

**Zaključak:**

Bifokalne naočale učinkovita su terapija kod ciljanih pacijanata s akomodativnom ezotropijom s visokim AC/A omjerom jer se njima postiže oporavak fine stereopsije.

**Title:**

Bifocal glasses in patients with high AC/A esotropia - our experience

**Authors:**

L.Knežević, J. Škunca Herman, M. Malenica Ravlić, I. Vrtar, Z. Vataavuk

**Institution:**

University Hospital Center "Sestre milosrdnice"

**Aim:**

To present the results of bifocal glasses treatment in patients with accommodative esotropia with high AC/A ratio.

**Patients and methods:**

A retrospective review of patients treated with bifocal glasses at University Hospital Center (UHC) Sestre milosrdnice, Children's Ophthalmology Department, in the period from February 1, 2021 to February 31, 2022. The study included patients with high AC/A accommodative esotropia whose distance angle with full hyperopic correction or 0.50 dsph less (in school children) was eliminated or decreased to equal or less than 10 prisma diopters(PD) and near angle was at least 10PD higher than distance angle. The presence and recovery of stereopsis, the wearing time of bifocal glasses and the AC / A ratio measured by the gradient method were analyzed.

**Results:**

30 patients met the criteria for inclusion in the study, of which 13 were boys and 17 girls. The average age of administering bifocal glasses is 7 years. The distance angle with full hyperopic correction or 0.50 dsph less (in school children) was ranged from 0 to + 10PD, and the near angle from +10 to + 34PD. Stereopsis recovered in 25 patients while it was unchanged in two. The AC / A ratio measured by the gradient method ranged from 5 to 11.11. In 12 patients it was possible to reduce the addition of bifocal glasses at least once since the start of wearing it, while they were discontinued in only one of these 12 patients.

**Conclusion:**

Bifocal glasses are an effective therapy in targeted patients with accommodative esotropia with a high AC/A ratio because they achieve fine stereopsis recovery.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Lana

**Ime i prezime / First and Last Name:-Last**

Knežević

**Ustanova / Institution:**

KBC Sestre milosrdnice



## 22. Martina Galiot Delić

### Naslov:

Miller Fisher sindrom nakon cijepljenja protiv COVID-19

### Autori:

Martina Galiot Delić, Sanja Perić, Marija Barišić Kutija

### Ustanova:

Klinički bolnički centar Zagreb, Klinika za očne bolesti

### Cilj:

prikazati pacijenta s Miller Fisher sindromom, rijetkom varijantom Guillain-Barre sindroma koji se prezentira ataksijom, arefleksijom i oftalmoplegijom. Ovaj slučaj Miller Fisher sindroma se pojavio specifično nakon cijepljenja prvom dozom Pfizer COVID-19 cjepiva.

### Bolesnici i metode:

prikazujemo slučaj 24-godišnje djevojke koja se prezentirala pojavom novonastalih binokularnih horizontalnih dvoslik a nakon primitka prve doze Pfizer COVID-19 cjepiva (Comirnaty). Hitan neurološki pregled te kompletni oftalmološki i ortoptički pregled su utvrdili otežanu abdukciju i elevaciju na oba oka. Učini se CT mozga i CT angiografija glave i vrata te MRI glave i vrata, laboratorijska obrada, prostigmin test za miasteniju gravis i lumbalna punkcija.

### Rezultati:

Učini se kompletni oftalmološki pregled koji osim poremećaja bulbomotorike u vidu oslabljene abdukcije i elevacije pokazuje uredan nalaz. CT mozga, CTA glave i vrata i MRI glave i vrata nisu pokazali odstupanja. Rutinski laboratorijski nalazi i intramuskularni piridostigmin test su bili uredni. Nalaz lumbalne punkcije je pokazao uredan broj stanica uz povišenu koncentraciju proteina. Provedena je pulsna terapija intravenoznim metilprednizolonom ali bez značajnijeg poboljšanja. Nalazi imunološke obrade pokazali su pozitivna GQ1b antigangliozidna protutijela. Na temelju kliničke slike i nalaza učinjene obrade zaključeno je da se radi o nepotpunom obliku Miller Fisher sindroma. Provedena je terapija intravenoznim imunoglobulinima kroz 5 dana. Na kontrolnom pregledu nakon mjesec dana primjećeno je značajno poboljšanje uz normalnu bulbomotoriku.

**Zaključak:**

Miller Fisher sindrom je rijetka varijanta Guillain – Barre sindroma koja se prezentira dvjema od sljedećih karakteristika: ataksija, arefleksija i oftalmoplegija. Karakteristična je pojava vanjske oftalmoplegije. Anti-GQ1b antitijela su izražena u MFS uz relativno visoku specifičnost i senzitivnost.

Naša pacijentica se prezentirala akutnom oftalmoplegijom bez ataksije što ukazuje na nepotpunu formu MFS koja je povezana uz pozitivna antigangliozidna (anti-GQ1b) protutijela. Prognoza za oporavak je obično dobra te je bolest većinom samoograničavajuća.

Potrebno je povećati svijest o nastanku mogućih oftalmoloških komplikacija povezanih s cijepljenjem cjepivom protiv COVID-19.

**Title:**

Miller Fisher syndrome after COVID-19 vaccination

**Authors:**

Martina Galiot Delić, Sanja Perić, Marija Barišić Kutija

**Institution:**

Clinical Hospital Zagreb, Department of ophthalmology

**Aim:**

to present a patient with Miller Fisher syndrome (MF, rare variant of Guillain-Barre syndrome characterized by ataxia, areflexia, and ophthalmoplegia. This case of Miller Fisher syndrome (MFS) presented after first dose of Pfizer Covid-19 vaccine.

**Patients and methods:**

24-year-old female presented with new onset binocular horizontal diplopia after receiving the first dose of Pfizer COVID-19 vaccine (Comirnaty®). Neurological examination in the emergency department and ophthalmological and orthoptic examination revealed impaired abduction and elevation of both eyes. Brain CT and CT angiography of head and neck, brain and neck MRI, laboratory examination, prostigmin test for myasthenia gravis and lumbar puncture were performed.

**Results:**

A complete ophthalmological examination was performed and apart from the impaired abduction and elevation the rest of the ophthalmological findings were in order. Brain CT and CT angiography of head and neck and brain and neck MRI did not reveal any abnormalities. Routine laboratory examination was normal and intramuscular prostigmin test was negative. The patient underwent lumbar puncture which revealed an albuminocytologic dissociation. Intravenous methylprednisolone for 3 days was administered with no significant improvement. Anti-ganglioside testing revealed positive anti-GQ1b antibodies. These results were in accordance with a limited form of MFS as there were no clinical signs of ataxia and neuropathy. Intravenous immunoglobulins (IVIg) were administered over 5 days. On a follow-up exam a month after the treatment, clinical improvement was noted with normal eye movements.

**Conclusion:**

Miller Fisher syndrome (MFS) is a more rare variant of GBS and usually presents with at least 2 of the following features: ataxia, areflexia, and ophthalmoplegia. Acute onset of external ophthalmoplegia is a cardinal feature. Anti-GQ1b antibodies are prominent in MFS, and have a relatively high specificity and sensitivity for the disease. Acute ophthalmoplegia without ataxia, as in our patient, is an incomplete form of MFS associated with anti-GQ1b antibody. The prognosis of Miller Fisher syndrome is generally favorable as it is mostly a self-limited disorder with IVIg leading to a more rapid recovery. Increased awareness is needed for occurrence of any possible ophthalmological complications related to vaccination with COVID-19 vaccines.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Martina

**Ime i prezime / First and Last Name:-Last**

Galiot Delić

**Ustanova / Institution:**

Klinički bolnički centar Zagreb

## 23. Petra Grubešić

### **Naslov:**

Korelacije između različitih kliničkih karakteristika/oblika HSV-1 keratitisa i prisutnosti genoma HSV-1 u epitelu rožnice

### **Autori:**

Petra Grubešić<sup>1</sup>, Julia Tomczak<sup>2</sup>, Magda Walkowiak<sup>2</sup>, Vlatka Ivanišević<sup>2</sup>, Marina Matešić<sup>2</sup>, Maja Merlak<sup>1</sup>, Renata Gržetić- Lenac<sup>1</sup>, Igor Jurak<sup>2</sup>

### **Ustanova:**

Klinički bolnički centar Rijeka, Odjel za biotehnologiju, Sveučilište u Rijeci

### **Cilj:**

Utvrđiti poveznicu između različitih kliničkih oblika HSV keratitisa i mogućnosti detekcije genoma HSV iz epitela rožnice

### **Bolesnici i metode:**

Istraživanje je provedeno na 20 pacijenata Klinike za oftalmologiju pri KBC-u Rijeka. Osnovni kriteriji za selekciju pacijenta bili su upala rožnice kod kojih je na temelju kliničkog nalaza dijagnosticiran HSV keratitis. Za detekciju HSV razvijena je molekularno dijagnostička metoda pomoću lančane reakcije polimerazom (eng. polymerase chain reaction PCR).

### **Rezultati:**

Naši preliminarni podaci ukazuju na korelaciju prisutnosti genoma HSV u odnosu na oblik HSV keratitisa. Kod pacijenata sa tipičnim epitelnim oblikom očekuje se da je broj kopija virusne HSV DNA veći nego u odnosu kod pacijenata sa stromalnim HSV keratitisom. Također kod pacijenata sa endotelnim oblikom za očekivati je još manji broj kopija HSV DNA, moguće zbog toga što endotelne stanice nemaju sposobnost proliferacije. PCR metoda je visoko osjetljiva i omogućava nam detekciju i niske razine DNA te se smatra da je više od 10<sup>4</sup> kopija virusne DNA može sagledati kao pouzdan test u dijagnostici HSV keratitisa

Daljnijim nastojanjima ispitaćemo veći broj uzoraka te usporediti uspješnost metode pomoću RT-qPCR te ispitati utjecaj antiviralne terapije na detekciju virusa.

**Zaključak:**

PCR visoko osjetljiva i brza metoda za detekciju virusne DNA u dijagnosticiranju HSV keratitisa. Klinička prezentacija utječe na razinu detekcije HSV DNA u strugotini epitela rožnice. Kod tipične epitelne lezije veća je razina detekcije HSV DNA u usporedbi sa atipičnom epitelnom lezijom ili s tromalnom lezijom. Na rezultat PCR testa ovisi i prethodna antiviralna terapija. Neovisno o tome, PCR metoda je bitan dio dijagnostičkog protokola pogotovo kod nespecifičnih/atipičnih keratitisa te nam je od pomoći u postavljanju pravilne dijagnoze.

**Title:**

Correlation between different clinical forms of HSV keratitis and the presence of the HSV-1 genome in the corneal epithelium

**Authors:**

Petra Grubešić<sup>1</sup>, Julia Tomczak<sup>2</sup>, Magda Walkowiak<sup>2</sup>, Vlatka Ivanišević<sup>2</sup>, Marina Matešić<sup>2</sup>, Maja Merlak<sup>1</sup>, Renata Gržetić-Lenac<sup>1</sup>, Igor Jurak<sup>2</sup>

**Institution:**

Clinic of ophthalmology, Clinical hospital centre Rijeka Department of biotechnology, University of Rijeka

**Aim:**

To determine the relationship between different clinical forms of HSV keratitis and the possibility of detecting the HSV genome from corneal scrapings

**Patients and methods:**

The study was conducted on 20 patients within the Clinic of Ophthalmology at CMC Rijeka. The main criteria for patient selection were HSV keratitis diagnosed based on its clinical appearance. A molecular diagnostic method using polymerase chain reaction (PCR) has been developed for the detection of HSV DNA.

**Results:**

Our preliminary data suggest a correlation between the level of HSV-1 replication and different subtypes of HSV keratitis. In patients with typical epithelial form the number of copies of HSV DNA is expected to be higher than in patients with stromal HSV keratitis. Also, in patients with endothelial forms even fewer copies of HSV DNA are expected to be found, possibly because the endothelial cells do not have the ability to proliferate. PCR method is h

ighly sensitive and allows us to detect low levels of DNA, if more than 104 copies of viral DNA are found, it can be a reliable test in the diagnosis of HSV keratitis.

**Conclusion:**

PCR is a highly sensitive and rapid method for the detection of viral DNA in the diagnosis of HSV keratitis. Clinical presentation affects the level of HSV DNA detection in corneal epithelium. A typical lesion has a higher level of HSV DNA replication compared to an atypical epithelial lesion or stromal lesion. Previous antiviral therapy also influences the result of the PCR test. Regardless, the PCR method is an essential part of the diagnostic protocol especially in non-specific/atypical keratitis and is helpful in making a correct diagnosis.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

POSTER SEKCIJA / Poster section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Petra

**Ime i prezime / First and Last Name:-Last**

Grubescic

**Ustanova / Institution:**

Klinički bolnički centar Rijeka

## 24. Rajčić Ivan

### Naslov:

Dolazi li do kirurški induciranih promjena refrakcije oka nakon operacije strabizma?

### Autori:

Rajčić Ivan, Bućan Ivona, Skelin Siniša, Bućan Kajo

### Ustanova:

Klinika za očne bolesti KBC Split

### Cilj:

Hipoteza istraživanja temelji se na kliničkoj spoznaji o nepromjenjivosti refrakcijske vrijednosti oka nakon operacije medijalnog ili lateralnog ravnog mišića. Promjena mjesta i tenzije hvatišta horizontalnih mišića bi mogla teoretski utjecati na promjenu horizontalne zakrivljenosti rožnice.

### Bolesnici i metode:

U ovom restrospektivnom istraživanju uzeti su podatci skijaskopije 6 mjeseci prije i 6 mjeseci nakon operacijskog zahvata korekcije strabizma horizontalnih ravnih mišića od 50 djece. Analizirani su podatci kod pacijenata kojima je operirano jedno oko s ciljem da drugo bude kontrolno pod pretpostavkom da će se u istom razdoblju slično mijenjati refrakcija oba oka. 31 djeteta je zadovoljilo kriterije te je operacijskom zahvatu pristupilo medijana dobi od 7 godina (5-10 godina).

### Rezultati:

Uzevši u obzir parametre klinički značajne promjene refrakcije ( $\geq 0.50$  Dsph ili  $\geq 0.75$  Dcyl) uspoređene su predoperacijske i postoperacijske vrijednosti operiranog i neoperiranog oka te nije nađena statistički značajna razlika ( $p = 0.7911$ ).

### Zaključak:

Operacija horizontalnih mišića kod strabizma u djece nema klinički značajne indukcije refrakcijskih grešaka.

### Title:

Does strabismus surgery induce clinically significant changes in refractive status of the eye?



**Authors:**

Ivan Rajčić, Ivona Bućan, Siniša Skelin, Bućan Kajo

**Institution:**

Department of Ophthalmology in Clinical Hospital Centre Split

**Aim:**

The research hypothesis is based on clinical practice that refractive values do not change significantly after medial or lateral rectus muscle surgery. The change in the location and tension of the horizontal muscle grip could theoretically affect the change in the horizontal curvature of the cornea.

**Patients and methods:**

In this retrospective study, retinoscopy data were taken 6 months before and 6 months after surgery to correct strabismus of horizontal straight muscles of 50 children. Only patients who underwent surgery on one eye were considered for control, because the assumption is that the refraction of both eyes will change similarly during the same period. 31 children met the criteria and underwent a median age of 7 years (5-10 years).

**Results:**

Taking into account the parameters of clinically significant changes in refractive error ( $\geq 0.50$  Dsph or  $\geq 0.75$  Dcyl), preoperative and postoperative values of the operated and non-operated eye were compared and no statistically significant difference was found ( $p = 0.7911$ ).

**Conclusion:**

Horizontal muscle surgery in strabismus in children has no clinically significant induction of refractive errors.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ivan

**Ime i prezime / First and Last Name:-Last**

Rajčić

**Ustanova / Institution:**

Klinika za očne bolesti KBC Split

## 25. Zrinščak Ognjen

### **Naslov:**

Primarni orbitalni melanom

### **Autori:**

Zrinščak O, Iveković R, Prpić A, Kasumović A, Šimunić M, Dobravec J, Vatavek Z.

### **Ustanova:**

Klinika za očne bolesti, Klinički bolnički centar Sestre milosrdnice

### **Cilj:**

Primarni orbitalni melanom veoma je rijedak oblik melanoma. Cilj rada je prikazati tri slučaja primarnog orbitalnog melanoma

### **Bolesnici i metode:**

U Klinici za očne bolesti pri KBC Sestre milosrdnice od 2012.-

2022. liječena su te evaluirana tri bolesnika s primarnim orbitalnim melanom. U obzir su uzeti svi dostupni podaci o bolesnicima, uključujući bilješke o slučaju, slike, kirurški pristup, dijagnostičke i patohistološke pretrage, i dr.

### **Rezultati:**

Svi uključeni bolesnici imali su izolirani maligni melanom orbite, za koji pri prezentaciji nije identificirano drugo primarno mjesto. Praćenje je trajalo najmanje 12 mjeseci. Dva bolesnika su preminula, a u jednog bolesnika je zabilježena ponovna epizoda melanoma te je u tijeku liječenje s imunoterapijom.

### **Zaključak:**

Primarni orbitalni melanom rijedak je malignitet i treba ga razmotriti u bolesnika bez drugog primarnog sjela, odnosno u anamnezi ili jednostrane proptoze ili dobro definirane orbitalne mase u nalazima pretraga.

### **Title:**

Primary Orbital melanoma

**Authors:**

Zrinščak O, Iveković R, Prpić A, Kasumović A, Šimunić M, Dobravec J, Vatavek Z.

**Institution:**

University Department of Ophthalmology, University Hospital Center Sestre milosrdnice

**Aim:**

Primary orbital melanoma is a very rare condition accounting for 1% of all orbital tumors. We report three cases of primary orbital melanoma.

**Patients and methods:**

Three primary orbital melanoma patients were operated and evaluated in Clinical Hospital Center Sestre milosrdnice from 2012-2022. The case notes, imaging, surgical approach and histology were reviewed.

**Results:**

All of the included patients presented with isolated malignant melanoma of the orbit, for which no other primary site was identified at presentation. A follow-up lasted at least 12 months. Two of the patients died from the study and one had a recurrent episode of melanoma and is being treated with immune therapy.

**Conclusion:**

Primary orbital melanoma is a rare malignancy and should be considered in patients without other primary site at presentation as well as a history of either unilateral proptosis or well-defined orbital mass on imaging.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA ORBITU / Orbit section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ognjen

**Ime i prezime / First and Last Name:-Last**

Zrinščak

**Ustanova / Institution:**

Klinika za očne bolesti, KBC Sestre milosrdnice

## 26. Krešo Ante

### **Naslov:**

Korelacija između morfologije vidnog živca i pojavnosti perifernih ruptura retine

### **Autori:**

Krešo A, Žarković T, Batistić D, Bućan K

### **Ustanova:**

Klinika za očne bolesti, Klinički bolnički centar Split

### **Cilj:**

Istražiti postoji li korelacija između morfologije vidnog živca i pojavnosti perifernih ruptura mrežnice

### **Bolesnici i metode:**

Pacijenti (N=20) kojima je izvršena laserska fotokoagulacija mrežnice zbog razvoja periferne rupture mrežnice kao posljedice odvajanja stražnje staklovine, izmjerena je aksijalna duljina oka optičkim biometrom i analizirana je konfiguracija vidnog živca optičkom koherentnom tomografijom. Kontrolna skupina (N=16) su bili pacijenti s potpuno odignutom stražnjom staklovinom bez periferne rupture mrežnice. Kompletno odignuće staklovine klinički je bilo potvrđeno Weissovim prstenom koji flotira u vitrealnom prostoru i analizirana periferija mrežnice u svim kvadrantima. Isključujući kriteriji bili su glaukom, dijabetes, pseudofakija i bolesti vidnog živca.

### **Rezultati:**

Prosječna aksijalna duljina u ispitivanoj skupini (pacijenti s rupturom) iznosi 24.404mm [SD 1.03], dok u kontrolnoj skupini iznosi 23.772 mm [SD 1.12]. T-testom za neovisne uzorke nije se pokazala statistički značajna razlika u aksijalnoj duljini među skupinama  $p=0.087$ .

Nadalje, pokazala se značajna negativna korelacija između aksijalne duljine i disk areje (Pearsonova korelacija:  $-0.32$ ,  $p=0.05$ ). Slično se pokazalo u odnosima između aksijalne duljine i rim areje (Pearsonova korelacija:  $-0.33$ ,  $p=0.05$ ).

Ne nalazi se statistički značajne korelacije među parametrima optičkog diska izmjerenim OCT-om u ovisnosti o aksijalnoj duljini oka i vjerojatnosti pojave periferne rupture prilikom odizanja stražnje staklovine.

**Zaključak:**

Zbog malog broja ispitanika i mogućih otklona prilikom selekcije kontrolne skupine potrebno je daljnje istraživanje.

**Title:**

Correlation between optic nerve morphology and the occurrence of peripheral retinal ruptures

**Authors:**

Krešo A, Žarković T, Batistić D, Bućan K.

**Institution:**

Clinic for Eye Diseases, Clinical Hospital Center Split

**Aim:**

To investigate the correlation between optic nerve morphology and the occurrence of peripheral retinal ruptures

**Patients and methods:**

To patients (N = 20) who underwent laser photocoagulation of the retina due to the development of peripheral retinal rupture as a consequence of posterior vitreous detachment, axial eye length with an optical biometer was measured and optic nerve configuration was analyzed by optical coherence tomography. The control groups (N = 16) were patients with fully elevated posterior vitreous detachment without peripheral retinal rupture. Complete vitreous elevation was clinically confirmed by a Weiss ring floating in vitreal space and retinal periphery was analyzed in all quadrants. Excluding criteria were glaucoma, diabetes, pseudophakia, and optic nerve disease.

**Results:**

The average axial length in the study group (ruptured patients) was 24,404 mm [SD 1.03], while in the control group it was 23,772 mm [SD 1.12]. The T-test for independent samples did not show a statistically significant difference in axial length between the  $p = 0.087$  groups.

Furthermore, a significant negative correlation was shown between axial length and disc area (Pearson correlation: -0.32,  $p = 0.05$ ). Similar was shown in the relationships between axial length and rim area (Pearson correlation: -0.33,  $p = 0.05$ ).

There are no statistically significant correlations between the parameters of the

optical disc measured by OCT depending on the axial length of the eye and the probability of peripheral rupture when lifting the posterior vitreous.

**Conclusion:**

Due to the small number of respondents and possible deviations in the selection of the control group, further research is needed.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ante

**Ime i prezime / First and Last Name:-Last**

Krešo

**Ustanova / Institution:**

Klinika za očne bolesti, Klinički bolnički centar Split



## 27. Tena Križ

### **Naslov:**

Povezanost moždanog neurotrofnog čimbenika s oštećenjima vidnoga živca u bolesnika s primarnim glaukomom otvorenog kuta

### **Autori:**

Tena Križ, Mia Zorić Geber, Katia Novak-Lauš, Zoran Vatavuk

### **Ustanova:**

KBC Sestre milosrdnice

### **Cilj:**

Izmjeriti koncentraciju BDNF u očnoj vodici i serumu te utvrditi povezanost polimorfizma gena BDNF u bolesnika s primarnim glaukomom otvorenog kuta u odnosu na zdravu populaciju

### **Bolesnici i metode:**

U studiju je uključeno 200 pacijenata iznad 50 godina Klinike za očne bolesti „Sestre milosrdnice“ koji su operirali kataraktu i glaukom. Svim sudionicima uključenim u istraživanje uz potpisani i informirani pristanak i učinjen standardni oftalmološki pregled, izmjerena je koncentracija BDNF iz očne vodice, koncentracija BDNF iz seruma uzeta iz periferne venske krvi, određen polimorfizam gena BDNF te zastupljenost MYOC mutacije. Također su svi pacijenti preoperativno napravili strukturalne i funkcionalne dijagnostičke pretrage kako bismo gradirali stadij glaukoma.

### **Rezultati:**

Koncentracija BDNF u očnoj vodici nešto je viša kod pacijenata s POAG u odnosu na kontrolnu skupinu (4,20/3,14 pg/ml), dok je koncentracija BDNF u serumu niža u bolesnika s POAG u odnosu na kontrolnu skupinu (12,73/13,43 ng/ml). Polimorfizam gena BDNF Val66Met pokazao se podjednako zastupljen u svim formama kod pacijenata s POAG i kontrolnoj skupini. Mutacija MYOC gena zastupljena je u 3% ispitivane populacije.

### **Zaključak:**

Rezultati ovog istraživanja govore o mogućem doprinosu BDNF u mehanizmu nastanka glaukoma odnosno oštećenja, a što posljedično otvara vrata mogućim novim modalitetima liječenja glaukoma odnosno protekciji i prevenciji funkcionalnih i strukturalnih oštećenja vidnoga živca.

**Title:**

Linkage of brain neurotrophic factor with impaired optic nerve in a patient with primary open angle glaucoma

**Authors:**

Tena Križ, Mia Zorić Geber, Katia Novak-Lauš, Zoran Vatavuk

**Institution:**

UHC Sestre milosrdnice

**Aim:**

Measure the concentration of BDNF in aqueous humor and serum and to determine the association of BDNF gene polymorphism in patients with primary open angle glaucoma in relation to the healthy population

**Patients and methods:**

The study included 200 patients over 50 years old from Department of Ophthalmology, University Hospital Center „Sestre milosrdnice“ who underwent cataract and glaucoma surgery. All participants involved in the study have signed informed consent and performed a standard ophthalmic examination. The BDNF concentration from the aqueous humor was measured along with the serum BDNF concentration taken from the peripheral blood vein. Also the polymorphism of the BDNF gene and the presence of the MYOC mutation were determined. All patients performed preoperatively structural and functional diagnostic tests to determine the stage of glaucoma.

**Results:**

The concentration of BDNF in aqueous humor is slightly higher in patients with POAG compared to the control group (4.20/3.14 pg/ml), while the concentration of BDNF in serum is lower in patients with POAG compared to the control group (12.73/13.43 ng/ml). Polymorphism of the BDNF val66Met gene has been shown to be equally present in all forms in patients with POAG and control group. MYOC gene mutation is present in 3% of the study population.

**Conclusion:**

The results of this study indicate the possible contribution of BDNF to the mechanism of glaucoma damage and consequently opens the door to possible new modes of glaucoma treatment, in protection and prevention of functional and structural damage to the optic nerve.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Tena

**Ime i prezime / First and Last Name:-Last**

Križ

**Adresa / Street Address**

Zvonimira Rogoza 7

**Ustanova / Institution:**

KBC Sestre milosrdnice

## 28. Tamara Paravić

### Naslov:

Prikaz slučaja: Candida albicans korioretinis

### Autori:

Tamara Paravić, dr.med., specijalizant oftalmologije i optometrije; Vedran Markušić, dr.med. oftalmolog, subspec.stražnjeg segmenta oka; prof.dr.sc. Tea Čaljkušić – Mance, dr.med. oftalmolog, subspec.stražnjeg segmenta oka; prof.dr.sc. Damir Kovačević, dr.med. oftalmolog, subspec. prednjeg i stražnjeg segmenta oka; Tin Šimić, dr.med., specijalizant oftalmologije i optometrije

### Ustanova:

KBC Rijeka

### Cilj:

Prikaz slučaja korioretinisa uzrokovanog Candidom albicans. Faktor rizika za nastanak korioretinisa specifično kod ovog slučaja su imunosupresija pacijenta kojem je u terapiju između ostale uveden prednizon tokom prethodne hospitalizacije na Klinici za Internu medicinu pod dijagnozom "Sepse uzrokovane E.Coli" uz apsces lijevog bubrega, leziju jetre i bilateralnu pneumoniju.

### Bolesnici i metode:

Pacijent 60 godina star se javlja na Kliniku za oftalmologiju radi pada vidne oštine i flotirajućih mutnina ispred desnog oka. Pri kliničkoj obradi pacijenta učinjen je opći oftalmološki pregled, korištena se optička koherentna tomografija i fundus kamera. Postavila se dijagnoza korioretinalne upale koja je pacijent u potpunosti obrađen.

### Rezultati:

Uz žarišne, infiltrativne lezije na fundusu desnog oka i vitreo-makularne trakcije dokazane OCT-om, mikrobiološkom analizom iz seruma dokazan je pozitivan nalaz na C. Albicans IgG > 3,025 t i je postavljena dijagnoza korioretinalne upale uzrokovane Candidom. U terapiju je uveden flukonazol i.v. uz cefepim. Po primjeni terapije dolazi do poboljšanja kliničke slike i vidne oštine. Radi VMT u progresiji planira se operativno liječenje; fakovitrektomija +erm/ilm peel.

### Zaključak:

Kad se postavi dijagnoza korioretinalne upale kod imunokopromitiranih pacijenata uvijek treba diferencijalno dijagnostički posumnjati na Candidu albicans kao mogućeg uzročnika radi što ran

ijeg postavljanja dijagnoze te ciljanog liječenja, sprečavanja progresije bolesti, mogućih komplikacija i nepovratnog gubitka vida. Pacijente s dijagnosticiranim *C.albicans* korioretinitisom treba redovito pratiti jer imaju povećan rizik za nastanak CNV-a, a samim time i rizik za posljedičnim padom vidne oštrine.

**Title:**

Case report: *Candida albicans* chorioretinitis

**Authors:**

Tamara Paravić, MD, resident of ophthalmology and optometry; Vedran Markušić, MD, ophthalmologist, retina specialist; prof.dr.sc. Tea Čaljkušić – Mance, MD, ophthalmologist, retina specialist; prof.dr.sc. Damir Kovačević, MD, ophthalmologist, anterior segment and retina specialist, Tinšimić, MD, resident of ophthalmology and optometry

**Institution:**

Clinical Hospital Center Rijeka

**Aim:**

A Case report of chorioretinitis caused by *Candida Albicans*. Immunosuppression is a specific risk factor in the development of chorioretinitis for a patient who was previously treated with prednisone during his hospitalization at the Clinic of Internal Medicine under the diagnosis of "E. coli sepsis" with left kidney abscess, liver lesion and bilateral pneumonia.

**Patients and methods:**

A 60 years old patient is submitted at the Clinic of Ophthalmology at Clinical Hospital Center Rijeka due to decreased visual acuity and floaters in front of the right eye. General ophthalmic examination was performed during the clinical treatment of the patient as well as optical coherence tomography (OCT) and fundus camera. Patient was diagnosed with chorioretinal inflammation and was treated accordingly.

**Results:**

Microbiological analysis showed a positive medical report for *C. Albicans* IgG > 3,025 so a diagnosis of chorioretinal inflammation caused by *Candida* was established in addition to focal, infiltrative lesions on the fundus of the right eye and vitreomacular traction proven by OCT. Prescribed therapy: Fluconazole with cefepime i.v. Visual acuity improved and a clinical picture as well after the application of the therapy. Due to a progressed stage VMT a surgical treatment is planned - Phacovitrectomy + ILM / ILM peel.

**Conclusion:**

Candida albicans should always be suspected in the differential diagnosis as a possible cause when diagnosed with chorioretinal inflammation in immunocompromised patients. This can prevent disease progression, possible complications and irreversible vision loss. Patients diagnosed with C. albicans chorioretinitis should be monitored regularly as they have an increased risk of developing CNV, and thus a risk of consequent decrease in visual acuity.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Tamara

**Ime i prezime / First and Last Name:-Last**

Paravić

**Ustanova / Institution:**

KBC Rijeka

## 29. Josip Knežević

### **Naslov:**

Multipli, superficijalno šireći karcinom bazalnih stanica u periokularnom području-terapijski izazovi.

### **Autori:**

J. Knežević; A. Jakovčević; D.Lončarić

### **Ustanova:**

KBC Zagreb

### **Cilj:**

-

### **Bolesnici i metode:**

-

### **Rezultati:**

-

### **Zaključak:**

Koža lica je jedna od suncu najizloženijih regija na tijelu, što je čini čestom lokacijom za razvoj najčešćeg, malignog epitelnog tumora kože- bazocelularnog karcinoma (BCC). Njegovom lokacijom na vjeđama dolazi do ugrožavanja funkcije zaštitnog aparata oka kako njegovim rastom tako i terapijskim modalitetima koje primjenjujemo da bi ga uklonili. Kroz prikaz slučaja prikazati ćemo različite metode terapijskog pristupa koje za cilj imaju uklanjanje tumorskih stanica u potpunost uz što manji mutilirajući efekt.

### **Title:**

Multiple, superficially spreading basal cell carcinoma in the periocular area - therapeutic challenges.

### **Authors:**

J. Knežević; A. Jakovčević; D.Lončarić

**Institution:**

University Hospital Centre Zagreb

**Aim:****Patients and methods:****Results:****Conclusion:**

Facial skin is one of the most sun-exposed regions on the body, making it a common site for the development of basal cell carcinoma (BCC). It is the most common malignant epithelial skin tumor. Tumor location on the eyelids endangers their function, both with its growth and the therapeutic modalities that we apply to remove it.

Through the case report, we will present different methods of therapeutic approaches that aim to eradicate tumor cells with as little mutilating effect as possible.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA ORBITU / Orbit section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Josip

**Ime i prezime / First and Last Name:-Last**

Knezevic

**Ustanova / Institution:**

KBC Zagreb



### 30. Andrea Domiter

**Naslov:**

Pedikuloza trepavica i vjeđa kao rijedak diferencijalno dijagnostički uzrok blefarokonjunktivitisa

**Autori:**

Andrea Domiter, Marija Barišća Kutija, Sanja Perić, Petra Kristina Lozo Ivkić, Martina Galiot Delić

**Ustanova:**

KBC Zagreb

**Cilj:**

Cilj ovog prikaza slučaja je ukazati na važnost detaljnog pregleda trepavica i vjeđa prilikom susreta sa simptomima i znakovima blefarokonjunktivitisa kako se pedikuloza trepavica kao jedna od rjeđih diferencijalno dijagnostičkih uzroka blefarokonjunktivitisa ne bi previdjela.

**Bolesnici i metode:**

Prikaz slučaja

**Rezultati:**

Djevojčica u dobi pet godina pratila se od strane oftalmologa u vanjskoj ustanovi zbog kronično g blefarokonjunktivitisa oba oka. Klasični terapijski pristup antibioticima i kombinacijom antibiotika i kortikosteroida te antihistaminika u obliku kapi nije davao željene rezultate. Na slijedećem pregledu u dječjoj oftalmološkoj ambulanti KBC-a Zagreb uočena je pedikuloza vjeđa i trepavica te je provedena ciljana terapija.

**Zaključak:**

Kod kroničnog blefarokonjunktivitisa uz virusne, bakterijske i alergijske agense kao uzročnike važno je voditi računa i o parazitima kao jednim od mogućih uzročnika pri čemu je važno ne previdjeti pregled trepavica.

**Title:**

Phthiriasis palpebrarum as a rare differential diagnostic cause of blepharoconjunctivitis.

**Authors:**

Andrea Domiter, Marija Barišća Kutija, Sanja Perić, Petra Kristina Lozo Ivkić, Martina Galiot Delić

**Institution:**

KBC Zagreb

**Aim:**

The aim of this case report is to point to the importance of detailed examination of eyelashes and eyelids in a patients presenting with symptoms and signs of blepharoconjunctivitis. It is the only way not to overlook pediculosis of eyelids as one of the rare diferential diagnositic cause of blepharoconjunctivitis.

**Patients and methods:**

Case report

**Results:**

A 5-year-old girl who presented with symptoms of blepharoconjunctivitis of both eyes was previously examined by ophthalmologist. Classic threatment aproach with antibiotics and combination of antibiotics and corticosteroids with antihistaminic drops did not gave sufficient results. Follow up detailed examination of eyelids and eyelashes at Ophthalmology clinic, KBC Zagreb showed one adult crab-like louse and mulitple eggs attached to eyelashes. That finding was folowed up by targeted the rapy and resulted with resolution of the simptoms.

**Conclusion:**

Chronic blepharoconjunctivitis can be caused by bacteria, viruses or allergic agents. Parasites should not be neglected and forgotten as one of the possible causes of chronic blepharoconjunctivitis. That is why, during examination, eyelashes should not be baypassed and should be carefully examined.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Andrea

**Ime i prezime / First and Last Name:-Last**

Domiter

**Ustanova / Institution:**

Klinika za dječje bolesti Zagreb

## 31. Boško Jakšić

### Naslov:

Neuroretinitis ili hipertenzivna retinopatija (Prikaz slučaja)

### Autori:

Jakšić B, Znaor Lj

### Ustanova:

Klinika za očne bolesti, KBC Split

### Cilj:

Prikazati slučaj bolesnika s malignom hipertenzijom koja se manifestirala zamućenim vidom na jedno oko.

### Bolesnici i metode:

Bolesnik u dobi od 42 godine, do sada zdrav, prezentirao se s bezbolnim zamućenjem vida na desno oko koje je počelo 2-3 dana pred javljanje na hitni oftalmološki prijem. Oftalmološkim pregledom i pretragom optičkom koherentnom tomografijom (OCT) postavljena je radna dijagnoza neuroretinitisa te se upućuje na bolničku obradu i liječenje.

### Rezultati:

Na desnom oku disk vidnog živca je bio nejasnih granica, nazalno od fovee je viđen cotton wool eksudat.

OCT makule je pokazao intra i subretinalnu tekućinu nazalno od fovee. Učinjena je fluoresceinska angiografija (FA) koja je pokazala propuštanje fluoresceina uz rub diska vidnog živca te na opisanom mjestu nazalno od fovee, dok je na lijevom oku također viđeno diskretno propuštanje fluoresceina uz rub diska vidnog živca, iako je klinički nalaz fundusa bio uredan.

Treći dan od hospitalizacije bolesnik je razvio glavobolju, izmjerene su povišene vrijednosti arterijskog tlaka 200/100 mmHg. Do navečer se arterijski tlak nije uspio dovesti u normalu usprkos propisanoj terapiji od strane kardiologa; navečer je vrijednost arterijskog tlaka iznosila i 220/140 mmHg te se upućuje u jedinicu intenzivne koronarne skrbi.

Nakon normalizacije arterijskog tlaka došlo je do povlačenja promjena na fundusu.

**Zaključak:**

Inače zdravi 42-godišnji bolesnik s malignom hipertenzijom prezentirao se samo sa zamućenim vidom na desno oko. Glavobolju razvija tek peti dan od početka smetnji vida. Izuzetno je važno imati na umu kako se i maligna hipertenzija može prezentirati samo s mutnijim vidom na jedno oko.

**Title:**

Neuroretinitis vs hypertensive retinopathy (Case report)

**Authors:**

Jaksic B, Znaor L

**Institution:**

Department of Ophthalmology, University Hospital Centre Split

**Aim:**

To present the case of a patient with malignant hypertension manifested by blurred vision in one eye.

**Patients and methods:**

A 42-year-old patient, otherwise healthy, presented with painless blurred vision in the right eye that began 2-3 days before reporting to the emergency ophthalmologist. Ophthalmological examination and optical coherence tomography (OCT) examination revealed a working diagnosis of neuroretinitis and referred for hospital admittance.

**Results:**

In the right eye, the optic disc had indistinct borders, a cotton wool exudate was seen nasally from the fovea. OCT of the macula showed intra and subretinal fluid nasally from the fovea. Fluorescein angiography (FA) was performed which showed leakage along the edge of the optic disc and at the described site nasally from the fovea, while discrete fluorescein leakage along the edge of the optic disc was also seen in the left eye, although the clinical finding of the fundus was normal. On the third day after hospitalization, the patient developed a headache, and elevated blood pressure values of 200/100 were measured. By evening, blood pressure had failed to normalize despite prescribed therapy by a cardiologist; in the evening the value of blood pressure

was also 220/140 mmHg and he was transferred to the intensive coronary care unit. After normalization of the blood pressure there was a withdrawal of changes in the fundus.

**Conclusion:**

An otherwise healthy 42-year-old patient with malignant hypertension presented only with blurred vision in the right eye. Headache develops only on the fifth day after the onset of visual disturbances. It is extremely important to keep in mind that malignant hypertension can be presented only with blurred vision in one eye.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Boško

**Ime i prezime / First and Last Name:-Last**

Jakšić

**Ustanova / Institution:**

KBC Split

## 32. Andrija Božo Škarić

### Naslov:

Enterococcus faecalis ulkusi rožnice s endoftalmitisom i posljedičnom obostranom sljepoćom kao posljedica neprepoznatog namjernog samoozljeđivanja – prikaz slučaja

### Autori:

Andrija Božo Škarić<sup>1</sup>, Sanja Masneć<sup>1,2</sup>, Sanja Vidas Pauk<sup>1</sup>, Marija Barišić Kutija<sup>1</sup>, Miro Kalauz<sup>1,2</sup>, Tomislav Kuzman<sup>1,2</sup>, Ivan Škegro<sup>1,2</sup>, Tomislav Jukić<sup>1,2</sup>, Sven Seiwerth<sup>3</sup>

### Ustanova:

1 Klinika za oftalmologiju KBC-a Zagreb, Zagreb, Hrvatska 2 Medicinski fakultet Sveučilišta u Zagrebu, Zagreb, Hrvatska 3 Zavod za patologiju, Medicinski fakultet Sveučilišta u Zagrebu, Zagreb, Hrvatska.

### Cilj:

Prikazati slučaj ulkusa rožnice s endoftalmitisom uzrokovanim Enterococcus faecalis i posljedičnom obostranom sljepoćom kao rezultat neprepoznatog namjernog samoozljeđivanja.

### Bolesnici i metode:

Opis kliničkog tijeka, dijagnostičke metodologije i ishoda u bolesnika sa samoinduciranim Enterococcus faecalis ulkusom rožnice i endoftalmitisom.

### Rezultati:

56-

godišnja pretila žena primljena je u bolnicu zbog progresivnog ulkusa rožnice na lijevom oku. Dodatni nalazi uključivali su lezije rožnice na desnom oku, patološki nalaz očne adneksalne kože u oba oka, kao i kožne lezije drugdje po tijelu. Provedena je mikrobiološka pretraga s brisom konjunktive i struganjem rožnice. Urađena je biopsija ušne resice, kože i sluznice donje usne, te kompletni serološki i imunološki panel za isključivanje sistemskih autoimunih bolesti. Biopsije i dijagnostički paneli bili su negativni. E. faecalis je pozitivan samo na kulturama i liječen je prema antibioticogramu i injekcijama kortikosteroida.

To je dovelo do sumnje na kombinirano mehaničko i infektivno oštećenje rožnice i kože uslijed samoozljeđivanja. Pacijentica je negirala takvo ponašanje te je stoga pružena psihijatrijska konzultacija. Dijagnosticiran joj je anksiozno-depresivni poremećaj te joj je primijenjena odgovarajuća terapija. Nisu pronađeni znakovi drugi

h psihijatrijskih poremećaja i disociranog ponašanja, a pacijentica ih je i dalje poricala. Otpuštena je iz bolnice nakon povlačenja upale oka. Nekoliko mjeseci kasnije ponovno je primljena s ulkusom rožnice desnog oka nakon čega je uslijedio endoftalmitis. Lezije su kože također bile ozbiljnije. Pokušaji prodorne keratoplastike i operacije katarakte izvedeni su na oba oka i unatoč sistemske terapiji kortikosteroidima, razvila je ponavljajuće odbacivanje transplantata rožnice. Unatoč svim poduzetim terapijskim, konzervativnim i kirurškim protokolima, završila je bez percepcije svjetla na desnom oku i percepcije svjetla na lijevom oku s fuzijom oba oka.

### **Zaključak:**

Ulkus rožnice uzrokovan infekcijom *Enterococcus faecalis* doista je rijedak nalaz. Iako rijetkost, namjernu mehaničku traumu oka treba uzeti u obzir u progresivnoj i etiološki nejasnoj patologiji oka. Nekooperativno ponašanje pacijentice, stalno poricanje samoozljeđivanja i kontinuirano pogoršanje njezina zdravstvenog stanja uvijek bi trebali izazvati zabrinutost zbog temeljnog psihijatrijskog problema. Ranijim postavljanjem pravilne dijagnoze i psihijatrijskim liječenjem ovaj je slučaj mogao imati drugačije rješenje.

### **Title:**

*Enterococcus faecalis* corneal ulcers with endophthalmitis and consequent bilateral blindness as a result of unrecognized intentional self-injury – a case report

### **Authors:**

Andrija Bozo Skaric<sup>1</sup>, Sanja Masnec<sup>1,2</sup>, Sanja Vidas Pauk<sup>1</sup>, Marija Barišić Kutija<sup>1</sup>, Miro Kalauz<sup>1,2</sup>, Tomislav Kuzman<sup>1,2</sup>, Ivan Škegro<sup>1,2</sup>, Tomislav Jukić<sup>1,2</sup>, Sven Seiwert<sup>3</sup>

### **Institution:**

<sup>1</sup> Department of Ophthalmology, Zagreb University Hospital Center, Zagreb, Croatia <sup>2</sup> School of Medicine, University of Zagreb, Zagreb, Croatia <sup>3</sup> Department of Pathology, School of Medicine, University of Zagreb, Zagreb, Croatia.

### **Aim:**

to present a case of *Enterococcus faecalis* corneal ulcers with endophthalmitis and consequent bilateral blindness as a result of unrecognized intentional self-injury

### **Patients and methods:**

Description of the clinical course, diagnostic methodology and outcome in a patient with self-induced *Enterococcus faecalis* corneal ulcers and endophthalmitis.

### **Results:**



A 56-year-old obese woman was admitted to the hospital due to a progressive corneal ulcer in the left eye. Additional findings included corneal lesions in the right eye, pathological ocular adnexal skin findings in both eyes as well as skin lesions elsewhere in the body. A microbiology assay with a conjunctival swab and corneal scrapings were conducted. A biopsy of the earlobe, skin and lower lip mucosa was performed, as well as a complete serological and immunologic panel to exclude systemic autoimmune diseases. Both the biopsies and diagnostic panels came back negative. *E. faecalis* was only found positive on the cultures and was treated according to antibiogram and with corticosteroid injections.

This led to the suspicion of combined mechanical and infective damage of corneas and skin due to self-

injury. The patient denied such behavior and thus a psychiatric consultation was provided. She was diagnosed with the anxiety-

depressive disorder, and appropriate therapy was administered. No signs of other psychiatric disorders and dissociated behaviors were found, while the patient denied them. She was discharged from the hospital after the resolution of eye inflammation. A few months later, she was readmitted with the right eye corneal ulcer followed by an endophthalmitis. Skin lesions were also more severe. Attempts of penetrating keratoplasty and cataract surgery were performed on both eyes and despite systemic corticosteroid therapy, she developed repetitive corneal graft rejection. Despite all the therapeutic, conservative, and surgical protocols taken, she ended up with no light perception on the right eye and light perception on the left eye with phthisis of both eyes.

### **Conclusion:**

Corneal ulcer caused by *Enterococcus faecalis* infections is indeed a rare finding. Although a rarity, intentional mechanical eye trauma should be considered in progressive and etiologically unclear eye pathology. The patient's uncooperative behavior, constant denial of self-harm and continuous worsening of her health condition should always raise a concern of underlying psychiatric problem. By setting proper diagnosis earlier and with psychiatric treatment, this case could have had a different resolution.

### **Kongres / Congresse:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

### **Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Andrija Božo

**Ime i prezime / First and Last Name:-Last**

Škarić

**Ustanova / Institution:**

Klinika za oftalmologiju KBC-a Zagreb

### 33. Evgeniia Perevoznikova

**Naslov:**

Akutna makularna neuroretinopatija kod bolesnika sa COVID-19 infekcijom

**Autori:**

Evgeniia Perevoznikova, dr.med; prof.dr.sc Nenad Vukojević, dr.med; Vlatka Brzović Šarić, dr.sc.

**Ustanova:**

Klinika za očne bolesti, KBC Zagreb; Klinika za očne bolesti „Sveti Duh“, Zagreb

**Cilj:**

Prikazati slučaj bolesnika sa bilateralnom akutnom makularnom neuroretinopatijom (AMN) povezanom sa COVID-19 infekcijom.

**Bolesnici i metode:**

Opis kliničkog tijeka, adekvatnih dijagnostičkih slikovnih metoda i ishod kod pacijenta s akutnom makularnom neuroretinopatijom za vrijeme COVID-19 infekcije.

**Rezultati:**

43-

godišnji pacijent se javlja u Hitnu službu zbog nepokretne sivocrne fleke u centru vidnog polja lijevog oka te fleke u gornjem vanjskom dijelu vidnog polja desnog oka. Navedene smetnje su se javile 3.dan od početka COVID-19 infekcije, nakon što je imao visoku temperaturu. OCT-om, angiogram, OCTom, "infra red" fundus fotografijom, mfERG, Octopus perimetrijom nađene tipične promjene i postavljena dijagnoza akutne makularne neuroretinopatije.

**Zaključak:**

Akutna makularna neuroretinopatija se može razviti kod oboljelih od COVID-19 infekcije. Pretpostavljamo da bi ishemija duboke retinalne vaskularne mreže koja dovodi do akutne makularne neuroretinopatije mogla biti posljedica vaskularnih komplikacija infekcije s COVID-19. Akutna makularna neuroretinopatija je poremećaj koji ne zahtjeva liječenje nego je to "self limited disease".

**Title:**

Acute macular neuroretinopathy in patients with COVID-19 infection

**Authors:**

Evgeniia Perevoznikova, dr.med; prof.dr.sc Nenad Vukojević, dr.med; Vlatka Brzović Šarić, dr.sc.

**Institution:**

Department of Ophthalmology, University Hospital Centre Zagreb; Department of Ophthalmology, University Hospital "Sveti Duh", Zagreb

**Aim:**

To present a case of a patient with bilateral acute macular neuroretinopathy (AMN) associated with COVID-19 infection

**Patients and methods:**

Description of the clinical course, adequate diagnostic imaging methods and outcome in a patient with acute macular neuroretinopathy during COVID-19 infection.

**Results:**

A 43-year-old patient reported to the Emergency Room due to an immobile gray-black spot in the center of the left field of vision and a spot in the upper outer part of the vision field of the right eye. The mentioned disturbances occurred on the 3rd day from the beginning of COVID-19 infection, after he had a high temperature. OCT, angio-OCT, "infrared" fundus photography, mfERG, Octopus perimetry found typical changes and the diagnosis of acute macular neuroretinopathy was made.

**Conclusion:**

Acute macular neuroretinopathy may develop in patients with COVID-19 infection. We hypothesize that deep retinal vascular network ischemia leading to acute macular neuroretinopathy could be due to vascular complications of COVID-19 infection. Acute macular neuroretinopathy is a disorder that does not require treatment but is a "self limited disease".

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Evgeniia

**Ime i prezime / First and Last Name:-Last**

Perevoznikova

**Ustanova / Institution:**

KBC Zagreb

## 34. Luka Šimić

### **Naslov:**

Simpatička oftalmija nakon pars plana vitrektomije

### **Autori:**

Luka Šimić, dr.med., prof.dr.sc. Nenad Vukojević, dr.med.

### **Ustanova:**

KBC Zagreb, Poliklinika za oftalmologiju, ginekologiju i internu medicinu Fokus

### **Cilj:**

Cilj ovog rada je prikazati klinički tijek, dijagnozu i liječenje simpatičke oftalmije nakon pars plana vitrektomije na kontralateralnom oku. Specifičnost u ovom slučaju je sama rijetkost pojave simpatičke oftalmije kod kirurških i nekirurških penetrantnih ozljeda oka.

### **Bolesnici i metode:**

Pacijentica stara 78 godina dolazi na kliniku nakon dvije pars plana vitrektomije na lijevom oku s tegobama kroničnog uveitisa desnog oka. Lijevo oko bilo je hipotonično i slijepo nakon dvije pars plana vitrektomije zbog ablacije retine. Pri kliničkoj obradi, za uspostavu dijagnoze, korištena je klinička slika bolesti, fundus kamera, fluoresceinska angiografija, FAF i optička koherentna tomografija. Postavlja se dijagnoza simpatičke oftalmije desnog oka u sklopu koje je pacijentica u potpunosti obrađena.

### **Rezultati:**

Vidna oštrina desnog oka pri prvom pregledu bila je 0.05, a lijevo oko L-, P-. Intraokularni tlak desno 14 mmHg, lijevo hipotonija. Tehnikom vizualizacije pozadine oka ustanovljuje se vitritis, multifokalni korioiditis, papilitis i Dalen-Fuchs čvorići. Standardni test za uveitis bio je negativan. U terapiju se uvodi prednizolon 60 mg per os sa sporim oslobađanjem, metotreksat 12.5 mg tjedno i lokalna kortikosteroidna terapija. Nakon 3 mjeseca terapija prednizolonom se pokušala ukinuti, no upala se počela vraćati. Zatim je uveden adalimumab 40 mg subkutano, svaka 2 tjedna u kombinaciji s metotreksatom 12.5 mg tjedno. Upala se povukla i vidna oštrina desnog oka stabilizirala se na 0.15.

**Zaključak:**

Simpatička oftalmija agresivna je bolest koja značajno ugrožava vid pacijenta. Mogućnost pojave jivanja simpatičke oftalmije treba uvijek uzeti u obzir kod uveitisa u kontralateralnom oku nakon što je drugo oko bilo podvrgnuto kirurškom zahvatu ili ozljedi. Pojava simpatičke oftalmije zahijeva agresivnu sistemska imunosupresivnu i lokalnu protuupalnu terapiju.

**Title:**

Sympathetic ophthalmia after pars plana vitrectomy

**Authors:**

Luka Šimić, dr.med., prof.dr.sc. Nenad Vukojević, dr.med.

**Institution:**

KBC Zagreb, Poliklinika za oftalmologiju, ginekologiju i internu medicinu Fokus

**Aim:**

To present the clinical course, diagnosis and treatment of sympathetic ophthalmia after pars plana vitrectomy in the fellow eye. The rarity of sympathetic ophthalmia in surgical and non-surgical eye wounds.

**Patients and methods:**

A 78-year-old lady suffered from chronic uveitis on the right eye and was referred to the clinic. The left eye was blind and hypotonic after two pars plana vitrectomy for retina detachment. Methods used to diagnose the patient were clinical course, retinal imaging such as fundus photography, fluorescein angiography, FAF (Fundus autofluorescence) and OCT (Optical coherence tomography). Diagnosis of sympathetic ophthalmia is set and the patient is treated.

**Results:**

Visual acuity of the right eye at the first examination was 0,05 and the left eye L-, P-. Intraocular pressure right 14 mmHg, left hypotony. The technique of visualizing the background of the eye establishes vitritis, multifocal choroiditis, papillitis and Dalen-Fuchs nodules. The standard test for uveitis was negative. Therapy included prednisolone 60 mg oral use with slow tapering, methotrexate 12.5 mg weekly and local corticosteroids. After 3 months we tried to discontinue prednisolone, but the inflammation kept coming back. We started adalimumab 40 mg subcutaneous every 2 weeks in combination with methotrexate 12.5 mg weekly. The inflammation subsided and the visual acuity of the right eye stabilized at 0.15.

**Conclusion:**

Sympathetic ophthalmia is an aggressive and vision-threatening disease. The possibility of sympathetic ophthalmia must always be considered in uveitis of the remaining eye when the fellow eye has been injured or undergone surgery. The occurrence of sympathetic ophthalmia requires aggressive systemic immunosuppressive and local anti-inflammatory therapy.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Luka

**Ime i prezime / First and Last Name:-Last**

Šimić

**Ustanova / Institution:**

Poliklinika za oftalmologiju, ginekologiju i internu medicinu Fokus



## 35. Bruno Markioli

### Naslov:

Dilatacija brahijalne arterije uslijed povećane protočnosti krvi (FMD) i debljina intima-medije karotidne arterije kod pacijenata s glaukomom

### Autori:

Markioli B, Vanjaka Rogošić L, Kabić Š, Bućan I, Borjan I, Majić A, Bućan K, Rogošić V

### Ustanova:

Klinika za očne bolesti, KBC Split, predstojnik prof. dr. sc. Kajo Bućan, dr. med

### Cilj:

Cilj istraživanja bio je ultrazvučnim mjerenjima ispitati sposobnost dilatacije brahijalne arterije u slijed povećane protočnosti krvi (FMD), izmjeriti debljinu intima-medije karotidne arterije (IMT) i ispitati njihov međusobni odnos kod glaukopskih bolesnika.

### Bolesnici i metode:

37 bolesnika s glaukomom i 31 zdravih ispitanika bili su uključeni u istraživanje. Provedena su ultrazvučna mjerenja dilatacije brahijalne arterije uslijed povećanog protoka krvi (FMD) kao i mjerenje debljine intima-medije karotidne arterije.

### Rezultati:

Vrijednosti FMD-

brahijalne arterije su bile značajno niže kod glaukopskih bolesnika u odnosu na zdrave ispitanike ( $15,3 \pm 9,5\%$  vs  $19,8 \pm 9,3\%$ ;  $p=0,04$ ). Nisu ustanovljene značajne razlike u debljini IMT-a karotidne arterije ( $1,2 \pm 0,4$  vs.  $1,1 \pm 0,3$ ,  $p=0,4$ ) kao i u promjeru brahijalne arterije u mirovanju u kod obje skupine ( $4,7 \pm 0,6$  vs.  $4,9 \pm 0,3$ ,  $p=0,2$ ). Značajna razlika je pronađena u promjeru brahijalne arterije u hiperemiji kod glaukopskih bolesnika u odnosu na zdrave ispitanike ( $5,4 \pm 0,6$  vs.  $5,9 \pm 0,4$ ,  $p=0,002$ ). Ustanovljena je negativna međusobna povezanost između vrijednosti FMD-a brahijalne arterije i debljine IMT-a karotidne arterije kao i između vrijednosti FMD-a brahijalne arterije i promjera brahijalne arterije u mirovanju.

**Zaključak:**

Vrijednosti FMD brahijalne arterije kod glaukomaških bolesnika ukazuju na vaskularnu endotelnu disfunkciju, a same niže vrijednosti FMD-a sugeriraju veći rizik od zadebljanja IMT-a karotidne arterije.

**Title:**

Brachial flow-mediated dilatation, and carotid intima-media thickness in glaucoma patients

**Authors:**

Markioli B, Vanjaka Rogošić L, Kabić Š, Bućan I, Borjan I, Majić A, Bućan K, Rogošić V

**Institution:**

Department of ophthalmology, University Hospital Centre Split, head of the clinic: prof. Kajo Bućan, MD, PhD

**Aim:**

The aim of this study was to assess the ultrasound measurements of flow mediated dilatation (FMD) of the brachial artery, and intima-media thickness (IMT) of the carotid artery and their correlation in glaucoma patients.

**Patients and methods:**

37 glaucoma patients, and 31 healthy individuals were included in the study. All of the participants underwent ultrasound measurements of flow-mediated dilatation (FMD) of the brachial artery and ultrasound measurements of intima-media thickness of the carotid artery.

**Results:**

Mean values of brachial FMD were significantly lower among the glaucoma patients compared to the control group ( $15.3 \pm 9.5\%$  vs  $19.8 \pm 9.3\%$ ,  $p=0.04$ ). No significant difference was found in the carotid IMT ( $1.2 \pm 0.4$  vs.  $1.1 \pm 0.3$ ,  $p=0.4$ ), and brachial artery diameter at rest ( $4.7 \pm 0.6$  vs.  $4.9 \pm 0.3$ ,  $p=0.2$ ) between the glaucoma patients and the control group. There was a significant difference in brachial artery diameter in hyperemia between the glaucoma patients and the control group ( $5.4 \pm 0.6$  vs.  $5.9 \pm 0.4$ ,  $p=0.002$ ). A negative correlation was found between the brachial FMD and carotid IMT, as well as brachial FMD and brachial artery diameter at rest.

**Conclusion:**

Impaired brachial FMD indicates the presence of a systemic vascular endothelial dysfunction in glaucoma patients. Glaucoma patients with lower values of brachial FMD are at increased risk of having thickened carotid IMT.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Bruno

**Ime i prezime / First and Last Name:-Last**

Markioli

**Ustanova / Institution:**

KBC Split, Klinika za očne bolesti

## 36. Marta Zatzalo

### **Naslov:**

Lignozni konjuktivitis u kongenitalnoj bolesti- prikaz slučaja

### **Autori:**

Marta Zatzalo, Andrea Lukanović Kegalj, Maja Novak Stroligo, Zvjedana Alpeza Dunato, Tea Čaljki ušić Mance

### **Ustanova:**

Klinički bolnički centar Rijeka

### **Cilj:**

Prikaz slučaja lignoznog konjuktivitisa, najčešće kliničke manifestacije rijetke multisistemske bolesti uzrokovane kongenitalnim deficitom plazminogena.

### **Bolesnici i metode:**

Novorođenče staro tri tjedna dolazi u hitnu oftalmološku ambulantu radi crvenila očiju i sekrecije od rođenja. Pregledom se nađu fibrinske pseudomembrane tarzalnih spojnica obostrano. Unatoč opetovanom odstranjenju i lokalnoj terapiji, nove pseudomembrane ukazuju na recidivirajući karakter. Učine se brisevi spojnica koji pokazuju normalnu konjunktivalnu floru.

### **Rezultati:**

Klinička slika i anamnestički podaci o recidivirajućim respiratornim infekcijama i normotenzivnom hidrocefalusu snažno govore u prilog podležeće kongenitalne bolesti te se laboratorijskim nalazom potvrdi kongenitalni deficit plazminogena.

### **Zaključak:**

Klinička slika lignoznog konjuktivitisa ovisi o sposobnosti kontrole upale i recidiva pseudomembrana. U slučajevima kada su zahvaćeni i drugi organski sustavi praćenje i liječenje je multidisciplinarno. Anamnestički podaci mogu biti ključni u evaluaciji pacijenta.

### **Title:**

Ligneous conjunctivitis in congenital disease-case report

**Authors:**

Marta Zatezalo, Andrea Lukanović Kegalj, Maja Novak Stroligo, Zvjedana Alpeza Dunato, Tea Čaljkušić Mance

**Institution:**

Clinical hospital center Rijeka

**Aim:**

Case report of ligneous conjunctivitis, the most commonly clinical presentation of rare multisystem disease caused by congenital deficiency of plasminogen.

**Patients and methods:**

Three-weeks old newborn comes to our emergency room due to redness and secretion of both eyes since birth. On examination were found bilateral pseudomembranes on tarsal conjunctivas. Despite the continually removal of pseudomembranes and local therapy, new pseudomembranes highlight the recurrent nature. Swabs of conjunctivas were taken and result in normal conjunctival flora.

**Results:**

Clinical appearance and medical history of recurrent respiratory infection and normotensive hydrocephalus suggested the potential congenital disorder and laboratory test confirmed the diagnosis of congenital deficiency of plasminogen.

**Conclusion:**

The clinical appearance of ligneous conjunctivitis depends on the ability to control the inflammation and recurrence of the pseudomembranes. If other areas of mucous membranes are involved, it requires a multidisciplinary approach and management. Medical history can have a significant role in evaluation of patient.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Marta

**Ime i prezime / First and Last Name:-Last**

Zatezalo

**Ustanova / Institution:**

Dom zdravlja Primorsko-goranske županije

### 37. Josipa Marin Lovrić

**Naslov:**

Uloga oftalmologa u Williams-Beuren sindromu, prikaz slučaja

**Autori:**

Marin Lovrić J, Vučinović A, Matutinović Odak Ž, Marković I, Bućan K.

**Ustanova:**

Klinički bolnički centar Split, Klinika za očne bolesti

**Cilj:**

Predstaviti periokularna i okularna obilježja kod djevojčice od 5 mjeseci i 20 dana s Williams-Beurenovim sindromom s dominantnim kliničkim značajkama u promjenama struktura prednje g segmenta koje odstupaju od redovitih nalaza. Istražili smo i djevojčicinog brata blizanca koji nema dokazanih genetskih anomalija.

**Bolesnici i metode:**

Medicinska dokumentacija pacijentice pregledana je retrospektivno. Pregled literature te prikaz slučaja bolesnice stare 5 mjeseci i 20 dana s anamnezom sindroma prilagodbe i usporenog razvoja. Djevojčica je 2. dvojak, rođena od majke s teškim oblikom atopijskog dermatitisa, carskim rezom po navršениh 38. tjedana gestacije. Na inicijalnom pregledu je pokazala periorbitalni edem mekog tkiva, hipertelorizam, donji kapak s epikantusom, karunkularnu hiperemiju i neuobičajenu strukturu iridalne prednje strome. Leća je bila čista, fundoskopija normalna. Pregledali smo i njenog brata blizanca.

**Rezultati:**

U terminu rođena djevojčica upućena je 5 mjeseci nakon rođenja na oftalmološki pregled zbog periorbitalnog edema. Imala je istaknuto, široko čelo, duboko usađene oči, neobično širok, ali visok nosni most s tankim i kratkim vrhom nosa. Uši su bile blago nisko postavljene s nepravilnom građom uške, a imala je mala usta s tankim crvenkastim usnama, dobro izraženim fitrumom i retrognatijom. Citogenetska analiza pokazala je 46,XX ženski kariotip (ISCN 2016). Provedene su kardijalne, plućne, gastrointestinalne i genitourinarne evaluacije i pregledi. Ultrazvuk je pokazao značajnu stenozu plućne arterije. Kontaktirali smo pedijatrijskog endokrinologa da se obavi pregled štitnjače i pokazao je lobularnu hipoplaziju s manifestnom hipotireozom. Genetske analize i interfazne FISH analize Vysis Williams Region Probe ELN/LSI D75486, D75522 potvrdile su gubi

tak kritične regije 7q11.23, obično povezan s Williams-Beurenovim sindromom. S digitalnim procjepnom svjetiljkom s biomikroskopom KSL-H5-D - Keeler Usa fotografirali smo prednji segment i utvrdili „zvjezdaste šarenice“ - abnormalnost prednje strome šarenice i lateralni pomak „collaretea“ šarenice. Promjer rožnice bio je 10,5/11 mm, gonioskopija je pokazala sinehije šarenice, a intraokularni tlak mjereno TonoPen-om bio je u desnom oku 17,4 mmHg i 17,9 mmHg u lijevom oku. Bilateralno dijagnostički B-ultrazvuk stražnjeg segmenta nije pronašao patološkog nalaza. Aksijalna duljina oka, mjerena A-skenom, bila je slična za oba oka, desno oko 18,06 mm, lijevo oko 18,22 mm. Retinološki pregled bio je uredan, uz nešto naglašeniju blagu tortuoznost krvnih žila u inferiornom kvadrantu u usporedbi s bratom blizancem koji nema dokazanih genetskih anomalija, ali i dalje bez značajnijeg odstupanja, u granicama za dob.

### **Zaključak:**

Dijagnoza Williams-

Beurenovog sindroma postavljena je na temelju mikrodelecije 7q11.23. Ovakvi slučajevi ponovno nam pokazuju da postoji snažna potreba za suradnjom između kliničara, kao i između kliničara i laboratorija. Neuobičajene i jedinstvene značajke koje nalazimo tijekom pregleda, trebaju nam učiniti još opreznijima i pažljivijima te nas navesti na daljnja istraživanja kako bismo pružili bolju dijagnostiku i time potpuniju zdravstvenu skrb za naše pacijente.

### **Title:**

Role of ophthalmologist in Williams-Beuren syndrome, a case report

### **Authors:**

Marin Lovrić J, Vučinović A, Matutinović Odak Ž, Marković I, Bućan K.

### **Institution:**

Clinical Hospital Centre Split, Department of Ophthalmology

### **Aim:**

To present the periocular and ocular landmarks in 5 months and 20 days old girl with Williams-Beuren syndrome with predominant clinical features of anterior segment changes which deviate from regular findings. We also investigated her twin brother with no proven genetic anomalies.

### **Patients and methods:**

The case records of the patient were reviewed retrospectively. Review of the literature and a case report of a 5 months and 20 days old female patient with history of adaptation syndrome an



d “small for date” development. Girl is 2nd twin, born from mother with severe form of atopic dermatitis by s.c in 38th week of gestation. She presented at the initial examination with periorbital oedema of soft tissue, hypertelorism, lower eyelid with epicanthus, caruncular hyperemia and uncommon structure of iridal anterior stroma. Lens was clear, funduscopy was normal. We also examined her twin brother.

### **Results:**

A term born girl was referred 5 months after birth for ophthalmic examination due to periorbital oedema. She had a prominent, broad forehead, deeply-set eyes, an unusually broad but high nasal bridge with a thin nose and short nasal tip. Ears were slightly low set with irregular helices with cupping, and he had a small mouth with thin vermilion of the lips, a well defined philtrum, and retrognathia. Cytogenetic analysis reported 46,XX female karyotype (ISCN 2016). Cardiac, pulmonary, gastrointestinal, and genitourinary evaluations were performed. A ultrasound showed significant pulmonary arterial stenosis. We alerted paediatric endocrinologist to perform investigation of thyroid gland and it showed lobular hypoplasia with manifest hypothyreosys. Genetic analyses by Interphase FISH Vysis Williams Region Probe ELN/LSI D75486, D75522 confirmed a loss of the critical region 7q11.23, usually associated with the Williams-Beuren syndrome. With KSL-H5-D Digital Slit Lamps - Keeler Usa we performed photographs of anterior segment and found „stellate irides“ - abnormality of anterior stroma of the iris and lateral displacement of the iris collarette. Corneal diameter was 10.5/11mm, gonioscopy showed iris synechiae, and intraocular pressure by TonoPen was in the right eye 17.4mmHg and 17.9mmHg in the left eye. Bilaterally a diagnostic B-ultrasound of the posterior segment showed no pathology. The axial eye length, measured with A-scan, was similar of both eyes, right eye of 18.06 mm, left eye of 18.22 mm. Funduscopy was normal, still showed slightly more tortuosity of blood vessels in inferior quadrant in comparison with her twin brother with no proven genetic anomalies.

### **Conclusion:**

A diagnosis of Williams-Beuren syndrome was made based on the microdeletion of 7q11.23. There is strong need for collaboration between clinicians as well between clinicians and laboratories. The unique features should make us more careful and attentive for further investigations to provide better health care for our patients.

### **Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Josipa

**Ime i prezime / First and Last Name:-Last**

Marin Lovric

**Ustanova / Institution:**

Klinički Bolnički Centar Split, Klinika za očne bolesti

## 38. Dora Martinčević

### Naslov:

Brza progresija od vitreomakularne trakcije do rupture makule pune debljine u visokoj miopiji

### Autori:

Dora Martinčević, Damir Bosnar, Mladen Bušić, Biljana Kuzmanović Elabjer, Senad Ramić, Mira Knežić

### Ustanova:

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### Cilj:

Ukazati na važnost pravodobnog pregleda, brze dijagnostike i promptne intervencije kod pacijenta s vitreomakularnom trakcijom, a posebice kod onih s dodatnim faktorima rizika.

### Bolesnici i metode:

Pedesetdevetogodišnja visoko kratkovidna pacijentica upućena je u tercijarnu ustanovu zbog vitreomakularne trakcije (VMT, engl. vitreomacular traction) s rupturom makule (MH, engl. macular hole) stadija II b na lijevome oku, verificirane optičkom koherentnom tomografijom (OCT, engl. optical coherence tomography), učinjenom prije 10 dana u sekundarnoj ustanovi. Od prve pojave simptoma, zamagljenja vida i metamorfopsija, do dolaska na Kliniku za očne bolesti, prošlo je svega 20 dana. Pri prijemu pacijentica navodi daljnje pogoršanje vida. Najbolje korigirana vidna oštrina (BCVA, engl. best corrected visual acuity) na lijevome oku bila je 0,3. Pregledom na biomikroskopu s procjepnom svjetiljkom nađeno je zamućenje leće NO2NC2 prema LOCS III (Lens Opacities Classification System III) klasifikaciji na oba oka. Ostali nalaz prednjeg segmenta bio je uredan. Nakon pregleda fundusa te učinjene optičke koherentne tomografije (OCT) verificirano je odignuće stražnje staklovine te ruptura makule pune debljine (FTMH, engl. full-thickness macular hole) stadija IV. Kod pacijentice je učinjena pars plana vitrektomija (PPV, engl. pars plana vitrectomy) tehnikom obrnutog poklopca ILM-a (ILM, engl. internal limiting membrane) s insuflacijom zraka u kombinaciji s fakoemulzifikacijom i implantacijom intraokularne leće.

**Rezultati:**

OCT-

om je verificirana brza progresija MH od stadija IIb s VMT do FTMH stadija IV unutar 10 dana te je učinjena PPV tehnikom obrnutog poklopca ILM-

a s ciljem zatvaranja FTHM. 21. postoperativnog dana OCT je zabilježio u potpunosti zatvorenu makularnu rupturu sa zadržanom najbolje korigiranom vidnom oštrinom od 0,3, iako pacijentica navodi subjektivno poboljšanje vida.

**Zaključak:**

OCT ima ključnu ulogu u ranoj dijagnostici i praćenju progresije VMT te procjeni učinkovitosti liječenja. Kvantifikacija karakteristika MH olakšava donošenje odluke o liječenju, kada oslobađanje VMT može spriječiti progresiju u FTMH, osobito u visokorizičnih pacijenata.

**Title:**

Rapid progression from vitreomacular traction to a full-thickness macular hole in high myopia

**Authors:**

Dora Martinčević, Damir Bosnar, Mladen Bušić, Biljana Kuzmanović Elabjer, Senad Ramić, Mira Knežić

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To point out the importance of timely examination, rapid diagnosis and prompt intervention in patients with vitreomacular traction, especially in patients with additional risk factors.

**Patients and methods:**

A 59-year-old highly myopic patient was referred to a tertiary care center due to vitreomacular traction (VMT) with stage IIb macular hole (MH) in the left eye (LE), verified with optical coherence tomography (OCT) 10 days ago in a secondary care center. Only 20 days had passed from the onset of symptoms - blurred vision and metamorphopsia to hospital admission at the University Eye Department. Upon admission she reported further deterioration of visual functions. Her best-

corrected visual acuity (BCVA) was 20/63 in LE. Slit-lamp examination revealed lens opacities NO2NC2 assessed using LOCS III (Lens Opacities Classification System III) in both eyes. Other findings were unremarkable. Fundus examination and OCT scans revealed posterior vitreous detachment and stage IV full-thickness macular hole (FTMH). The patient underwent pars plana vitrectomy (PPV) with inverted internal limiting membrane (ILM) flap and air tamponade combined with phacoemulsification and intraocular lens implantation.

**Results:**

OCT scans demonstrated rapid MH progression from grade IIb with VMT to grade IV within 10 days, when PPV with ILM flap technique for FTMH closure was performed. 21 days post-operation OCT scan showed FTMH closure, BCVA remained 20/63 even though the patient reported subjective visual improvement.

**Conclusion:**

OCT plays a key role in the early diagnosis, monitoring of VMT progression and assessment of treatment efficacy. Quantification of MH characteristics facilitates treatment decision-making, when VMT release may prevent progression to FTMH, especially in patients at high risk.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Dora

**Ime i prezime / First and Last Name:-Last**

Martinčević

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb

### 39. Tomislava Žarković

#### Naslov:

Subperiostalni apces kod pacijenta pozitivnog na Covid-19 (prikaz slučaja) Autori: Žarković T., Krešo A., Marković I., Bućan K. Ustanova: Klinika za očne bolesti KBC Split Cilj: Prikazati slučaj bolesnika s apcesom desnoga oka, dijagnostičku obradu i primjenjene terapijske postupke · Bolesnici i metode: pacijent u dobi od 29 godina, do sada zdrav, zadnjih 14 dana pred prijem koristio Decortin zbog radiološki dokazane polipoze. Covid pozitivan od 18.01.2022., a na hitni infektološki prijem dolazi 24.02.2022. zbog oteknuća vjeđa desnoga oka. Prilikom oftalmološkog pregleda bulbomotorika ograničena u svim smjerovima, dvoslike javlja pri pogledu prema gore, dojam portruzije desnog bulbusa u odnosu na lijevi, edem gornje vjeđe te kemoza u cijeloj cirkumferenciji. · Rezultati: Zatražen je hitni MSCT orbita i paranazalnih sinusa koji je pokazao apces vel 3x2.3 cm. Vidljivo je širenje upalne infiltracije postseptalno temporalno i preseptalno s zamućenim okolnim masnim tkivom(dg. Celuliti

#### Autori:

Žarković T., Krešo A., Skelin Lj., Marković I., Bućan K.

#### Ustanova:

Klinika za očne bolesti KBC Split

#### Cilj:

Prikazati slučaj bolesnika s apcesom desnoga oka, dijagnostičku obradu i primjenjene terapijske postupke

#### Bolesnici i metode:

Pacijent u dobi od 29 godina, do sada zdrav, zadnjih 14 dana pred prijem koristio Decortin zbog radiološki dokazane polipoze. Covid pozitivan od 18.01.2022., a na hitni infektološki prijem dolazi 24.02.2022. zbog oteknuća vjeđa desnoga oka. Prilikom oftalmološkog pregleda bulbomotorika ograničena u svim smjerovima, dvoslike javlja pri pogledu prema gore, dojam portruzije desnog bulbusa u odnosu na lijevi, edem gornje vjeđe te kemoza u cijeloj cirkumferenciji.

#### Rezultati:

Zatražen je hitni MSCT orbita i paranazalnih sinusa koji je pokazao apces vel 3x2.3 cm. Vidljivo je širenje upalne infiltracije postseptalno temporalno i preseptalno s zamućenim okolnim masnim tkivom(dg. Celulitis). Pacijent je zaprimljen na Kliniku za infektologiju, konzultiran je specijalis

t ORL i izvršen je operacijski zahvat (dekompresija desne orbirte i incizija apcesa) te su uzorci poslani na mikrobiološku obradu. Izoliran je Strept. Pneumonije te Staph. Aureus. U liječenju su primjenjeni antibiotici širokog spektra u kombinaciji sa metilprednizolonom. Nakon prestanka infektivnosti napravljen je pregled oftalmologa koji je bio uredan (bulbomotrika uredna, dvoslike negira).

### **Zaključak:**

Pacijentu je dijagnosticiran i liječen subperiostalni apces desne orbite kao komplikacija polipoz e sedmi dan izolacije u sklopu Covid-19 infekcije

### **Title:**

Subperiosteal abscess in a Covid-19 positive patient (case report)

### **Authors:**

Žarković T., Krešo A., Skelin Lj., Marković I., Bućan K

### **Institution:**

Clinic for Ophthalmology, University Hospital Center Split

### **Aim:**

To present the case of a patient with right eye abscess, diagnostic treatment and applied therapeutic procedures.

### **Patients and methods:**

a 29-year-old patient, so far healthy, used Decortin for the last 14 days before admission due to radiologically-proven polyposis. He was Covid-positive since 18.01.2022, and came to the emergency department on 24.02.2022, due to swelling of the eyelids of the right eye. During the ophthalmological examination, bulbomotrics were limited in all directions, double vision occurred when looking upward, the impression of protrusion of the right eyeball relative to the left was seen, as well as edema of the upper eyelid and chemosis.

### **Results:**

An emergency MSCT of the orbit and paranasal sinuses was requested, which showed an abscess sized 3x2.3 cm. The spread of inflammatory infiltration was visible postseptally temporally and preseptally with turbidity of surrounding adipose tissue (dg. Cellulitis). The patient was admitted to the Clinic of Infectious Diseases, an ENT Specialist was consulted, surgery was performed (

right orbital decompression and abscess incision) and samples were sent for microbiological processing. Strep. Pneumonia and Staph. Aureus were isolated. Broad-spectrum antibiotics in combination with methylprednisolone were used in the treatment. After ending isolation, an ophthalmologist's examination was performed, which was normal (bulbomotrics were normal and he denied having double vision).

**Conclusion:**

The patient was diagnosed and treated for subperiosteal abscess of the right orbit as a complication of polyposis on the seventh day of isolation as part of Covid-19 infection

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Tomislava

**Ime i prezime / First and Last Name:-Last**

Žarković

**Ustanova / Institution:** Klinika za očne bolesti KBC Split



## 40. Ivan Borjan

### Naslov:

Fakoemulzifikacijski parametri u operaciji katarakti sa pseudoeksfolijacijskim sindromom

### Autori:

Borjan Ivan, Stanić Robert, Pleština-Borjan Ivna, Bućan Kajo

### Ustanova:

Klinika za očne bolesti, KBC Split

### Cilj:

Istražiti utjecaj pseudoeksfolijacijskog sindroma (PEX) na fakoemulzifikacijske parametre (PHACO parametre) prilikom operacije katarakte.

### Bolesnici i metode:

U ovo retrospektivno istraživanje uključeno je 178 bolesnika kojima je operirana katarakta u vremenskom razdoblju od 3 mjeseca (od kolovoza do studenog 2021. godine) u Klinici za očne bolesti KBC-

a Split. Sve zahvate je izveo isti operater. U istraživanje su uključene nuklearne katarakte gradusa II-IV, sa i bez znakova PEX-

a. Iz istraživanja su isključene nuklearne katarakte gradusa I, katarakte koje su zahtijevale bojanje i tripanskim bojilom, dijabetične katarakte, supkapsularne katarakte, katarakte subluksiranih leća te katarakte u očima koje su zahtijevale ugradnju toričnih leća. Svi bolesnici su detaljno pregledani pred operacijski zahvat, te redovito praćeni u postoperacijskom periodu. Operacijski zahvati su izvedeni na istom PHACO uređaju (Infiniti Vision System, Alcon Laboratories, Inc., USA), u topičkoj anesteziji, "stop and chop" tehnikom. U istraživanju su promatrani slijedeći PHACO parametri: kumulativna raspršena energija (eng. Cumulative Dissipated Energy), ukupno ultrazvučno vrijeme (eng. U/S Total time), vrijeme fakoemulzifikacije (eng. Phaco time), torzijsko vrijeme (eng. Torsional time), aspiracijsko vrijeme (eng. Aspiration time), procijenjena količina utrošene tekućine (eng. Estimated fluid used) te ukupno trajanje operacijskog zahvata. Vrijednosti PHACO parametara su uspoređivane među promatranim skupinama. Podaci su analizirani t-testom korištenjem statističkog paketa SPSS 24.0 (IBM Corp, Armonk, NY, USA). Rezultati su interpretirani na razini statističke značajnosti  $p < 0,05$ .

### Rezultati:

Od 289 operiranih katarakti u promatranom vremenskom razdoblju, njih 178 su zadovoljavale kriterije uključenja u istraživanje. Od ukupnog broja operiranih očiju njih 12 (4,2%) je imalo klinički i evidentan PEX. Ostalih 166 očiju, bez PEX-a, činili su kontrolnu skupinu. Skupine ispitanika su bile izjednačene po dobi, spolu i gradusu katarakte. Pseudoeksfolijacijski sindrom utjecao je na povišenje vrijednosti svih promatranih PHACO parametara, no statistička značajnost uočena je u produljenju vremena aspiracije ( $p=0,0224$ ), povećanom procijenjenom utrošku tekućine ( $p=0,0373$ ) te samom trajanju operacije ( $p=0,0203$ ) u odnosu na kontrolnu skupinu. Nije bilo ozbiljnih intraoperacijskih komplikacija u promatranim skupinama bolesnika. U dva bolesnika s PEX-om korišten je kapsularni zatezni prsten (eng. capsular tension ring), a u jednom je slučaju zahvat završen konverzijom u ekstrakapsularnu ekstrakciju katarakte (ECCE).

**Zaključak:**

Ovo istraživanje je pokazalo da PEX utječe na sve PHACO parametre no statistički značajna povezanost dokazana je samo za produljenje aspiracijskog vremena, povećanje procijenjenog utroška tekućine te produljenje samog trajanja operacijskog zahvata.

**Title:**

Phacoemulsification parameters in cataract surgery with pseudoexfoliation syndrome

**Authors:**

Borjan Ivan, Stanić Robert, Pleština-Borjan Ivna, Bućan Kajo

**Institution:**

Department of Ophthalmology, University Hospital Center Split

**Aim:**

To investigate the impact of pseudoexfoliation syndrome (PEX) on the phacoemulsification parameters (PHACO parameters) during cataract surgery.

**Patients and methods:**

This retrospective study included 178 patients who had cataract surgery during the period of three months (from August to November 2021) in the Eye Clinic, Clinical Hospital Centre Split. All the procedures were done by the same surgeon. Nuclear cataracts grade II-IV, with or without PEX, are included in the study. The exclusion criteria were: nuclear cataracts grade I, cataracts which required dyeing, diabetic cataracts, subcapsular cataracts, cataracts in eyes with dislocated lenses and cataracts in eyes which required toric intraocular lens implantation. All patients had detailed ophthalmologic examination before the surgery and in postoperative

ve period. Surgical procedures were performed under topical anaesthesia, with the same phaco emulsification device (Infiniti Vision System, Alcon Laboratories, Inc.,USA). The surgeon used stop and chop technique. The following PHACO parameters were observed: Cumulative Dissipated Energy, U/S Total time, Phaco time, Torsional time, Aspiration time, Estimated fluid used and duration of the surgical procedure. PHACO parameters were compared between the observed groups. The distributions were described by mean  $\pm$  standard deviation. Data were analysed with t-test by using SPSS 24.0 (IBM Corp, Armonk, NY, USA) software for windows. The level of statistical significance was set to  $p < 0.05$ .

### **Results:**

From 289 patients who had cataract surgery, 178 of them met the criteria for inclusion in the study. Twelve (4.2%) patients had clinically evident PEX. Other 166 patients, without PEX, were in control group. There were no difference in age, sex and cataract grade between the two groups. All PHACO parameters were affected by PEX but statistical significance was observed in duration of the Aspiration time ( $p=0,0224$ ), Estimated fluid used ( $p=0,0373$ ) and duration of the surgical procedure ( $p=0,0203$ ). There were no serious intraoperative complications in both group of patients. Capsular tension ring (CTR) was used in two patients with PEX, and in one case the procedure was converted in extracapsular cataract extraction (ECCE).

### **Conclusion:**

This study has shown that PEX affects all PHACO parameters (all values were higher in the study group), with statistically significant difference between groups in aspiration time, estimated fluid used and duration of the surgical procedure.

### **Kongres / Congresse:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

### **Titula / Title:**

Dr.

Specijalizant / Resident

### **Ime i prezime / First and Last Name:-First**

Ivan

**Ime i prezime / First and Last Name:-Last**

Borjan

**Ustanova / Institution:**

KBC Split

## 41. Ivan Jerković

### Naslov:

Preseptalni celulitis kao sekundarna prezentacija lijevostrane mukopiokele frontalnog sinusa sa fistulom

### Autori:

Ivan Jerkovic, dr.med.; Prim. O.Zrinscak, dr.med. ;Prof.dr.sc. R.Ivekovic, dr.med. FEBO; Prof.dr.sc .Z.Vatavuk dr.med, FEBO

### Ustanova:

Klinički bolnički centar Sestre milosrnice

### Cilj:

Prezentirati neobičan i rijedak slučaj preseptalnog celulitisa uzrokovanog lijevostranom mukopi okelom uz fistulu na podlozi kroničnog frontalnog sinusitisa. Ovo je rijetka komplikacija mukopi okele frontalnog sinusa.

### Bolesnici i metode:

studija slučaja

### Rezultati:

We report a 74 year old lady presented to our emergency clinic with upper medial left eyelid swelling caused by large abscess with no previous history of head trauma.

Due to untypical clinical presentation MSCT scan was performed confirming mucopyocele of left frontal sinus which eroded through supraorbital and medial part of orbit also including lamina of frontal sinus. ENT surgery performed drainage of pus from medial orbital wall and excision of mucopyocele via nasal pathway. Patohistological report demonstrated chronic sinusitis and rhinitis . Bacterial swab revealed B.hemolytic strep group B sensitive to Penicilin,Azythromycin and Clindamycin.

### Zaključak:

U slučaju prezentacije lokaliziranog crvenila vjeđe sa abscesom kao moguću diferencijalnu dijagnozu uzeti u obzir mukopiokelu pogotovo uz simptome kroničnog sinusitisa.

### Title:

Preseptal cellulitis as a secondary presentation of left frontal sinus mucopyocele with fistula

**Authors:**

Ivan Jerkovic MD; Prim. O.Zrinscak MD; Prof R.Ivekovic, MD PhD FEBO; Prof Z.Vatavuk MD PhD FEBO

**Institution:**

Clinical hospital center "Sestre Milosrdnice"

**Aim:**

To present a unusual and rare case of preseptal cellulitis caused by left frontal sinus mucopyocele with fistula caused by underlying chronic frontal sinusitis. This is a rare complication of frontal sinus mucocele.

**Patients and methods:**

CASE STUDY

**Results:**

We report a 74 year old lady presented to our emergency clinic with upper medial left eyelid swelling caused by large abscess with no previous history of head trauma.

Due to untypical clinical presentation MSCT scan was performed confirming mucopyocele of left frontal sinus which eroded through supraorbital and medial part of orbit also including lamina of frontal sinus. ENT surgery performed drainage of pus from medial orbital wall and excision of mucopyocele via nasal pathway. Pathohistological report demonstrated chronic sinusitis and rhinitis. Bacterial swab revealed B.hemolytic strep group B sensitive to Penicilin, Azythromycin and Clindamycin.

**Conclusion:**

We propose that in the case of a localized redness of the eyelid with abscess the mucopyocele should be considered in the differential diagnosis.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

IVAN

**Ime i prezime / First and Last Name:-Last**

JERKOVIC

**Adresa / Street Address**

GRACANSKO BORJE 7B

**Grad / City**

ZAGREB

**Poštanski broj / Postal / Zip Code**

10000

**Zemlja / Country**

Croatia

**Ustanova / Institution:**

Klinički bolnički centar Sestre milosrdnice

## 42. Lucija Beljan

### Naslov:

Pravovremena laserska fotokoagulacija mrežnice kao prvi izbor liječenja sukcesivnih ruptura mrežnice kod inkompletnog odignuća stražnje staklovine

### Autori:

Beljan L, Bosnar D, Bušić M, Cigić V, Knežić M, Ramić S.

### Ustanova:

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilište J. J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

### Cilj:

Ukazati na važnost redovitog praćenja pacijenata s inkompletnim odvajanjem stražnje staklovine (PVD, posterior vitreous detachment) te na djelotvornost pravovremene laserske fotokoagulacije mrežnice

### Bolesnici i metode:

Pedesetpetogodišnja pacijentica javila se u hitnu službu zbog pomičnih mutnina u vidnom polju desnog oka u posljednjih nekoliko sati. Njezina vidna oštrina na daljinu s korekcijom bila je 0,0 logMAR s -3,50 Dsph na desnom oku i -4,75 Dsph na lijevom oku. Pregledom fundusa u midrijazi nađu se dispregirani eritrociti u staklovinu, inkompletna PVD i ruptura mrežnice s operkulumom i preretinalnim koagulumom na 10 sati na desnom oku te pigmentirana ruptura mrežnice na 11 sati na lijevom oku. Oba oka tretirana su laserskom fotokoagulacijom (FKG) mrežnice oko mjesta ruptura. Pacijentica je praćena i upućena da se javi prije zakazanog kontrolnog pregleda u slučaju iznenadnog početka bljeskanja, velikog povećanja broja ili veličine pomičnih mutnina ili sjene poput zavjese u vidnom polju.

### Rezultati:

Nalaz na kontrolnim pregledima 7. i 14. dana bio je uredan, ali 17 dana nakon početka simptoma pacijentica je primijetila nove pomične mutnine u vidnom polju desnog oka. Nova ruptura mrežnice na 9 sati na srednjoj periferiji na desnom oku tretirana je FKG-om mrežnice. Iako je pacijentica bila asimptomatska na redovitom kontrolnom pregledu, 19 tjedana nakon drugog FKG-



a mrežnice otkrivena je još jedna ruptura mrežnice na 12 h na desnom oku te je učinjena nadopuna FKG. Najbolje korigirana vidna oštrina ostala je 0,0 logMAR obostrano. Budući da stražnja s taklovina još uvijek djelomično adherira za mrežnicu, nastaviti ćemo pratiti pacijenticu.

### **Zaključak:**

Iako se PVD događa kao dio normalnog starenja, edukacija i praćenje bolesnika s inkompletnim PVD-om od iznimne su važnosti, osobito u onih s visokim rizikom, kao što je miopija. Pregled fundusa oba oka u midrijazi ključna je u otkrivanju asimptomatskih ruptura mrežnice, a indicirana promptna laserska fotokoagulacija mrežnice može spriječiti ireverzibilne komplikacije koje ugrožavaju vid.

### **Title:**

Prompt retinal laser photocoagulation as first-line treatment option for subsequent retinal tears complicating the course of a symptomatic posterior vitreous detachment

### **Authors:**

Beljan L, Bosnar D, Bušić M, Cigić V, Knežić M, Ramić S.

### **Institution:**

University Eye Department, University Hospital „Sveti Duh“, Zagreb, Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

### **Aim:**

To point out the importance of monitoring patients with incomplete posterior vitreous detachment (PVD) and potency of retinal laser photocoagulation done in a timely manner

### **Patients and methods:**

A 55-year-old patient presented to the emergency eye department due to floaters in her right eye for the past few hours. Her best corrected distance visual acuity (BCVA) was 0,0 logMAR with -3.50 D in right eye (RE) and -4.75 D in left eye (LE). Dilated fundus examination showed red blood cells in the vitreous, incomplete PVD and operculated retinal tear with preretinal coagulum at 10 o'clock in RE and retinal tear with a ring of pigmentation at 11-

o'clock in LE. Retinal laser photocoagulation (RLP) was done in BE. The patient was monitored and instructed to return before her scheduled follow-up appointment in case of a sudden onset of flashing lights, a large increase in the number or size of floaters, or curtain-like shadow in the visual field.

**Results:**

Follow-up examinations on days 7 and 14 were unremarkable, but 17 days after the initial presentation the patient noticed new floaters in RE. New retinal tear at 9-o'clock, mid-periphery, in RE was treated with RLP. Although the patient was asymptomatic on regular follow-up 19 weeks after second RLP, another retinal tear at 12-o'clock in RE was detected, and RLP was performed again. BCVA remained 0,0 logMAR in BE. Since posterior vitreous is still partially attached to the retina, we will continue to monitor the patient.

**Conclusion:**

Although PVD happens as a part of normal aging, instructing and monitoring of patients with incomplete PVD is of utmost importance, especially in those at high risk, such as myopia. Dilated fundus examination of both eyes reveals asymptomatic retinal tears and indicated prompt retinal laser photocoagulation may prevent irreversible vision-threatening complications.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Lucija

**Ime i prezime / First and Last Name:-Last**

Beljan

**Ustanova / Institution:**

University Eye Department, University Hospital „Sveti Duh“, Zagreb, Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

### 43. Idoia Goni-Guarro

**Naslov:**

Procjena učinka pterigija i pingvekule na remodeliranje epitela i konfiguraciju strome rožnice, pomoću stromalnog i epitelnog mapiranja

**Autori:**

Idoia Goni-Guarro, Iva Krolo, Ines Matoc, Ivanka Petric-Vicković, Valentina Lacmanović-Lončar, Ivan Sabol, Zoran Vataavuk

**Ustanova:**

Klinika za očne bolesti, Klinički bolnički centar "Sestre milosrdnice", Vinogradska cesta 29, 10000 Zagreb, Hrvatska

**Cilj:**

Svrha ovog istraživanja bila je procijeniti postoje li promjene epitelnog i stromalnog mapiranja kod očiju sa pterigijem i pingvekulom, u usporedbi s nezahvaćenim očima.

**Bolesnici i metode:**

Oči uključene u istraživanje podijeljene su u tri skupine: pterigij (PT), pingvekula (PG) i kontrolna skupina. Analizirana je prosječna vrijednost od 3 uzastopna mjerenja mapiranja strome i epitela na Pachymetry (P) i Pachymetry Wide (PW) mapama, dobivena optičkom koherentnom tomografijom prednjeg segmenta (HR-ASOCT) (Optovue Avanti, SAD). Pacijentima je učinjena prednja fotografija na biomikroskopu i tomografija rožnice (Pentacam, Oculus, Njemačka). Isključujući kriteriji bili su: bolest površine oka, ostale bolesti rožnice, ranija operacija prednjeg segmenta, kronična lokalna terapija i korištenje kontaktnih leća.

**Rezultati:**

U usporedbi s kontrolnom skupinom, PG je pokazao snižene vrijednosti K2 (44,23-43,20,  $p=0,011$ ) i EKR K2 (44,00-43,00,  $p=0,026$ ). Na ASOCT-u, PG je imao povećanu središnju debljinu epitela (CET) (52-55,  $p=0,030$ ) i povećanu debljinu epitela u polju N5 (52-55,  $p=0,041$ ). PG nije pokazao značajne promjene strome. U usporedbi s kontrolnom skupinom, PT je pokazao veći EKR astigmatizam (0,64-1,32,  $p=0,013$ ) i smanjene vrijednosti K1 (43,20-41,85,  $p=0,025$ ) i EKR K1 (42,97-

41,89,  $p=0,035$ ). ASOCT u PT pokazao je smanjenu debljinu epitela u donjem kvadrantu (54-51,  $p=0,027$ ) i u području SN9 (50-48,  $p=0,034$ ) na PW. Povećana maksimalna debljina epitela (Max) i snižena minimalna debljina epitela (Min) (56-59 i 45-42,  $p=0,036$  i  $p=0,032$ ) uočene su na PW. PT je pokazao veću razliku između debljine superonaza Inog i inferotemporalnog epitela (SN-IT) na P (20-35,  $p=0,015$ ) i povećanu debljinu strome u području N9 (578-652,  $p=0,004$ ) na PW. Korišteni su T-test i Mann-Whitneyev test.

### **Zaključak:**

PG i PT pokazali su statistički signifikantno sniženje keratometrijskih vrijednosti na tomografiji rožnice. PG je imao povišen CET, dok je PT pokazao veću varijabilnost epitelnih promjena i povećanu debljinu epitela u superonazalnom dijelu rožnice, što implicira njezino remodeliranje. Povećana debljina strome u nazalnoj zoni PT može odgovarati hipoksijom izazvanom edemu u području prekrivene rožnice.

### **Title:**

Evaluation of the effect of pterygium and pinguecula on corneal epithelial remodelling and stromal configuration using epithelial and stromal mapping.

### **Authors:**

Idoia Goni-Guarro, Iva Krolo, Ines Matoc, Ivanka Petric-Vicković, Valentina Lacmanović-Lončar, Ivan Sabol, Zoran Vatauvuk

### **Institution:**

University Department of Ophthalmology, University Hospital Centre Sestre milosrdnice, Vinogradska cesta 29, 10000 Zagreb, Croatia

### **Aim:**

The purpose of this study was to evaluate the results of the epithelial and stromal mapping changes affected by pterygium and pinguecula compared to results in non-affected eyes.

### **Patients and methods:**

Eyes included in the study were divided in three groups: pterygium (PT), pinguecula (PG) and control group. Clinical assessment included: 3 consecutive measurements of stromal and epithelial mapping on Pachymetry (P) and Pachymetry Wide (PW) maps, obtained by anterior segment optical coherence tomography (HR-ASOCT) (Optovue Avanti, USA), and average measurement was analysed. Patients also underwe

nt slit-

lamp anterior photography and corneal tomography (Pentacam, Oculus, Germany). Exclusion criteria were ocular surface disease, other corneal pathology, previous anterior segment surgery, chronic ocular medication and contact lens use.

### **Results:**

Compared to control group, PG showed decreased values of K2 (44.23-43.20,  $p=0.011$ ) and EKR K2 (44.00-43.00,  $p=0.026$ ). On ASOCT, PG had increased central epithelial thickness (CET) (52-55,  $p=0.030$ ) and increased epithelial thickness in N5 field (52-55,  $p=0.041$ ). PG showed no significant stromal changes. Compared to control group, PT showed higher EKR astigmatism (0.64-1.32,  $p=0.013$ ) and decreased values of both K1 (43.20-41.85,  $p=0.025$ ) and EKR K1 (42.97-41.89,  $p=0.035$ ). ASOCT in PT showed decreased epithelial thickness in the inferior quadrant (54-51,  $p=0.027$ ) and in SN9 area (50-48,  $p=0.034$ ) on PW. A higher maximal epithelial thickness (Max) and lower minimal epithelial thickness (Min) (56-59 and 45-42,  $p=0.036$  and  $p=0.032$ , respectively) were shown on PW. PT showed higher difference between superonasal and inferotemporal epithelial thickness (SN-IT) on P (20-35,  $p=0.015$ ) and increased stromal thickness in N9 area (578-652,  $p=0.004$ ) on PW. T-test and Mann-Whitney test were used.

### **Conclusion:**

Both PG and PT showed a significant flattening effect on corneal tomography. PG had an increased CET, while PT showed greater variability of epithelial changes and increased epithelial thickness in superonasal part of cornea, implying corneal remodelling. Increased stromal thickness in nasal areas of PT may correspond to hypoxia-induced oedema of the underlying cornea.

### **Kongres / Congresse:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

### **Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Idoia

**Ime i prezime / First and Last Name:-Last**

Goni Guarro

**Ustanova / Institution:**

Klinika za očne bolesti, Klinički bolnički centar "Sestre milosrdnice", Vinogradska cesta 29, 10000 Zagreb, Hrvatska/University Department of Ophthalmology, University Hospital Centre Sestre milosrdnice, Vinogradska cesta 29, 10000 Zagreb, Croatia

#### 44. Ivana Tadić

**Naslov:**

Može li Covid-19 uzrokovati bolest suhog oka?

**Autori:**

Tadić I, Olujić I, Bućan K

**Ustanova:**

Klinika za očne bolesti, KBC Split

**Cilj:**

Utvrditi postoji li povezanost između Covid-19 infekcije i nastupa bolesti suhog oka.

**Bolesnici i metode:**

Istraživanje je provedeno na Klinici za očne bolesti KBC Split tijekom veljače 2022. godine, a uključeno je ukupno 56 ispitanika, od kojih 28 ispitanika koji su u proteklih šest mjeseci preboljeli Covid-19 infekciju, te 28 ispitanika koji nisu preboljeli Covid-19 infekciju. U svakoj skupini sudjelovalo je po 20 ispitanika ženskog i 8 ispitanika muškog spola. Kriteriji isključenja bili su: od ranije poznata bolest površine oka, nošenje kontaktnih leća, korištenje antiglaukomske ili druge lokalne intraokularne terapije, ranije operacije na oku, te očne i sistemске bolesti koje mogu utjecati na mehanizme proizvodnje i stabilnost suznog filma. Dijagnostička obrada uključivala je uz kompletni oftalmološki pregled i test bojanja rožnice fluoresceinom s gradacijom prema Oxford ljestvici, Schirmerov test, test raskidanja suznog filma (engl. tear break-up time test, TBUT), a simptomi su ispitani OSDI upitnikom (Ocular surface disease index).

**Rezultati:**

Ukupno je u istraživanje uključeno 56 ispitanika, od kojih 71,4% ženskog spola. Medijan dobi u skupini izloženoj Covid-19 infekciji bio je 45 godina, a u kontrolnoj skupini 47,5 godina. Utvrđena je statistički značajna razlika ( $p < 0,05$ ) između prosječnih vrijednosti rezultata TBUT i Schirmerovog testa te između zbroja bodova u OSDI upitniku između dvije skupine. Prosječna vrijednost TBUT testa kod ispitanika koji su preboljeli Covid-19 infekciju bila je 4,35 sekundi (SD  $\pm 1,98$ ), a u skupini koja nije preboljela 7 sekundi (SD  $\pm 2,51$ ). Prosječna vrijednost Schirmerovog testa u prvoj skupini bila je 8,78 mm (SD  $\pm 2,07$ ) dok je ta vrijednost



nosti iznosila 12,8 mm (SD  $\pm$ 4,8) u drugoj skupini. Zbroj bodova u OSDI upitniku u izloženoj skupini iznosio je 17,3 boda (SD  $\pm$ 9,7) prema 7,28 bodova (SD  $\pm$  6,6) u kontrolnoj skupini.

**Zaključak:**

Rezultatima dijagnostičkih testova za suho oko kao i OSDI upitnikom utvrđena je statistički značajna povezanost između Covid-19 infekcije i nastupa bolesti suhog oka.

**Title:**

Can Covid-19 be a cause of dry eye disease?

**Authors:**

Tadić I, Olujić I, Bućan K

**Institution:**

Department of Ophthalmology, University hospital center Split.

**Aim:**

To evaluate if there is an association between Covid-19 infection and the occurrence of dry eye disease.

**Patients and methods:**

A cross-sectional study was conducted at the Department of Ophthalmology, University hospital center Split during February 2022. A total of 56 participants were included in the study, 28 participants who tested positive for a previous COVID-19 infection in the past six months and 28 subjects in the control group. In each group, 20 female and 8 male respondents participated. Exclusion criteria were: previously known eye surface disease, contact lens wear, use of glaucoma eye drops or other local intraocular therapy, previous eye surgery, and ocular and systemic diseases that may affect tear production and stability. All patients underwent a complete ophthalmologic examination that included: biomicroscopic examination, corneal fluorescein staining test graded according to the Oxford scale, Schirmer test, tear break-up time test (TBUT) and symptoms were examined by Ocular Surface Disease Index (OSDI) questionnaire.

**Results:**

The study included 56 participants with a median age of 45 years in the exposure group and 47.5 years in the control group, among which 71.4% were women. The group that was exposed to

Covid-

19 demonstrated significantly higher OSDI scores and significantly lower TBUT results and Schirmer test results ( $p < 0.05$ ). The mean value of TBUT test in subjects with Covid-19 infection was 4.35 seconds ( $SD \pm 1.98$ ) compared to 7 seconds ( $SD \pm 2.51$ ) in the control group. The mean value of the Schirmer test in the first group was 8.78 mm ( $SD \pm 2.07$ ) while this value was 12.8 mm ( $SD \pm 4.8$ ) in the second group. The mean value of OSDI score in the Covid-19 group was 17.3 points ( $SD \pm 9.7$ ) compared to 7.28 points ( $SD \pm 6.6$ ) in the control group.

**Conclusion:**

The results of diagnostic tests for dry eye disease as well as the results of OSDI questionnaire established a statistically significant association between Covid-19 infection and the occurrence of dry eye disease.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ivana

**Ime i prezime / First and Last Name:-Last**

Tadić

**Ustanova / Institution:**

Dom zdravlja SDŽ

## 45. Ivona Bućan

### Naslov:

Genetski uvjetovana retinalno-renalna ciliopatija

### Autori:

Bućan Ivona<sup>1</sup>, Marković Irena<sup>1</sup>, Rajčić Ivan<sup>1</sup>, Bjeloš Mirjana<sup>2</sup>, Rogošić Veljko<sup>1</sup>, Bućan Kajo<sup>1</sup>

### Ustanova:

1Klinika za očne bolesti, KBC Split; 2Klinika za očne bolesti, KB Sveti Duh

### Cilj:

Prikaz slučaja pigmentne retinopatije u bolesnika s transplantiranim bubregom

### Bolesnici i metode:

Bolesnik u dobi od 63 godine s transplantiranim bubregom i dokazanom mutacijom gena, koji s u patološki za pigmentnu retinopatiju. Pacijent navodi pozitivnu obiteljsku anamnezu na pigmentnu retinopatiju (brat), iako on nije podvrgnut genetskom testiranju. U osobnoj anamnezi navodi tonzilektomiju u 20. godini života prema preporuci nefrologa zbog eritrociturije, a u 32. godini liječen zbog maligne hipertenzije. Dijagnoza kronične bubrežne insuficijencije postavljena je u 56. godini života. Na oftalmološkom pregledu 2016. godine postavlja se sumnja na pigmentnu retinopatiju te se upućuje na daljnju obradu. Zbog učestalih odlazaka na dijalizu i pripreme za transplantaciju odgađa daljnju oftalmološku obradu idućih pet godina.

### Rezultati:

Vidna oštrina desnog oka: 0.4 cc -

1,50 Dsph, vidna oštrina lijevog oka: L+, P+ (ambliopija zbog zatvorene ozljede oka 2000.). Fundoskopijom u midrijazi pronađene se klasični trijas simptoma: voštano blijeda papila, uske i ravne krvne žile te periferne pigmentacije poput osteoklasta uz dizgrupaciju retinalnog pigmentnog epitela makule (lijevo i ruptura retine u makuli). Kompjutoriziranom perimetrijom utvrđeni skotom lijevog oka te očuvanih centralnih 10° vidnog polja desnog oka. Na elektroretinografskom ispitivanju ustanovi se obostrano oštećenje funkcije fotoreceptora u skotopičnoj i fotopičnoj fazi s reduciranim centralnim dijelom, pogotovo lijevo. Genetskim testiranjem potvrđeno je dijagnoza pigmentne retinopatije, pacijent je heterozigot za RP1c.2029C>T, p.(ARG677\*) što se smatra patogenim, te heterozigot za GPR179 c.1368del, p.(Phe456Leufs\*30) što je vjerovatno patogeno. Pretraživanjem literature pronađeno je da su mutacije gena RP1 dosad isključivo povezane s

ne-

sindromskim oblikom retinalne distrofije. RP1 gen kodira obitelj proteina koji su strukturna i funkcionalna komponenta mikrotubula u cilijama fotoreceptora koji imaju važnu ulogu u organizaciji vanjskog segmenta štapića i čunjića osiguravajući pravilnu orijentaciju i signalizaciju. Alteracije gena odgovorne su za autosomno dominantno (ad) i autosomno recesivno (ar) nasljeđivanje. Navedena varijanta gena (RP1 c.2029C>T, p.(ARG677\*)) odgovorna je za adRP, no postoje istraživanja koja potvrđuju de novo mutaciju. Međutim, RP1 gen je značajno eksprimiran i u bubrezima, te ostaje nejasno zašto je mutacija ovog gena dosad bila samo specifično vezana uz funkciju fotoreceptora retine, a ne i s bolešću bubrega. Cilije osim na fotoreceptorima imaju važnu ulogu i u drugim organima u održavanju homeostaze. Smatra se da u bubrezima djeluju kao potencijalni mehanosenzorni receptori protoka tekućine, a bubrežne ciliopatije pokazuju patologiju u rasponu od poremećaja koncentracije mokraće u naizgled normalnim bubrezima do onih s cističnom displazijom. Također cilije djeluju i kao mehanosenzorne organele na vaskularnom endotelu te njihova disfunkcija rezultira aterosklerotskim promjenama i hipertenzijom.

#### **Zaključak:**

Koncept retinalih ciliopatija skreće pozornost na važnost daljnje molekularne analize ove organele te pruža potencijalnu terapijsku metu. Također, razumijevanje ovih patoloških stanja može pomoći oftalmologu da prepozna povezanost između naizgled nepovezanih bolesti te posumnja na prisutnu sustavnu bolest.

#### **Title:**

Genetically determined retinal-renal ciliopathy

#### **Authors:**

Bučan Ivona<sup>1</sup>, Marković Irena<sup>1</sup>, Rajčić Ivan<sup>1</sup>, Bjeloš Mirjana<sup>2</sup>, Rogošić Veljko<sup>1</sup>, Bučan Kajo<sup>1</sup>

#### **Institution:**

1Eye Clinic, Clinical Hospital Centre Split; 2Eye Clinic, Clinical Hospital Sveti Duh

#### **Aim:**

A case report of pigmentary retinopathy in a kidney transplant patient.

#### **Patients and methods:**

A 63-year-old patient with a kidney transplant and a proven gene mutation that are pathological for pigmentary retinopathy. The patient states a positive family history of pigmented retinopathy (his brother was affected with it as well), although he has not undergone genetic testing. According to

his medical history, he had tonsillectomy performed at the age of 20 at the the nephrologist's recommendation due to erythrocyturia, and at the age of 32 he was treated for malignant hypertension. The patient had been diagnosed with the chronic renal failure at age 56 years. At the eye examination in 2016, pigmented retinopathy was suspected, and the patient was advised to run further tests. Due to frequent dialysis treatments and preparations for transplantation, he postpones further ophthalmic evaluation for the next five years.

### **Results:**

A visual acuity of the right eye: 0.4 cc -

1.50 Dsph, a visual acuity of the left eye: L +, P + (amblyopia due to closed eye injury in 2000). A performed funduscopy in mydriasis reveals the classic triad of symptoms: waxy pale papillae, narrow and straight blood vessels, and peripheral pigmentation such as osteoclasts with disruption of the retinal pigment epithelium in the macula (plus macular hole on the left). Computerized perimetry was used to determine the absolute scotoma of the left eye and the preserved central 10° visual field of the right eye. Electroretinographic examination revealed bilateral damage to photoreceptor function in the scotopic and photopic phases with a reduced central part, especially on the left. Genetic testing confirms the diagnosis of pigmentary retinopathy, the patient is heterozygous for RP1c.2029C> T, p. (ARG677 \*) which is considered pathogenic, and heterozygous for GPR179 c.1368del, p. (Phe456Leufs \* 30) which is probably pathogenic. A literature search found that mutations in the RP1 gene have so far been exclusively associated with a non-syndromic form of retinal dystrophy. The RP1 gene encodes a family of proteins that are a structural and functional component of microtubules in photoreceptor cilia that play an important role in the organization of the outer segment of rods and cones ensuring proper orientation and signaling. Gene alterations are responsible for autosomal dominant (ad) and autosomal recessive (ar) inheritance. The mentioned variant of the gene (RP1 c.2029C> T, p. (ARG677 \*) is responsible for adRP, but there are studies that confirm de novo mutation. However, the RP1 gene is significantly expressed in the kidneys, and it remains unclear why the mutation of this gene so far was only specifically related to retinal photoreceptor function and not to renal disease. In addition to photoreceptors, cilia play an important role in other organs as well in maintaining homeostasis. They are thought to act as potential mechanosensory fluid-flow receptors in the kidney, and renal ciliopathies show pathology ranging from urinary concentration disorders in seemingly normal kidneys to those with cystic dysplasia. Cilia also act as mechanosensory organelles on the vascular endothelium and their dysfunction results in atherosclerotic changes and hypertension.

### **Conclusion:**

The concept of retinal ciliopathies draws attention to the importance of further molecular analysis of these organelles and provides a potential therapeutic target. Also, understanding these p

athological conditions can help the ophthalmologist recognize the connection between seemingly unrelated diseases and suspect the presence of systemic disease.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ivona

**Ime i prezime / First and Last Name:-Last**

Bućan

**Ustanova / Institution:**

Klinika za očne bolesti, KBC Split

## 46. Ivana Bednar Babić

### Naslov:

Nismo ovce! Ili?

### Autori:

Ivana Bednar Babić, Zoran Sipić, Vanda Gašpar Mitrečić, Ana Katušin, Damir Vukušić

### Ustanova:

Opća bolnica Karlovac, Očni odjel

### Cilj:

Prikazati slučaj prolaznog teškog gubitka vida nakon uporabe ovčjeg Ivermectina u prevenciji i liječenju COVID-19 kod čovjeka.

### Bolesnici i metode:

Prikaz slučaja 70-

godišnjeg, inače zdravog muškarca sa postupnim ali teškim gubitkom vida na oba oka nakon primjene ovčjeg Ivermectina. Ivermectin je antiparazitski lijek registriran kod ljudi za liječenje onkocercijaze (riječne sljepoće) i limfatičke filirijaze najčešće prezentirane u siromašnim dijelovima Afrike. Kod životinja je registriran u puno većim dozama za liječenje različitih oblika nametnika. Bolesnik se javlja u našu ustanovu nekoliko dana nakon primjene gore navedenog lijeka. Lijek je samoinicijativno uzeo ponukan informacijama na internetu jer se osjećao "prehlađen" kako bi spriječio razvoj COVID 19. Pri prvom javljanju opisuje nespecifične simptome po tipu svjetlucanja pred oba oka, negira bljeskove te je zatajio uporabu Ivermectina. U kliničkoj slici prezentira se vidna oštrina obostrano 0,7 sa korekcijom njegovim naočalama (+1,50 Dsph o.u), a ostali status je neupadljiv kao i anamneza. Gospodinu je savjetovano da je javi ponovo u slučaju pogoršanja, tada bez diferentne terapije. Dolazi ponovo za 3 dana s pogoršanjem kliničke slike. Prisutan je pad vida obostrano na 0,4 cc, te se u makularnom području zamjećuje blaga disgrupacija pigmenta. Tada gospodin priznaje i višekratnu konzumaciju ovčjeg Ivermectina pa ga stoga naručujemo na bolničku obradu. Kod dolaska tijekom slijedeća 2 dana vidna oštrina pada na 2-3/60, gospodin slabije čuje i naznačena je blaga konfuzija. Slaba vidna oštrina se zadržala kroz 4 tjedna nakon čega je došlo do njenog postupnog oporavka.

### Rezultati:

S obzirom na neiskustvo po pitanju "of label" uporabe Ivermectina, učinjena je ekstenzivna laboratorijska, imunološka, neuroradiološka i infektološka obrada. Tijekom čekanja nalaza, odmah smo zbog alarmatne kliničke slike ordinirali pulsnu kortikosteroidnu terapiju i antibiotike širokog spektra. U svim nalazima nije nađeno patološkog supstrata koji bi upućivao na neku drugu uzročnu posljedičnu vezu. Oftalmološkom obradom na OCTu makule smo našli atenuiran odjek elipsoidne zone i ELM, VEP je bio snižen amplitude, VPG je prikazivalo centralni skotom, suženje I4 na 30-

50 stupnjeva, te ostatak I3 periferno, klinički su bile vidljive diskretne promjene po tipu digrupacije RPE u makuli, koje su se na FAF evidentirale kao hiper i hipofluorescentne zone u širem makularnom području, mfERG je obostrano registrirao amplitude valova P1 naglašeno difuzno reducirane. Nakon isključivanja druge patologije, liječenje je s naše strane nastavljeno samo vitaminima i mineralima za oči uz B12 1000 Y intramuskularno 1x tjedno prema preporuci infektologa. Period praćenja bolesnika je za sada 3 mjeseca te je vidna oštrina nakon oporavka ponovo 0,7 c. Nije došlo do oporavka nalaza VPG i OCTa makule.

### **Zaključak:**

Metodom isključivanja i na temelju oftalmoloških pretraga zaključili smo da se radi o retinotoksičnosti životinjskog Ivermectina primjenjenog kod čovjeka. Životinjski pripravak je konzumiran u 3,5 puta većim dozama nego li je dopušteno za humanu populaciju, te je doveo do opisane kliničke slike. Kod prevelikih doza lijek prelazi krvno moždanu barijeru, što inače nije slučaj u registriranim dozama i izaziva neurološke simptome. Podaci o humanoj toksičnosti su limitirani. Uglavnom su u pitanju izolirani slučajevi ili radovi koji su loše postavljeni s malim uzorkom. U dostupnoj literaturi za sada je prikazana samo retinotoksičnost kod primjene u životinja. Ta pojava veže se uz pojačanu aktivnost GABA receptora u CNSu. U nekolicini objavljenih veterinarskih radova koji se bave tom temom dokazano je da su neke pasmine podložnije razvoju neurotoksičnih i retinotoksičnih nuspojava zbog mutacije u ABCB1 (MDR1) genu (gen koji regulira otpornost na različite lijekove), pa je pretpostavka da takav sličan gen postoji i kod ljudi kod kojih se javlja toksična reakcija. Ne postoji antidot. Liječenje se sastoji od suportivne terapije, eventualno se mogu primijeniti veće količine aktivnog ugljena odmah nakon ingestije kako bi se smanjila apsorpcija. U većini slučajeva ipak dolazi do regresije simptoma i oporavka nakon isplavljanja lijeka iz organizma.

Ovaj slučaj je primjer kako u poplavi informacija (i dezinformacija) na društvenim mrežama ljudi više ne razlikuju prave znanstvene činjenice od kvaziznanosti. Čak štoviše, dolazi do negacije znanosti. Stvaraju se ogromni troškovi u zdravstvenom sustavu kako bi se ispravljale posljedice krivog samo(ne)liječenja. Ljudi sami sebi štete. Nismo ovce. Ili?



**Title:**

We are not sheep! Or?

**Authors:**

Ivana Bednar Babić, Zoran Sipić, Vanda Gašpar Mitrečić, Ana Katušin, Damir Vukušić

**Institution:**

General hospital Karlovac, Department of ophthalmology

**Aim:**

To report a case of transient heavy vision loss after application of sheep Ivermectin for prevention and treatment of COVID-19 in human.

**Patients and methods:**

A case report of 70-year old otherwise healthy male with gradual but heavy vision loss after application of sheep Ivermectin. In humans, it is approved to treat a wide range of parasites like Onchocerciasis (also known as river blindness) and lymphatic filariasis that cause debilitating and disfiguring diseases affecting primarily low-resourced areas of Africa. It is available in numerous formulations in much higher dose for veterinary medicine and is effective in treating fleas, ticks, mites and heartworm. The patient came to our hospital few days after ingestion of Ivermectin. He took the medicine by his own will, led by internet information, because he felt like he was "catching a cold", and he wanted to prevent COVID-19. During his first visitation he complained of photopsia but no flashes, and he consciously withheld Ivermectin use information. Clinically he presented with 0,7 vision corrected with his own glasses (+1,50 Dsph o.u), while other findings were inconspicuous. He was told to return to the hospital if he would experience further deterioration and was released without any differential therapy. 3 days after he returned with worsened symptoms. Further vision loss of 0,4 cc in both eyes appeared and several RPE changes were detected. At that time he admitted the use of sheep Ivermectin repeatedly, so we admitted him in the hospital. During the next two days vision loss progressed to 2-3/60 bilaterally, hearing was deteriorated and he was slightly confused. Poor visual acuity lasted through next 4 weeks, after which gradual visual recovery started.

**Results:**

In terms of our inexperience in “of label” use of Ivermectin, we did extensive laboratory, immunological, neuroradiological and infectious disease workup. While waiting for the results, because of the alarming clinical status of the patient, we applied pulse corticosteroid therapy and broad spectrum antibiotics. All the results showed no pathology we could connect with clinical findings. Ophthalmology workup showed attenuation of ellipsoid zone and ELM in macular OCT, VEP had lower amplitudes, Goldmann visual field showed central scotoma, stricture of I4 in 30-50 degrees, and remains of I3 peripherally, clinically discrete RPE changes were detected which FAF presented as hyper and hypofluorescent zones in broad macular area, mfERG bilaterally showed P1 wave amplitudes diffusely reduced. After we excluded other pathology, we continued treatment with vitamins and minerals for eyes and B12 1000 Y intramuscular weekly according to infectologist recommendation. Follow up for now is 3 months, and visual acuity recovered to initial 0,7 cc. Visual field and macular OCT didn't show recovery.

**Conclusion:**

Exclusion method and ophthalmic findings led us to believe that this is the case of retinal toxicity of animal Ivermectin applied in human. Animal formulation was used in 3,5 times higher dosage than allowed for humans and caused clinical findings described previously. When used in high dosage it passes blood-brain barrier, which is not usual when applied in recommended doses, and in that way causes neurologic symptoms. Human data toxicity is limited. Mostly, there are isolated cases presented or there are badly conducted studies with small sample size. Up to date literature only reviews retinal toxicity in animals. It is connected with amplified GABA receptor activity in CNS. In a few veterinarian studies concerning this subject, it was shown that some dog breeds are more susceptible to neurotoxic and retinal toxic adverse effects because of the ABCB1 (MDR1) gene mutation (multi-drug-resistance gene), so there is assumption, that humans who have toxic reactions to Ivermectin have similar gene. There is no antidote. Treatment is supportive, in some cases activated charcoal can be applied immediately after the ingestion so the absorption is reduced. In most cases symptoms regress and recovery is expected when substance is completely excreted out of the body.

This case is example how the flood of information (and misinformation) on social networks causes people not to make distinction between real science and false science. Even more, the negation of science altogether is present. Large amount of medical health care expenses is generated in order to correct consequences of wrong self(non)medicating. People are making it worse for themselves. We are not sheep! Or?

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ivana

**Ime i prezime / First and Last Name:-Last**

Bednar Babić

**Ustanova / Institution:**

Opća bolnica Karlovac, Očni odjel

## 47. Suzana Konjevoda

### **Naslov:**

Petogodišnji klinički ishodi operacije glaukoma u Općoj bolnici Zadar

### **Autori:**

Suzana Konjevoda, Ana Didović Pavičić, Samir Čanović

### **Ustanova:**

Opća bolnica Zadar

### **Cilj:**

Analizirati petogodišnje rezultate operacije glaukoma u Općoj bolnici Zadar.

### **Bolesnici i metode:**

Ovo je retrospektivna studija koja je uključila pacijente koji su bili podvrgnuti operaciji glaukoma između 2016. i 2021. godine.

### **Rezultati:**

Analizirali smo preoperativnu i postoperativnu oštrinu vida, intraokularni tlak, intraoperativne i postoperativne komplikacije, broj lijekova za liječenje glaukoma prije te nakon operacije.

### **Zaključak:**

Filtracijske operacije glaukoma povezane su s dobrom dugotrajnom učinkovitošću i sigurnosnim profilom.

### **Title:**

Five - year clinical outcomes of glaucoma surgery at General hospital Zadar

### **Authors:**

Suzana Konjevoda, Ana Didović Pavičić, Samir Čanović

### **Institution:**

General hospital Zadar

**Aim:**

To analyze the 5-year results of glaucoma surgery in General hospital Zadar.

**Patients and methods:**

This is retrospective study that included patients undergoing glaucoma surgery between 2016 and 2021 .

**Results:**

We analyzed preoperative and postoperative visual acuity , intraocular pressure, intraoperative and postoperative complications, number of baseline glaucoma medications and after surgery

**Conclusion:**

Glaucoma filtration surgery was associated with a good long-term efficacy and safety profile.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Suzana

**Ime i prezime / First and Last Name:-Last**

Konjevoda

**Ustanova / Institution:**

Opća bolnica Zadar

## 48. Dean Šarić

### **Naslov:**

Usporedba korekcije miopije LASIK Sub-Bowman Keratomileuzom i fotorefraktivnom keratektomijom na kontralateralnim očima

### **Autori:**

D.Šarić, D.Grgić, I.Krolo

### **Ustanova:**

Optical Express poliklinika

### **Cilj:**

Usporediti vizualne rezultate, subjektivni osjet boli, kvalitetu vida i odstupanja aberacija višeg reda u očima koje su podvrgnute fotorefraktivnoj keratektomiji (PRK) ili LASIK / sub-Bowman keratomileuzi (SBK) u 1, 3 i 6 mjeseci nakon operacije.

### **Bolesnici i metode:**

Na 5 lokacija bila su uključena 82 bolesnika (164 oka). Srednja preoperativna vrijednost sfere bila je – 3,46 dioptrija (D), a srednji cilindar – 0,74 D za sve oči. Oči u PRK skupini podvrgnute su PRK-u od 8,5 mm, dok je u očima u skupini SBK kreiran poklopac od 8,5 mm, 100 mikrona s intraLas e femtosekundnim laserom (Advanced Medical Optics, Santa Ana, CA). Sve oči podvrgnute su iD esign laserskoj ablaciji pomoću VISX Star S4 IR laserskog sustava. Preoperativni i postoperativni testovi uključivali su najbolju korigiranu i nekorigiranu oštrinu vida, Aberacije višeg reda i kontrastnu osjetljivost. Pacijenti su ispunjavali subjektivne upitnike prilikom svakog posjeta.

### **Rezultati:**

Jednomjesečni rezultati UCVA pokazali su statistički značajnu razliku: SBK, 92% 1,0 ili bolje naspram 53% 1,0 ili bolje za PRK. Sa 6 mjeseci, UCVA je bila 95% 1,0 ili bolja za PRK i 97% za SBK. Nakon 1 i 3 mjeseca skupina SBK imala je odstupanja nižeg reda (koma i sferna aberacija), u 1, 3 i 6 mjeseci, nije bilo statistički značajne razlike u sfernom odstupanju i vertikalnoj i horizontalnoj koma između 2 skupine.

**Zaključak:**

Na jednomjesečnom praćenju skupina LASIK/SBK-a pokazala je klinički i statistički značajniju bolju oštrinu vida od PRK skupine. Od 3 mjeseca, vid na oštrina u 2 skupine se počela izjednačavati, iako su oči SBK-a nastavile imati bolji vid. Nakon 6 mjeseci nisu postojale statističke razlike između dviju skupina

**Title:**

Thin-Flap LASIK Sub-Bowman Keratomileusis vs. Photorefractive Keratectomy, Contralateral Eye Study

**Authors:**

D.Šarić, D.Grgić, I.Krolo

**Institution:**

Optical Express Poliklicinic

**Aim:**

To compare visual results, pain response, quality of vision, and higher-order aberrations in eyes undergoing photorefractive keratectomy (PRK) or thin-flap LASIK/sub-Bowman keratomileusis (SBK) at 1, 3, and 6 months after surgery.

**Patients and methods:**

82 patients (164 eyes) were enrolled at 5 sites. The mean preoperative spherical refraction was -3.46 diopters (D) and the mean cylinder was -0.74 D for all eyes. Eyes in the PRK group underwent 8.5-mm PRK, whereas in eyes in the SBK group, an 8.5-mm, 100 microns flap was created with IntraLase femtosecond laser (Advanced Medical Optics, Santa Ana, CA). All eyes underwent a iDesign laser ablation using a VISX Star S4 IR Laser System. Preoperative and postoperative tests included best spectacle-corrected visual acuity, uncorrected visual acuity (UCVA), wavefront aberrometry, and contrast sensitivity. Patients completed subjective questionnaires at each visit.

**Results:**

One month UCVA results showed a statistically significant difference: SBK, 92% 1,0 or better vs. 53% 1,0 or better for PRK. At 6 months, UCVA was 95% 1,0 or better for PRK and 97% for SBK. At 1 and 3 months, the SBK group had lower higher-

order aberrations (coma and spherical aberration), at 1, 3, and 6 months, there was no statistically significant difference in spherical aberration and vertical and horizontal coma between the 2 groups.

**Conclusion:**

At the 1-month follow-up, the thin-flap/SBK group demonstrated clinically and statistically significant better visual acuity than the PRK group. By 3 months, the vision in the 2 groups had begun to equalize, although the SBK eyes continued to have better vision. At 6 months, there were no statistical differences between the 2 groups

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Doc.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Dean

**Ime i prezime / First and Last Name:-Last**

Šarić

**Ustanova / Institution:**

Optical Express poliklinika



## 49. Igor Knezović

### Naslov:

Decentritana individualizirana sfero-cilindrična (DISC) ablacija i kornealni cross-linking kod pacijenta s progresivnim keratokonusom

### Autori:

Igor Knezović

### Ustanova:

Poliklinika Knezović

### Cilj:

Prikaz metode - DISC ablacija i kornealni cross-linking kod pacijenta s keratokonusom

### Bolesnici i metode:

Pacijent u dobi od 29 godina sa znakovima progresije bolesti u posljednjih nekoliko godina dolazi na drugo mišljenje u našu polikliniku.. Učinjen kornealni cross-linking (CXL) na desnom oku 2015.godine i predložen CXL i na lijevom oku u drugoj oftalmološkoj klinici. Nekorigirane vidne oštine: 0,2 na desnom i 0,1 na lijevom oku. Maksimalno korigirane vidne oštine naočalama: desno 0,4 (-3,00 Dsph), lijevo: 0,5 (-3,50 Dsph / -1,50 Dcyl ax 90). Kurvaturne mape (Allegro Oculyzer, Alcon Laboratories Inc., Fort Worth, Texas, USA) prikazale su iregularnosti i prominenciju u donjoj i temporalnoj projekciji rožnice. Keratometrijske vrijednosti na lijevom oku (7 mm): 43,8 D x60 / 49,4Dx150. Učini se operacija lijevog oka: DISC ablacija + kornealni CXL - riboflavin sa metilcelulozom (bez dextransa)

### Rezultati:

Dva mjeseca nakon zahvata, topografske snimke pokazale su stabilne rezultate, a nekorigirana vidna oština popravila se sa početnih 0,1 na 0,8.

### Zaključak:

Operacija (DISC ablacija, u kombinaciji s CXL) rezultirala je značajnim poboljšanjem u vidne oštine kod prikazanog pacijenta. Potrebna dodatna ispitivanja za optimizaciju metode.

### Title:

## Decentered Individualized Sphero-Cylindrical (DISC) Ablation and Corneal Cross-Linking in Patient with Progressive Keratoconus

### **Authors:**

Igor Knezović

### **Institution:**

Poliklinika Knezović

### **Aim:**

To present combined surgical procedure - Decentered Individualized Sphero-Cylindrical (DISC) Ablation and Corneal Cross-Linking in patient suffering from keratoconus

### **Patients and methods:**

A 29-year-old male presented with progressive bilateral visual loss over the course of the past few years. He underwent CXL of the right eye in 2015 and was eventually advised to perform CXL of the left eye in another Ophthalmological Center and thenceforth asked for second opinion. Presence of any apparent ocular injuries was not detected. Physical exam showed uncorrected visual acuity (UDVA) of 0.2 OD and 0.1 OS. His best spectacle-corrected distance visual acuity (BCDVA) was measured 0.4 with a refraction of -3.00 D in the right eye and 0.5 with -3.50 / -1.50 x90 in the left eye. Curvature maps (Allegro Oculyzer, Alcon Laboratories Inc., Fort Worth, Texas, USA) showed prominent inferolateral corneal protrusion confirming keratoconus. Central meridional 7-mm keratometric readings showed 43.8 D x60.1 and 49.4 D x150.1 in the left eye. The patient underwent inferotemporal decentered customized sphero-cylindrical (DISC) ablation and corneal cross-linking of the left eye with riboflavin without dextran with methylcellulose.

### **Results:**

At 2 months postoperatively, topography showed stable results, UDVA was 0.8 with insignificant corneal haze on biomicroscopy.

### **Conclusion:**

DISC ablation and Corneal Cross-Linking might be a promising method in halting keratoconus progression as well as retrieving c

ertain amounts of lost visual ability. Further research should be conducted for procedural optimization and better understanding of underlying mechanisms

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Igor

**Ime i prezime / First and Last Name:-Last**

Knzović

**Ustanova / Institution:**

Poliklinika Knezović

## 50. Željana Matutinović Odak

### Naslov:

Prekomjerno treptanje u djetinjstvu- tik ili nešto više?

### Autori:

Matutinović Odak Ž, Ljubić Ž, Vučinović A, Marin Lovrić J

### Ustanova:

Klinika za očne bolesti KBC Split

### Cilj:

Utvrđiti karakteristike i uzroke prekomjernog treptanja kod djece.

### Bolesnici i metode:

Djeca mlađa od 18 godina koja su imala prekomjerno treptanje kao jedinu ili glavnu pritužbu, p odvrnuta su detaljnoj anamnezi i oftalmološkom pregledu, tijekom 6 mjeseci od lipnja 2021. d o siječnja 2022.godine. Svim ispitanicim je mjerena stabilnost suznog filma TBUT testom te je ur ađeno bojanje rožnice fluoeresceinom. Liječenje je preporučeno na temelju nalaza kliničkog pre gleda. Naknadne evaluacije provedene su najmanje 3 mjeseca nakon inicijalnog pregleda. Procij enili smo etiologiju prekomjernog treptanja i karakteristike bolesnika u svakoj dijagnostičkoj sku pini. Podaci su kategorizirani prema dobi, spolu i oftalmološkim nalazima.

### Rezultati:

20 djece od 660 pregledanih tokom 6 mjeseci (3,03 %) imalo je dijagnozu prekomjernog treptanj a. Među ispitanicima 90% su bili dječaci, a 10% djevojčice. Najčešća etiologija treptanja bila je su ho oko (50%), alergije (30%), nekorigirana refrakcijska greška (10%) i strabizam (10%). Većina ispi tanika nije trebala nikakvu terapiju (47%), 32% je liječeno umjetnim suzama bez konzervansa, a 21 % je trebalo lokalnu terapiju kortikosteroidima. Prosječni TBUT kod djece s prekomjernim tre ptanjem bio je 9,94 sekunde.

### Zaključak:

Prekomjerno treptanje kod djece može nastati zbog velikog broja potencijalnih problema. Većin a slučajeva uzrokovana je benignim i/ili samoograničavajućim stanjima. Najčešći uzrok prekomj ernog treptanja kod djece u posljednjem desetljeću bile su abnormalnosti prednjeg segmenta i/ ili vjeđa i tikovi. Današnja djeca odrastaju u svijetu visoke tehnologije. Suho oko postalo je najče

šći uzrok prekomjernog treptanja kod djece. Općeprihvaćena hipoteza o odnosu između vreme na provedenog ispred ekrana i bolesti suhog oka je da korištenje digitalnog zaslona mijenja dinamiku treptanja, što dovodi do suhoće oka. Suho oko u djece ima svoje karakteristike, njegova dijagnoza i liječenje nisu isti kao kod odraslih. Smatramo da je potrebno poboljšati dijagnostiku i liječenje suhog oka u djece, kao trenutno vodećeg uzroka prekomjernog treptanja u ovoj dobnoj skupini.

**Title:**

Excessive blinking in childhood- tic or something more?

**Authors:**

Matutinovic Odak Z, Ljubic Z, Vucinovic A, Marin Lovric J

**Institution:**

Department of Ophthalmology, University Hospital Centre Split

**Aim:**

To determine the characteristics and causes of excessive blinking in children.

**Patients and methods:**

Children less than 18 years of age who had excessive blinking as their sole or major chief complaint underwent a detailed history and ophthalmologic examination, during 6 months period between June 2021. and January 2022. The patient's ocular surface assessment included tear break up time (TBUT) and grading of corneal fluorescein staining. Treatment was recommended based on clinical examination findings. Follow-up evaluations were performed at least 3 months after the initial examination. We evaluated the etiology of excessive blinking and patient characteristics in each diagnostic group. Data were categorized by age, gender, and ophthalmologic findings.

**Results:**

20 children out of 660 (3,03 %) presented with a diagnosis of excessive blinking during 6 months period. Among the respondents, 90% were male and 10% were female. The most common etiologies were dry eye (50%), allergies (30%), uncorrected refractive error (10%), and strabismus (10%). The majority of respondents needed no therapy (47%), 32% were treated with preservative-

free artificial tears eye drops, and 21% needed local corticosteroid therapy. The average TBUT in children with excessive blinking was 9,94 seconds.

**Conclusion:**

Excessive blinking in children can occur because of a large number of potential problems. Most cases are caused by benign and/or self-limiting conditions. The most common etiologies in the past were anterior segment and/or lid abnormalities and tics. Today's children are growing up in a high-tech world. Dry eye has become the most common cause of excessive blinking in children. A commonly accepted hypothesis for the relationship between digital screen use and dry eye disease is that digital screen use changes blinking dynamics, leading to ocular dryness. As dry eye in children has its characteristics, its diagnosis and treatment are not the same as adults. It is urgent to improve the level of clinical diagnosis and treatment of dry eye in children.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Željana

**Ime i prezime / First and Last Name:-Last**

Matutinović Odak

**Ustanova / Institution:**

KBC Split

## 51. Andrea Radolović Bertetić

### **Naslov:**

Izazovi u dijagnostici i liječenju bilateralne difuzne uvealne melanocitne proliferacije

### **Autori:**

Andrea Radolović Bertetić, dr.med.1; prof.dr.sc. Nenad Vukojević, dr.med.1; doc.dr.sc. Nataša Drača, dr.med.2

### **Ustanova:**

1 Klinika za očne bolesti Medicinskog fakulteta Sveučilišta u Zagrebu, KBC Zagreb; 2 Specijalna bolnica za oftalmologiju Svjetlost, Klinika Medicinskog fakulteta Sveučilišta u Rijeci

### **Cilj:**

Opisati dijagnostiku i liječenje bilateralne difuzne uvealne melanocitne proliferacije (BDUMP) kao posljedice adenokarcinoma jajnika

### **Bolesnici i metode:**

Prikaz slučaja 61-godišnje pacijentice s progresivnim slabljenjem vida, kojoj je dijagnosticiran i liječen adenokarcinom jajnika, a nalaz oftalmološkog pregleda bio je u skladu s BDUMP-om

### **Rezultati:**

Pacijentica se prezentirala brzo progresivnom kortikalnom i stražnjom subkapsularnom kataraktom te obostranim difuznim subretinalnim pigmentiranim lezijama stražnjeg pola s lokusima na rančastog pigmenta. Dva mjeseca ranije dijagnosticiran joj je i operiran adenokarcinom jajnika, a kemoterapija ubrzo nakon uvođenja prekinuta zbog razvoja teške polineuropatije. Zbog svega navedenog postavljena je sumnja na BDUMP. Liječena je sistemskom i lokalnom kortikosteroidnom terapijom, lokalnom nesteroidnom protuupalnom terapijom te plazmaferezom, a zbog porasta intraokularnog tlaka desnog oka uvedena je i lokalna antiglaukomska terapija. Tijekom praćenja i liječenja došlo je do rapidne progresije katarakte te je podvrgnuta operaciji, što je rezultiralo blagim poboljšanjem vidne oštine.

### **Zaključak:**

BDUMP je rijedak paraneoplastički okularni sindrom, koji se javlja u pacijenata sa sistemskom, često okultnom, malignom bolešću te je znak loše prognoze i često završava teškim gubitkom vida

. BDUMP je izazovna dijagnoza jer pogoršanje vida obično prethodi dijagnozi sistemskog karcinoma, a terapijske opcije su ograničene i često bezuspješne.

**Title:**

Challenges in the diagnosis and treatment of bilateral diffuse uveal melanocyte proliferation

**Authors:**

Andrea Radolović Bertetić, dr.med.1; prof.dr.sc. Nenad Vukojević, dr.med.1; doc.dr.sc. Nataša Drača, dr.med.2

**Institution:**

1 Department of Ophthalmology Zagreb University Hospital Center, University of Zagreb School of Medicine; 2 University Eye Hospital Svjetlost, Medical Faculty of Rijeka

**Aim:**

To describe the diagnosis and treatment of bilateral diffuse uveal melanocyte proliferation (BDUMP) as a consequence of ovarian adenocarcinoma

**Patients and methods:**

Case report of a 61-year-old patient with progressive visual impairment, who was diagnosed and treated for ovarian adenocarcinoma, and the ophthalmologic examination findings were consistent with BDUMP

**Results:**

The patient presented with rapidly progressive cortical and posterior subcapsular cataract and bilateral diffuse subretinal pigmented lesions of posterior pole with orange pigment loci. Two months earlier, she was diagnosed with ovarian adenocarcinoma and underwent surgery. Chemotherapy was discontinued soon after implementation in the treatment regime because of the development of severe polyneuropathy. Due to all of the above a diagnosis of BDUMP was suspected. She was treated with systemic and local corticosteroid therapy, local non-steroidal anti-inflammatory therapy and plasmapheresis. Local antiglaucoma therapy was introduced due to a developed rise in intraocular pressure of the right eye. During follow-up and treatment, rapid progression of the cataract occurred, and the patient underwent surgery with a slight visual acuity improvement.

**Conclusion:**

BDUMP is a rare paraneoplastic ocular syndrome, which occurs in patients with systemic, often occult, malignant disease and is a sign of poor prognosis which often ends in severe vision loss.



BDUMP is a challenging diagnosis because deterioration of vision usually precedes the diagnosis of systemic cancer and therapeutic options are limited and often unsuccessful.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Andrea

**Ime i prezime / First and Last Name:-Last**

Radolović Bertetić

**Ustanova / Institution:**

Klinika za očne bolesti Medicinskog fakulteta Sveučilišta u Zagrebu, KBC Zagreb

## 52. Nenad Vukojević

### Naslov:

Prikaz tri pacijenta s Vogt-Koyanagi-Harada bolesti

### Autori:

Nenad Vukojević, Tomislav Jukić, Marija Vukojević, Krešimir Mandić, Igor Petriček, Marija Štanfel

### Ustanova:

Klinika za očne bolesti Medicinskog fakulteta Sveučilišta u Zagrebu, KBC Zagreb

### Cilj:

Vogt-Koyanagi-

Harada (VKH) bolest je definirana kao bilateralni granulomatozni panuveitis s ili bez kožnih i ne uroloških manifestacija. Cilj ovog prikaza je opisati kliničku sliku i tijek ove rijetke inflamacijske bolesti kod tri mlada pacijenta.

### Bolesnici i metode:

Ovo je retrospektivni prikaz podataka dijagnostike i liječenja tri pacijenta s VKH bolesti koji su liječeni na Klinici za očne bolesti. Kod svih pacijenata nakon anamneze, napravljen je kompletan oftalmološki pregled uključujući vidnu oštrinu, intraokularni tlak, pregled na biomikroskopu uključujući pregled fundusa s 90D asferičnom lećom. Kod svih pacijenata napravljena je standardna obrada na uzroke uveitisa i oftalmološka slikovna dijagnostika uključujući fundus fotografiju, fundus autofluorescencu, fluoresceinnsku i angiografiju s indocijanin zelenilom, optičku koherentnu tomografiju i B prikaz ultrazvuka.

### Rezultati:

Evaluirano je ukupno šest očiju od dva ženska i jednog muškog pacijenta. Bolest se pojavila između 20. i 30. godine kod ženskih, a u dobi od 19 godina kod muškog pacijenta. Kod dva pacijenta bolest je počela s zamućenjem vida i glavoboljom kod dva pacijenta a kod jedne pacijentice s titinitusom i vitiligom. Nakon negativnih testova na uzroke uveitisa, napravljena je neurološka i dermatološka obrada te je kod jednog pacijenta utvrđena kompletna, a kod dva inkompletna VKH bolest. U akutnoj fazi bolesti pacijenti su liječeni sistemnim kortikosteroidima, a nakon toga imunomodulacijskom terapijom ciklosporinom A i azatioprinom. Dva pacijenta s inkompletnom VKH bolesti su imali dobar odgovor na terapiju s redukcijom inflamacije i potpunim oporavkom vida funkcije, dok kod pacijentice s kompletnom bolesti, bolest ima kronični tijek s trajnim gubitkom

om vida i hipotonijom. Preostala vidna funkcije se čuva sistemnom terapijom adalimumabom i intravitrealnom primjenom kortikosteroida.

**Zaključak:**

Iako je VKH rijetka bolest u ovom dijelu svijeta moramo misliti na nju kod tipičnih manifestacija. Brza dijagnoza i pravovremena agresivna imunomodulacijska terapija je ključ za supresiju inflamacije i očuvanje vidne funkcije.

**Title:**

A review of three cases with Vogt-Koyanagi-Harada disease

**Authors:**

Nenad Vukojević, Tomislav Jukić, Marija Vukojević, Krešimir Mandić, Igor Petriček, Marija Štanfel

**Institution:**

Department of Ophthalmology, School of Medicine University of Zagreb, UHC Zagreb

**Aim:**

Vogt-Koyanagi-Harada (VKH) disease is defined as a bilateral granulomatous panuveitis with or without different cutaneous and neurological disorders. The aim is to describe the clinical features and course of rare inflammatory eye disease in three young adults

**Patients and methods:**

This is a retrospective review of medical records of three VKH patients presenting to Department of Ophthalmology. All patients provided a detailed history and underwent ocular examination including visual acuity, intraocular pressure and slit lamp evaluation including fundus examination using 90D aspheric lens. All patients underwent standard tests for the causes of uveitis and ophthalmic diagnostic imaging - fundus photography, fundus autofluorescence, fluorescein and indocyanine green angiography, optical coherence tomography and ultrasound B scan.

**Results:**

A total of six eyes of three patients were evaluated. Two patients were female and one male. The onset of the disease in women was between 20 and 30 years and in men at 19 years. In all patients, the disease began with blurred vision, but in both female patients with headaches, and in one of them with vitiligo and tinnitus. After negative standard tests for uveitis, neurological and dermatological tests were performed, and one patient was diagnosed with complete VKH disease. In the acute phase of the disease, all patients were treated with systemic corticosteroids

followed by immunomodulatory therapy with cyclosporine A and azathioprine. Two patients with incomplete VKH disease have a good response to cyclosporine A with complete resolution of inflammation and almost complete recovery of visual function, while a patient with complete VKH disease has a chronic course with permanent loss of visual function and ocular hypotony. Residual visual function and inflammation control are maintained with systemic adalimumab therapy and intravitreal corticosteroids.

**Conclusion:**

VKH is a rare disease in this part of the world and presents diagnostic challenge. But we must consider this diagnosis in typical clinical manifestations. Rapid diagnosis and aggressive immunomodulatory therapy is a key to suppress inflammation and maintaining visual function

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA UVEA-u / Uvea section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Nenad

**Ime i prezime / First and Last Name:-Last**

Vukojević

**Ustanova / Institution:**

Klinika za očne bolesti Medicinskog fakulteta Sveučilišta u Zagrebu, KBC Zagreb

### 53. Damir Bosnar

#### **Naslov:**

SUPRAKOROIDNI „BUCKLING“ U LIJEČENJU REGMATOGENE ABLACIJE MREŽNICE

#### **Autori:**

Damir Bosnar, Borna Šarić, Mladen Bušić, Biljana Kuzmanović Elabjer, Mirjana Bjeloš, Mira Knežić, Valentina Cigić, Leon Marković, Senad Ramić, Jurica Predović

#### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilište Josipa Jurja Strossmayera Osijek, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

#### **Cilj:**

Prikazati naša iskustva s tehnikom suprakoroidnog „bucklinga“ (SCB, prema engl. suprachoroidal buckling) u liječenju regmatogene ablacije mrežnice (RRD, prema engl. rhegmatogenous retinal detachment) kod fakičnih, visoko kratkovidnih pacijenata

#### **Bolesnici i metode:**

Pacijent 1: Četrdesetdvoletni visoko kratkovidni muškarac (OD -22,5 Dsph, OS -16,75 Dsph) u dobi od 42 godine javio se hitnu oftalmološku službu zbog mutnijeg vida na lijevo oko (OS) u posljednja četiri dana nakon tupe ozljede oka prilikom cijepanja drva. Njegova najbolje korigirana vidna oštrina (BCVA, prema engl. best-corrected visual acuity) bila je 0,1 na desnom oku (OD) i 0,5 OS s RGP (engl. rigid gas permeable) kontaktnim lećama. Pregledom fundusa u midrijazi dijagnosticirana je ruptura mrežnice na 11 sati s perifernom ablacijom mrežnice OS i miopskim degenerativnim promjenama u makuli oba oka (OU). Pacijent 2: Četrdesetpetogodišnji visoko kratkovidni muškarac (OU -9,0 Dsph) javio se u hitnu službu zbog pomičnih mutnina u vidnom polju OD u posljednja tri dana. Prije četiri godine liječen je pars plana vitrektomijom (PPV) s instilacijom silikonskog ulja zbog RRD OS. Tri mjeseca nakon toga učinjen je kombinirani zahvat PPV radi evakuacije silikonskog ulja te fakoemulzifikacija s implantacijom intraokularne leće OS. U trenutku dijagnoze RRD OS učinjena je laserska fotokoagulacija mrežnice oko lattice periferne degeneracije na 1 sat OD. Njegova najbolje korigirana vidna oštrina (BCVA, prema engl. best-corrected visual acuity) bila je 1,0 OU. Pregledom fundusa u midrijazi dijagnosticirana je potkovaasta ruptura mrežnice na 10 sati s perifernom mrežnice OD. Demarkacijska laserska fotokoagulacija

acija bila je neuspješna u ograničenju progresije RRD u oba slučaja, zbog čega je učinjen SCB injiciranjem 1 %-

tnog natrijevog hijaluronata u suprakoroidni prostor kvadranta u kojem je lokalizirana ruptura mrežnice kako bi se indentirala samo žilnica. Korioretinalna adhezija stvorena je krioretinopeksijom ili endolaserskom fotokoagulacijom.

### **Rezultati:**

Nisu zabilježene intraoperativne hemoragijske komplikacije, kao ni postoperativne ishemijske promjene korioretine. Trajanje „buckling“ efekta bilo je značajno različito (više od 3 mjeseca kod pacijenta 1 i 10 dana kod pacijenta 2), ali u oba slučaja dovoljno dugo kako bi omogućilo uspješno prilijubljenje mrežnice. Postoperativna BCVA bila je 0,66 (pacijent 1, OS) i 1,0 (pacijent 2, OD). Nisu zabilježene refrakcijske promjene. Funkcionalni i anatomske ishodi ostali su stabilni u tromjesečnom periodu praćenja pacijenata.

### **Zaključak:**

SCB je sigurna i učinkovita metoda liječenja RRD, sam ili u kombinaciji s drugim modalitetima liječenja. Manje je invazivan u usporedbi s konvencionalnim skleralnim „bucklingom“ i PPV, od čega posebno mogu profitirati mladi fakični, visoko kratkovidni pacijenti. Potrebne su daljnje studije kako bi se razjasnile interindividualne razlike u duljini trajanja „buckling“ učinka.

### **Title:**

SUPRACHOROIDAL BUCKLING TECHNIQUE FOR THE TREATMENT OF RHEGMATOGENOUS RETINAL DETACHMENT

### **Authors:**

Damir Bosnar, Borna Šarić, Mladen Bušić, Biljana Kuzmanović Elabjer, Mirjana Bjeloš, Mira Knežić, Valentina Cigić, Leon Marković, Senad Ramić, Jurica Predović

### **Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To report our experience with suprachoroidal buckling technique (SCB) for the treatment of rhegmatogenous retinal detachment (RRD) in phakic, highly myopic patients

**Patients and methods:**

Patient 1: A 42-year-old male patient with high myopia (RE -22.5 D, LE -16.75 D) presented with a 4-day history of blurred vision in left eye (LE) after blunt eye injury during wood chopping. His best-corrected distance visual acuity (BCVA) was 20/200 in RE and 20/40 in LE. Dilated fundus examination showed retinal tear at 11-o'clock with peripheral retinal detachment in LE with myopic macular degeneration in both eyes (BE). Patient 2: A 45-year-old male patient with high myopia (BE -9.0 D) presented with a 3-day history of peripheral floaters in RE. His past medical history was significant for pars plana vitrectomy (PPV) with silicone oil tamponade due to RRD in LE 4 years ago. He underwent combined PPV for silicone oil removal and phacoemulsification with IOL implantation in LE 3 months after initial surgery. At the time of RRD diagnosis in LE, retinal laser photocoagulation (RLP) due to lattice degeneration at 1-o'clock in RE was performed. His BCVA was 20/20 in BE. Dilated fundus examination showed horseshoe retinal tear at 10-o'clock with peripheral retinal detachment in RE. Demarcation RLP was unsuccessful in limiting the progression of RRD in both patients. SCB was performed in both cases by injecting 1% sodium hyaluronate in suprachoroidal space in the quadrant of the tear to indent the choroid only. Cryoretinopexy or endolaser photocoagulation were used to create chorioretinal adhesion.

**Results:**

Neither intraoperative hemorrhagic complications nor postoperative chorioretinal ischaemic changes were recorded. Duration of the buckling effect was significantly different (more than 3 months and 10 days, respectively), but in both cases long enough to allow successful retinal reattachment. Postoperative BCVA was 20/30 (patient 1, LE) and 20/20 (patient 2, RE). No refractive error changes were recorded. Functional and anatomic outcomes remained stable after 3 months of follow-up.

**Conclusion:**

SCB is safe and effective treatment option for the management of RRD. It may be used alone or in combination with other treatment options. It is less invasive compared to conventional scleral buckling and PPV, which may be advantageous especially in young phakic, highly myopic patients.

ts. Further studies are needed to elucidate interindividual differences in duration of the buckling effect.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Damir

**Ime i prezime / First and Last Name:-Last**

Bosnar

**Ustanova / Institution:**

Klinika za očne bolesti KB Sveti Duh



## 54. Patricia Reisz-Majić

### **Naslov:**

Hughes flap- zlatni standard rekonstrukcije donje vjeđe

### **Autori:**

Patricia Reisz-Majić, Nina Jovanović, Darije Čuržik, Tomislav Mušac

### **Ustanova:**

KBC Osijek

### **Cilj:**

Utvrđiti uspješnost metode i postoperativno zadovoljstvo pacijenata

### **Bolesnici i metode:**

U studiju su uključeni pacijenti operirani na Klinici za očne bolesti navedenom metodom rekonstrukcije u razdoblju 1.1.2019.-

31.12.2021. Pacijenti su praćeni minimalno 6 mjeseci postoperativno. Uz suglasnost pacijenata , na osnovu fotografija prije i poslije, te Likertov standardiziran upitnik vezan za zadovoljstvo pacijenata, učini se statistička obrada.

### **Rezultati:**

Hugesov tarzokonjunktivalan režanj pokazao se u studiji kao učinkovit kod rekonstrukcije velikih defekata (>75%) donje vjeđe , te osim prolaznog zatvaranja operiranog oka (u prosjeku 3-4 tjedna ) do drugog akta planiranog razdvajanja režnjeva, pacijenti ga ocjenjuju postoperativno kao zahvat s visokim stupnjem zadovoljstva i s relativno rijetkim i blagim komplikacijama/ očnim tegobama.

### **Zaključak:**

Hughesov tarzokonjunktivalan režanj metoda je izbora kod defekata koji zahvaćaju više od 75% donje vjeđe.

### **Title:**

Hughes flap - gold standard of reconstruction for lower lid

### **Authors:**

Patricia Reisz-Majić, Nina Jovanović, Darije Čuržik, Tomislav Mušac

**Institution:**

University Hospital Centre Osijek

**Aim:**

Determine the success of the method and postoperative patient satisfaction.

**Patients and methods:**

The study included patients operated on at the Eye Clinic of University Hospital Centre with this method of reconstruction 2019th - 2021st . Patients were followed for a minimum of 6 months postoperatively. With the consent of patients, based on before and after photographs and Likert's standardized questionnaire related to patient satisfaction, statistical processing is done.

**Results:**

In the study Hughes' tarsoconjunctival flap was shown as effective procedure in the reconstruction of lower eyelid big defects ( more than 75%). In addition to the transient closure of the operated eye for an average of 3-4 weeks until the second act of planned flap separation, patients rate it as a procedure with high postoperative satisfaction and relatively rare and mild complications / eye problems.

**Conclusion:**

Hughes' tarsoconjunctival flap is the method of choice for defects affecting more than 75% of the lower eyelid.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA ORBITU / Orbit section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Patricia

**Ime i prezime / First and Last Name:-Last**

Reisz-Majić

**Ustanova / Institution:**

KBC Osijek

## 55. Andrijana Kopic

### Naslov:

Endogeni endoftalmitis - dijagnostički i terapijski izazov

### Autori:

Kopic, Andrijana; Vinković, Maja; Benašić, Tvrtka; Matić, Suzana; Biuk, Dubravka; Barać, Josip

### Ustanova:

Klinički bolnički centar Osijek, Klinika za očne bolesti

### Cilj:

Cilj rada je prikazati slučaj endogenog endoftalmitisa kod iznimno imunokompromitirane bolesnice, te proći detaljno kroz dijagnostičke i terapijske postupke koje smo u njezinom liječenju morali primijeniti.

### Bolesnici i metode:

U hitnu ambulantu naše Klinike javila se pacijentica stara 47 godina zbog postupnog pada vida na desno oko. Na lijevo oko zbog komplicirane mature mrene ne vidi od ranije. Pacijentica se inače liječi zbog metastatskog karcinoma dojke, te je u onkološkom tretmanu, te također boluje od miastenije gravis, zbog koje dugi niz godina uzima peroralnu kortikosteroidnu terapiju. Amputirana joj je lijeva potkoljenica zbog infekcije, te ima više otvorenih rana po tijelu. Oftalmološkim pregledom joj je utvrđen endogeni endoftalmitis desnog oka koji je po svojoj kliničkoj slici odavao da se radi o gljivičnom endoftalmitisu.

### Rezultati:

Na Klinici je provedena opsežna dijagnostička obrada, konzultirani su kolege drugih specijalnosti. Liječenje smo proveli sistemskom i intravitrealnom terapijom, a na kraju i kirurški. Pacijentica je otpuštena kući zadovoljavajućeg stanja i oporavka vidne oštine.

### Zaključak:

Endogeni endoftalmitis predstavlja rijetko stanje intraokularne upale koje potencijalno može imati pogubne posljedice za vid. Uzročnik su različiti mikroorganizmi koji hematogenim rasapom dospiju u oko. Iz tog razloga nužno je što prije učiniti dijagnostičku obradu kako bi se utvrdio uzročnik, te što ranije započeti pravilno liječenje. S obzirom na najčešće teške popratne bolesti, to

nije uvijek jednostavno, uzimajući u obzir i činjenicu da takvi bolesnici mogu biti i vitalno ugroženi.

**Title:**

Endogenous endophthalmitis - diagnostic and therapeutic challenge

**Authors:**

Kopić, Andrijana; Vinković, Maja; Benašić, Tvrtka; Matić, Suzana; Biuk, Dubravka; Barać, Josip

**Institution:**

University Hospital Centre Osijek, Eye clinic

**Aim:**

The aim of this paper is to present a case of endogenous endophthalmitis in an extremely immunocompromised patient, and to go through in detail the diagnostic and therapeutic procedures that we had to apply during her treatment.

**Patients and methods:**

A 47-year-old patient was admitted to the emergency department of our Clinic due to a gradual loss of visual acuity in her right eye. On the left eye she already had poor visual acuity due to complicated cataract. The patient is treated for metastatic breast cancer, and is in oncological therapy, and also suffers from myasthenia gravis, due to which she has been taking oral corticosteroid therapy for many years. Her left lower leg was amputated due to an infection, and she has several open wounds all over her body. Ophthalmological examination revealed endogenous endophthalmitis of the right eye, which, according to its clinical picture, indicated that it was of fungal origin.

**Results:**

Extensive diagnostic check-up was performed at the Clinic, and colleagues from other specialties were consulted. We performed the treatment with systemic and intravitreal therapy, and finally surgically. The patient was discharged home in satisfactory eye condition and recovery of visual acuity.

**Conclusion:**

Endogenous endophthalmitis is a rare condition of intraocular inflammation that can potentially have devastating consequences for visual acuity. The cause are various microorganisms that reach the eye by hematogenous spread. For this reason, it is necessary to do extensive diagnosti

c procedures as soon as possible in order to determine the cause, and start proper treatment as soon as possible. Given the most common comorbidities, this is not always easy, taking into account the fact that such patients can be vitally compromised.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA UVEA-u / Uvea section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Andrijana

**Ime i prezime / First and Last Name:-Last**

Kopić

**Ustanova / Institution:**

Klinički bolnički centar Osijek

## 56. Nika Borovac

### Naslov:

Učinak gornje blefaroplastike na anatomske i funkcionalne aspekte vida u ranom postoperativnom periodu

### Autori:

Nika Borovac, dr. med. 1; Dunja Bajtl, dr. med. 2; Roberta Šokac, dr. med. 2; prof.dr.sc. Josip Barać, dr.med. 2,3; Filip Ćurić, dr. med. 4; Vanda Borovac 5

### Ustanova:

1 Lens d.o.o., Osijek; 2 Klinika za očne bolesti, Klinički bolnički centar Osijek, Osijek; 3 Medicinski fakultet, Sveučilište Josipa Jurja Strossmayera Osijek, Osijek; 4 Odjel za internu medicinu, Nacionalna memorijalna bolnica Vukovar, Vukovar; 5 Fakultet za dentalnu medicinu i zdravstvo, Sveučilište Josipa Jurja Strossmayera Osijek, Osijek

### Cilj:

Utvrđiti učinke gornje blefaroplastike na kornealnu topografiju, kvalitetu suznoga filma i kontrastnu osjetljivost.

### Bolesnici i metode:

Istraživanje planiramo provesti na uzorku od 35 ispitanika kojima je dijagnosticirana funkcionalna dermatohalaza. Kriteriji za isključenje iz istraživanja bit će: anamneza refraktivne kirurgije rožnice, pterigij, nuklearna skleroza > 4. stupnja, starosna makularna degeneracija, neurooftalmološke bolesti, korištenje hormonske terapije, dijabetička retinopatija ili stanje nakon panretinalne fotokoagulacije, patologije rožnice (npr. keratokonus) i grube patologije vjeđa (npr. entropij, ektrapij i izrazit laksitet vjeđa). Vanjski izgled gornjih vjeđa svih ispitanika gradirat će se prema Shah i sur. Ispitanicima će se uzeti detaljna anamneza i učiniti biomikroskopski pregled prednjeg segmenta i fundusa. Ispitivanje kontrastne osjetljivosti, kornealna topografija i analiza suznoga filma ispitat će se preoperativno te postoperativno, tjedan i mjesec dana nakon operativnog zahvata. Gornja blefaroplastika učinit će se u operativnoj sali Klinike za očne bolesti Kliničkog bolničkog centra Osijek. Kontrastna osjetljivost ispitat će se u fotopskim uvjetima Pelli-Robson tablicom na Klinici za očne bolesti KBC-Osijek. Suzni film analizirat će se u Lens d.o.o. pomoću Keratograph 5M, OCULUS Optikgeraete GmbH, Wetzlar, Germany at Lens d.o.o.

**Rezultati:**

Statistički ćemo usporediti kontrastnu osjetljivost, kvalitetu suznoga filma i kornealnu topografiju u preoperativno te postoperativno, 7 i 30 dana nakon operativnog zahvata. P vrijednost  $<0,05$  smatrat će se statistički značajnom. Istraživanje je u tijeku.

**Zaključak:**

Vjerujemo da bi opsežnija preoperativna oftalmološka obrada za gornju blefaroplastiku, s posebnim naglaskom na analizu suznoga filma, kontrastne osjetljivosti i kornealne topografije, bila od velikog značaja.

**Title:**

The effects of upper eyelid blepharoplasty on anatomical and functional aspects of visual acuity in early postoperative period

**Authors:**

Nika Borovac, MD 1; Dunja Bajtl, MD 2; Roberta Šokac, MD 2; Josip Barač, MD, PhD 2,3; Filip Ćurić, MD 4; Vanda Borovac 5

**Institution:**

1 Lens d.o.o., Osijek, Croatia; 2 University Eye Department, University Hospital Centre Osijek, Osijek, Croatia; 3 Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia; 4 Department of Internal Medicine, National Memorial Hospital Vukovar, Vukovar, Croatia; 5 Faculty of Dental Medicine and Health, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

**Aim:**

To determine the effects of upper eyelid blepharoplasty on corneal topography, tear film quality and contrast sensitivity.

**Patients and methods:**

In this study we plan to examine a sample of 35 patients who have been diagnosed with functional dermatochalasis. The exclusion criteria will be history of corneal refractive surgery, pterygium, nuclear sclerosis  $>$  grade 4, age-related macular degeneration, neuro-ophthalmological diseases, diabetic retinopathy or post-panretinal photocoagulation, corneal pathology (e.g. keratoconus) and gross eyelid pathology (e.g. entropion, ectropion and gross eyelid laxity). The grading of dermatochalasis will be done as suggested by Shah et al. Detailed medical history will be taken and patients will undergo slit lamp biomicroscopy of the anterior segment and fundus examination. The contrast sensitivity, corn



corneal topography and tear film analysis will be performed preoperatively and one week and one month postoperatively. The upper eyelid blepharoplasty will be performed at University Eye Department, University Hospital Centre Osijek. The contrast sensitivity will be measured using Pelli -

Robson contrast sensitivity chart under standard photopic conditions at University Eye Department, University Hospital Centre Osijek. Tear film analysis and corneal topography will be recorded using Keratograph 5M, OCULUS Optikgeraete GmbH, Wetzlar, Germany at Lens d.o.o.

**Results:**

We will statistically compare contrast sensitivity, tear film quality ( tear meniscus height, NIKBUT , Meibography) and corneal topography preoperatively and one week and one month postoperatively. A p value of <0.05 will be regarded as statistically significant. The research is in progress.

**Conclusion:**

We believe that it would be of great benefit to expand preoperative ophthalmological assessment for upper eyelid blepharoplasty, with special emphasis in tear film analysis, contrast sensitivity tests and corneal topography.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Nika

**Ime i prezime / First and Last Name:-Last**

Borovac

**Ustanova / Institution:**

Lens d.o.o., Osijek

## 57. Evgeniia Perevoznikova

### **Naslov:**

Akutna makularna neuroretinopatija kod bolesnika sa COVID-19 infekcijom

### **Autori:**

Evgeniia Perevoznikova, dr.med; prof.dr.sc Nenad Vukojević, dr.med

### **Ustanova:**

Klinika za očne bolesti, KBC Zagreb

### **Cilj:**

Prikazati slučaj bolesnika sa bilateralnom akutnom makularnom neuroretinopatijom (AMN) povezanom sa COVID-19 infekcijom.

### **Bolesnici i metode:**

Opis kliničkog tijeka, adekvatnih dijagnostičkih slikovnih metoda i ishod kod pacijenta s akutnom makularnom neuroretinopatijom za vrijeme COVID-19 infekcije.

### **Rezultati:**

43-

godišnji pacijent se javlja u Hitnu službu zbog nepokretne sivocrne fleke u centru vidnog polja lijevog oka te fleke u gornjem vanjskom dijelu vidnog polja desnog oka. Navedene smetnje su se javile 3.dan od početka COVID-19 infekcije, nakon što je imao visoku temperaturu. OCT-om, angiogram, OCTom, "infra red" fundus fotografijom, mfERG, Octopus perimetrijom nađene tipične promjene i postavljena dijagnoza akutne makularne neuroretinopatije.

### **Zaključak:**

Akutna makularna neuroretinopatija se može razviti kod oboljelih od COVID-19 infekcije. Pretpostavljamo da bi ishemija duboke retinalne vaskularne mreže koja dovodi do akutne makularne neuroretinopatije mogla biti posljedica vaskularnih komplikacija infekcije s COVID-19. Akutna makularna neuroretinopatija je poremećaj koji ne zahtjeva liječenje nego je to "self limited disease".

**Title:**

Acute macular neuroretinopathy in patients with COVID-19 infection

**Authors:**

Evgeniia Perevoznikova, dr.med; prof.dr.sc Nenad Vukojević, dr.med

**Institution:**

Department of Ophthalmology, University Hospital Centre Zagreb

**Aim:**

To present a case of a patient with bilateral acute macular neuroretinopathy (AMN) associated with COVID-19 infection

**Patients and methods:**

Description of the clinical course, adequate diagnostic imaging methods and outcome in a patient with acute macular neuroretinopathy during COVID-19 infection.

**Results:**

A 43-year-old patient reported to the Emergency Room due to an immobile gray-black spot in the center of the left field of vision and a spot in the upper outer part of the vision field of the right eye. The mentioned disturbances occurred on the 3rd day from the beginning of COVID-19 infection, after he had a high temperature. OCT, angiography, OCT, "infrared" fundus photography, mfERG, Octopus perimetry found typical changes and the diagnosis of acute macular neuroretinopathy was made.

**Conclusion:**

Acute macular neuroretinopathy may develop in patients with COVID-19 infection. We hypothesize that deep retinal vascular network ischemia leading to acute macular neuroretinopathy could be due to vascular complications of COVID-19 infection. Acute macular neuroretinopathy is a disorder that does not require treatment but is a "self limited disease".

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Evgeniia

**Ime i prezime / First and Last Name:-Last**

Perevoznikova

**Ustanova / Institution:**

KBC Zagreb

## 58. Jasna Dobravec

### **Naslov:**

Termalna kamera kao potencijalni dijagnostički instrument kod pacijenata s disfunkcijom Meibomovih žlijezda?

### **Autori:**

Dobravec J, Iveković R, Zrinščak O, Vataavuk Z

### **Ustanova:**

Klinika za očne bolesti, Klinički bolnički centar Sestre milosrdnice, Zagreb.

### **Cilj:**

Odgovoriti na pitanje može li se mjerenjem temperature ruba vjeđe pomoću infracrvene kamere dijagnosticirati postojanje disfunkcije Meibomovih žlijezda (MGD).

### **Bolesnici i metode:**

Ova promatračka studija provedena je na Klinici za očne bolesti u Kliničkom bolničkom centru Sestre milosrdnice, Zagreb. U istraživanje je uključeno osam (dvoje muških i šest ženskih) sudionika s disfunkcijom Meibomovih žlijezda, te devet ženskih kontrolnih sudionika bez disfunkcije Meibomovih žlijezda. Za mjerenje temperature vjeđa korištena je FLIR infracrvena kamera. Mjerenja temperatura ruba vjeđe u četiri (4) unaprijed određena područja (ROI 1-4), te je mjerena referentna temperaturna točka u središtu gornje vjeđe. Kvocijent temperature određen je kao temperaturna vrijednost ROI podijeljena s referentnom temperaturom. Prikupljeni podaci obrađeni su pomoću programa IBM SPSS Statistics za Windows, verzija 25.0 (IBM Corp., Armonk, NY, USA). Sva snimanja je proveo isti ispitivač s istom termalnom kamerom u identičnim vanjskim uvjetima.

### **Rezultati:**

Kvocijenti temperatura četiriju točaka desnog (QR1-QR4) i lijevog (QL1-QL4) oka bili su statistički značajno veći u sudionika s MGD-om u odnosu na kontrolne sudionike bez MGD-a.

### **Zaključak:**

Mjerenje infracrvenom kamerom pokazalo je da je temperatura ruba donjih vjeđa bila viša u MGD pacijenata kada se koristi referentna temperaturna točka. Analogno drugim studijama došli

smo do istog zaključka: daljnjim razvojem infracrvenog termografskog sustava moguće ga je koristiti kao neinvazivni dijagnostički instrument za MGD skrining.

**Title:**

Is eyelid thermography a potential diagnostic tool of meibomian gland dysfunction?

**Authors:**

Dobravec J, Iveković R, Zrinščak O, Vataavuk Z

**Institution:**

Department of Ophthalmology, Sisters of Charity Hospital, Zagreb, Croatia.

**Aim:**

To evaluate eyelid margin temperature and analyze the relationship between the eyelid margin temperature and meibomian gland dysfunction (MGD) using infrared thermography.

**Patients and methods:**

An observational study was conducted at the Department of Ophthalmology Sisters of Charity Hospital, Zagreb, Croatia. Participants included 8 MGD patients (2 males and 6 females) and 9 (female) controls. FLIR infrared camera was used for noninvasive close-eye thermographic images of the eyelid. Temperatures at 4 regions of interest (ROIs) of the eyelid margin and a reference temperature at the center of the upper eyelid were measured. The temperature ratio was defined as the temperature of ROI divided by the reference temperature. Collected data was processed using IBM SPSS Statistics Processor for Windows, version 25.0 (IBM Corp., Armonk, NY, USA). All temperature measurements were conducted by the same person with the same infrared camera in identical outdoor conditions.

**Results:**

The temperature ratios of 4 areas of right (QR1-QR4) and left (QL1-QL4) eye were significantly higher in MGD participants compared to control groups.

**Conclusion:**

The eyelid margin temperature measured by infrared thermography was higher in MGD participants compared to reference temperature. Compared to other similar studies the results were alike so we can also conclude that by further development the infrared thermography system may become a non-invasive tool for MGD screening.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Jasna

**Ime i prezime / First and Last Name:-Last**

Dobravec

**Ustanova / Institution:**

Klinika za očne bolesti, Klinički bolnički centar Sestre milosrdnice, Zagreb

## 59. Zrinka Car

### **Naslov:**

SINDROM ORBITALNOG APEKSA KAO POSLJEDICA OFTALMIČKOG HERPES ZOSTERA: PRIKAZ SLUČAJA

### **Autori:**

Car Z., Iveković R., Vataavuk Z.

### **Ustanova:**

KBC Sestre Milosrdnice

### **Cilj:**

Prikaz slučaja

### **Bolesnici i metode:**

Jedna pacijentica od 68 godina

### **Rezultati:**

SAŽETAK: Vaskulopatija uzrokovana herpes zosterom dobro je dokumentirana i poznato je da uzrokuje prolazne ishemijske napade, moždani udar, aneurizme, sinusnu trombozu i gigantocelularni arteritis, kao i granulomatozni aortitis. U drugom tjednu upale oftalmičkim herpesom zosterom, pacijentica od 68 godina je razvila sindrom orbitalnog apeksa, uključujući potpunu oftalmoplegiju, midrijazu i ptozu.

### **Zaključak:**

Ovaj prikaz slučaja ispituje mehanizam putem kojeg je ova pacijentica razvila sindrom orbitalnog apeksa u usporedbi s drugim rijetkim slučajevima koji su dokumentirani u literaturi.

### **Title:**

ORBITAL APEX SYNDROME SECONDARY TO HERPES ZOSTER OPHTHALMICUS

### **Authors:**

Car Z., Iveković R., Vataavuk Z.

### **Institution:**



KBC Sestre Milosrdnice

**Aim:**

Case report

**Patients and methods:**

A single 68-year-old female patient

**Results:**

ABSTRACT: Vasculopathy caused by herpes zoster has been well documented and is known to cause transient ischemic attacks, stroke, aneurysm, sinus thrombosis and giant cell arteritis, as well as granulomatous aortitis. A 68-year-old woman with herpes zoster ophthalmicus developed orbital apex syndrome including complete ophthalmoplegia, mydriasis, and ptosis, in the second week of infection.

**Conclusion:**

This case report examines the mechanism through which this specific patient developed orbital apex syndrome in comparison with other rare cases documented in literature.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Zrinka

**Ime i prezime / First and Last Name:-Last**

Car

**Ustanova / Institution:** KBC Sestre milosrdnice

## 60. Armin Kasumović

### Naslov:

Termografija kao potencijalni dijagnostički alat u procjeni BCC

### Autori:

Armin Kasumović, Ante Prpić, Ognjen Zrinščak, Renata Iveković, Zoran Vataavuk

### Ustanova:

KBC Sestre milosrdnice, Zagreb

### Cilj:

Dokazati da termografija može biti vrijedan dijagnostički alat u procjeni bazocelularnog karcinoma vjeđe.

### Bolesnici i metode:

Ovo presječno istraživanje uključilo je 11 ispitanika sa tumorskom tvorbom vjeđe suspektom na bazocelularni karcinom (BCC). Svi ispitanici su liječeni na odjelu za okuloplastičnu kirurgiju KB C Sestre milosrdnice u Zagrebu u periodu od 1.2022. do 3.2022. Korištena je termalna kamera (FLIR E8) za mjerenje temperature tumorske promjene, ali i korespondentnih mjesta na drugim vjeđama. Svim ispitanicima su učinjena tri mjerenja. Nakon mjerenja učinjena je PHD analiza tumorske promjene na zavodu za patologiju KBC Sestre milosrdnice. Istraživanje je provedeno prema principima Helsinške deklaracije i dobre istraživačke prakse.

### Rezultati:

Temperature ispitivanih tumorskih promjena su bile statistički značajno niže u odnosu na kontrolnu točku na drugoj vjeđi ispitanika. Dijagnoza BCC je potvrđena patohistološkom dijagnozom kod 10 od 11 pacijenata. Uočeno je da nije bilo statistički značajne razlike između referentnih točaka na drugim vjeđama istog ispitanika.

### Zaključak:

Termografija može biti vrijedan i značajan alat prilikom skrininga BCC vjeđa. Termografijom su zabilježene niže vrijednosti temperatura ispitivanih promjena, te su niže vrijednosti temperature u korelaciji s PHD nalazom.

### Title:

## Thermography as a potential diagnostic tool in BCC screening

### **Authors:**

Armin Kasumović, Ante Prpić, Ognjen Zrinščak, Renata Iveković, Zoran Vatavuk

### **Institution:**

KBC Sestre milosrdnice, Zagreb

### **Aim:**

The aim of this research was to prove that thermography can be a valuable tool in the process of screening for basal cell carcinoma (BCC) on the eyelids.

### **Patients and methods:**

This cross-sectional study included 11 subjects with eyelid tumor formation suspected of having basal cell carcinoma (BCC). All subjects were treated at the Department of Oculoplastic Surgery of the KB C Sestre milosrdnice in Zagreb in the period from 1.2022. to 3.2022. The temperature of the tumor change, as well as the corresponding places on other eyelids, was measured with a thermal camera (FLIR E8). Three measurements were performed on all subjects. After the measurement, a PHD analysis of the tumor change was performed at the Department of Pathology of the KB C Sestre milosrdnice. The research was conducted according to the principles of the Helsinki Declaration and good research practice.

### **Results:**

The temperatures of the examined tumor changes were statistically significantly lower compared to the control point on the second eyelid of the subjects. The diagnosis of BCC was confirmed by pathohistological diagnosis in 10 of 11 patients. It was observed that there was no statistically significant difference between reference points on other eyelids of the same subject.

### **Conclusion:**

Thermography can be a valuable and important tool in screening for basal cell carcinoma of the eyelids. Thermography recorded lower values of temperatures of the examined changes, and lower values of temperature correlated with the PHD finding.

### **Kongres / Congresses:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Armin

**Ime i prezime / First and Last Name:-Last**

Kasumović

**Ustanova / Institution:**

KBC Sestre milosrdnice

## 61. Balog Slaven

### Naslov:

1stQ AddOn IOL i traumatska mrena

### Autori:

Balog Slaven, Kokot Antonio

### Ustanova:

Oftalmološka poliklinika "dr. Balog", Osijek, Hrvatska Medicinski Fakultet Osijek, Sveučilište J.J. Strossmayera u Osijeku, Hrvatska

### Cilj:

Ovaj prikaz slučaja ima za cilj predstaviti potencijal AddOn intraokularnih leća sa svrhom korekcije i/ili naknadnog poboljšanje vidne oštine i vidnih funkcija, ovisno o indikaciji i/ili želji pacijenta. Kao neplanirani cilj, ali sa dodanom vrijednosti je i spoznaja da nas rezultati kirurškog liječenja i u ne baš obećavajućim patološkim stanjima poput navedenog, ponekad mogu ugodno iznenaditi, a pacijente neočekivano nagraditi !

### Bolesnici i metode:

Prikaz nadasve interesantnog slučaja: osoba u dobi od 64 g, kojemu je trauma desnog oka u ranom djetinjstvu (dob između 8-9 god života!?) značajno reducirala vidnu oštrinu (traumatska mrena), te je oko kao takvo, okarakterizirano "slabovidnim" i "mirovalo" je gotovo 50-ak godina. U konačnici, manje funkcionalno oko s vremenom je "pobjeglo" (otklonilo se) prema van (divergens), te je u biti to bio osnovni razlog zašto se pacijent prijavio za pregled u našu polikliniku. Donekle apsurdna činjenica u ovom slučaju je to što pacijenta načelno i nije zanimalo poboljšanje vidne oštine na spomenutom oku ("digao je ruke od njega"), nego eventualna mogućnost korekcije (otklonjenog ?) položaja oka, kao i uklanjanje "bijele mreže" u centru oka! Spletom okolnosti, tijekom izvođenja preoperativnih mjerenja, učinjena je pogreška, koja je rezultirala značajnom postoperativnom hiperopizacijom (+8,00dsph), unatoč uspješno izvedenom operativnom postupku uklanjanja traumatski komplicirane mreže. Pacijent bez obzira na zaostalu visoku u hiperopsku komponentu biva izuzetno zadovoljan, jer mu je subjektivni dojam otklona manji, te nema više "bijelu mrežu" koja ga estetski naružuje. Na trećoj postoperativnoj kontroli, na obojano iznenađenje, detektira se ponovna uspostava vidnog potencijala, pri kojoj pacijent sa spomenutom visokom hiperopskom korekcijom ostvaruje približno 60% vidne oštine. Obzirom na

nadasve neočekivani vidni potencijal spomenutog oka, te uz danu suglasnost pacijenta, odlučilo se pristupiti naknadnoj ugradnji korektivne AddOn intraokularne leće sa svrhom neutralizacije zaostale plus dioptrije i umanjenja značajne anizotropije. Važno je naglasiti da je tijekom prvotnog operativnog zahvata; uklanjanja traumatske mrežne, detektirana zonuloliza u rasponu od 30-

40 stupnjeva, nazalno, što je dodatno činilo sam akt sekundarne implantacije AddOn IOL neizvjesnim do samog kraja, jer osnovni preduvjet za ugradnju intraokularne leće toga tipa je stabilan zonularni sustav. AddOn je refraktivno operativna platforma za fino ugađanje pseudofaknog oka. AddOn se implantira se u cilijarni sulcus na intraokularnu leću s fiksiranom bazom kapsularne vrećice, te je kompatibilan s uobičajenim implantatima IOL-a u kapsularnim vrećicama bez obzira na dizajn ili materijal IOL-a.

### **Rezultati:**

Najbolje korigirana vidna oštrina (BCVA) nakon prvotno izvedenog operativnog zahvata uklanjanja traumatske mrežne praćena je od 1. tjedna do 5 mjeseca postoperativno, od strane istog kirurga i klinike, odnosno u razdoblju od početka svibnja 2021.g do kraja listopada 2021.g.

Rezultat je već nakon prvog izvedenog zahvata bio statistički značajno poboljšanje vidne oštrine za 6-

7 redova. No s obzirom na neočekivanu ponovnu uspostavu poprilično visokog nivoa rehabilitirane vidne funkcije, te funkcionalno limitirajuću visokorefraktivnu razliku operiranog i neoperiranog oka - anizotropija, odlučilo se pristupiti sekundarnom operativnom zahvatu implantacije AddOn IOL.

Kao i nakon prvotno izvedenog zahvata, najbolja nekorrigirana/korigirana vidna oštrina nakon postupka sekundarne ugradnje AddOn IOL praćena je u razdoblju od 3 mjeseca postoperativno (od sredine veljače 2022.g do konca travnja 2022.godine.) od strane istog kirurga i klinike.

Novo uspostavljena nekorrigirana vidna oštrina (UCVA) iznosila je od 0,5-0,6 na prvim postoperativnim pregledima, dok se na daljnjim kontrolom korigirana vidna oštrina (BCVA) popela na 0,7, čime je ujedno u cijelosti anulirana anizotropijska neravnoteža između operiranog i neoperiranog oka!

### **Zaključak:**

Po završetku uspješno izvedenog zahvata, možemo zaključiti kako je sporna greška ipak uspješno "premoštena" sekundarnom ugradnjom korektivne Add On IOL, kojom je pacijentu nakon dugih 50-ak godina života ponovno uspostavljen poprilično visok nivo vidne oštrine.

Sekundarna implantacija IOL-a se doima kao pouzdana kirurška metoda za korekciju rezidualne Dioptrije nakon ugradnje primarne intraokularne leće, čak i u slučajevima velike refraktivne pogreške.

**Title:**

1stQ AddOn IOL and traumatic cataract

**Authors:**

Balog Slaven, Kokot Antonio

**Institution:**

Private Eye Clinic "dr. Balog", Osijek, Croatia Faculty of Medicine, J.J. Strossmayer University of Osijek, Croatia

**Aim:**

This case report aims to present the potential of AddOn intraocular lenses for the purpose of correction and / or subsequent improvement of visual acuity and visual functions, depending on the indication and / or desire of the patient. As an unplanned goal, but with added value, is the cognition that the results of surgical treatment, in not very promising pathological conditions like the above, can sometimes pleasantly surprise us and unexpectedly reward patient!

**Patients and methods:**

A show of a very interesting case: a 64-year-old person, whose right eye trauma in early childhood (between 8-9 years of age !?) significantly reduced visual acuity (traumatic cataract), and the eye as such, is characterized as "visually impaired" and "rested" for almost 50 years. Ultimately, the less functional eye "escaped" (diverged) over time, and was essentially the main reason why the patient applied for an examination at our clinic. A somewhat absurd fact in this case is that the patient was not interested in improving the visual acuity in the mentioned eye (he "raised his hands from him"), but in the possibility of correcting (eye deviation?) position of the eye, as well as removing the "white cataract" in the center of the eye! A combination of circumstances, during the assessment of preoperative measurements, an error was made, which resulted in significant postoperative hyperopization (+ 8.00dsph), despite the successfully performed surgical procedure to remove the traumatically complicated cataract. Regardless of the remaining high hyperopic component, the patient is extremely satisfied, because his subjective impression of deviation is smaller, and he no longer has a "white cataract" that aesthetically impairs him. At the third postoperative control, to the mutual surprise, the re-establishment of visual potential is detected, in which the patient with the mentioned high hyperopic correction achieves approximately 60% of visual acuity. Given the highly unexpected visual potential of the eye, and with the consent of the patient, it was decided to proceed with the subsequent installation of corrective AddOn intraocular lenses in order to neutralize the remaining plus diopters and reduce significant anisometropia. It is important to note that during the orig

inal op. procedure; removal of traumatic cataract, detected zonulolysis in the range of 30-40 degrees, nasal, which further made the very act of secondary implantation of AddOn IOL uncertain until the very end, because the basic precondition for implantation of intraocular lenses of this type is a stable zonular system. AddOn is a refractive operating platform for fine-tuning the pseudofacial eye. AddOn is implanted in the ciliary sulcus on an intraocular lens with a fixed capsule bag base, and is compatible with conventional IOL implants in capsule bags regardless of the design or material of the IOL.

### **Results:**

Best-

corrected visual acuity (BCVA) after the original op. procedure to remove the traumatic cataract was monitored from the 1st week to 5 months postoperatively, by the same surgeon and clinic, in the period from the start of May 2021 to the end of October 2021.

The result after the first performed procedure was a statistically significant improvement in visual acuity by 6-7 rows. However, given the unexpected re-establishment of a fairly high level of rehabilitated visual function, and the functionally limiting high-refractive difference between the operated and non-operated eye - anisometropia, it was decided to approach the secondary operation AddOn IOL implantation procedure.

As after the original procedure, the best uncorrected / corrected visual acuity after the AddOn IOL secondary implantation procedure was monitored for 3 months postoperatively (from mid-February 2022 to the end of April 2022) by the same surgeon and clinic.

The newly established uncorrected visual acuity (UCVA) was 0.5-0.6 in the first postoperative examinations, while on further control the corrected visual acuity (BCVA) rose to 0.7, which completely eliminated the anisometropic imbalance between the operated and non-operated eye!

### **Conclusion:**

Upon successful completion of the procedure, we can conclude that the disputable error was successfully "bridged" by secondary implantation of corrective Add On IOL, which restored the patient after a long 50 years of life to a fairly high level of visual acuity.

Secondary IOL implantation appears to be a reliable surgical method for correcting residual diopters after implantation of the primary intraocular lens, even in cases of large refractive errors.

### **Kongres / Congresses:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**



SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Slaven

**Ime i prezime / First and Last Name:-Last**

Balog

**Ustanova / Institution:**

Oftalmološka poliklinika "dr. Balog", Osijek, Hrvatska Medicinski Fakultet Osijek, Sveučilište J.J. Strossmayera u Osijeku, Hrvatska / Private Eye Clinic "dr. Balog", Osijek, Croatia Faculty of Medicine, J.J. Strossmayer University of Osijek, Croatia

## 62. Balog Slaven

### Naslov:

A zašto ne, Multifokal IOL kod traume?!

### Autori:

Balog Slaven, Kokot Antonio

### Ustanova:

Oftalmološka poliklinika "dr. Balog", Osijek, Hrvatska Medicinski Fakultet Osijek, Sveučilište J.J. Strossmayera u Osijeku, Hrvatska

### Cilj:

Cilj rada je predstaviti i/ili prikazati slijed operativnih postupaka kod mlađe osobe, a nakon traume oka u svrhu uspostave akomodativnih sposobnosti, najbližih/najbližih onima u zdravoga oka.

### Bolesnici i metode:

Predstaviti ćemo slijed kirurških postupaka koji su izvedeni u našoj klinici u više akata, kao i postoperativni tijek, sa svrhom ponovne uspostave obećavajuće vidne oštine. Kirurški zahvati provedeni su kod 26 - godišnjeg pacijenta, koji je uslijed traume oka nožem, zadobio traumatsku mreenu s djelomičnom rupturom sfinktera zjenice i inkarceracijom šarenice u rožnicu, te kao posljedicu svega navedenog razvio visokocilindriču anizometriju i traumatsku anizokoriju.

### Rezultati:

U prvom kirurškom postupku pacijentu je oslobođena inkarcerirana šarenica iz tkiva rožnice, u svrhu uspostave normalne zjenične funkcije.

Nakon 4 godine izveden je drugi kirurški zahvat: fakoemulzifikacija traumatske mreene, te ugradnja torične multifokalne IOL (EDoF), s u konačnici značajno poboljšanom vidom oštrinom bez i s korekcijom.

Godinu dana nakon operacije mreene, kao finalni zahvat, učinjena je rekonstrukcija rupturiranog sfinktera šarenice, primarno u svrhu umanjenja efekta pozitivne disfotopsije, a tek sekundarno u svrhu dodatnog poboljšanja nekorrigirane/korigirane konačne vidne oštine.

### Zaključak:

Spomenuti slijed kirurških postupaka odvijao se kroz duži vremenski period, primarno zbog mlađe dobi pacijenta prilikom prvog pregleda u našoj ustanovi (20 godina), sekundarno zbog neodlučnosti pacijenta na preporučene operativne zahvate. Svi provedeni kirurški postupci u konačnici doveli su do ponovne uspostave optimalnih akomodativnih sposobnosti najbližijih refraktivnom stanju prije traume oka. Dodatni značaj/vrijednost ovog rada su nedoumice s kojima se autor suočavao tijekom odabira „prave opcije“ pri izboru intraokularne leće. Dakle, maksimalno zadovoljiti pacijentove akomodativne potrebe (zbog mlađe dobi), a ujedno i minimalno utjecati na pacijentovu kvalitetu života, u smislu ograničenja i nedostataka koje nose multifokalne leće (noćni vid, glare, halo efekt, smanjenje kontrastne osjetljivosti...).

**Title:**

And why not, Multifokal IOL with traumatic cataract with irregular pupil?!

**Authors:**

Balog Slaven, Kokot Antonio

**Institution:**

Private Eye Clinic "dr. Balog", Osijek, Croatia Faculty of Medicine, J.J. Strossmayer University of Osijek, Croatia

**Aim:**

The aim of this paper is to present and / or show the sequence of surgical procedures in a younger person after eye trauma in order to establish accommodative abilities, most similar / closest to those in a healthy eye.

**Patients and methods:**

We will present the sequence of surgical procedures performed in our clinic in several acts, as well as the postoperative course, with the purpose of restoring the promising visual acuity. Surgery was performed on a 26 - year - old patient who suffered a traumatic cataract with partial rupture of the iris sphincter and iris incarceration into the cornea due to knife eye trauma, and developed high - cylindrical anisometropia and traumatic anisocoria as a result.

**Results:**

In the first surgical procedure, the iris was released from the corneal tissue incarceration, in order to restore normal pupillary function. After 4 year, the second surgical procedure was performed: phacoemulsification of traumatic cataract and implantation of toric multifocal IOL (EDoF), with ultimately significantly improved visual acuity without and with correction.

One year after cataract surgery, as a final procedure, reconstruction of the ruptured iris sphincter was performed, primarily to reduce the effect of positive dysphotopsia, and only secondarily to further improve uncorrected / corrected final visual acuity.

**Conclusion:**

The mentioned sequence of surgical procedures took place over a longer period of time, primarily due to the younger age of the patient during the first examination in our institution (age 20), and secondarily due to the patient's indecision to the recommended surgical procedures. All performed surgical procedures ultimately led to the restoration of optimal accommodative abilities most similar to the refractive state before eye trauma. An additional significance / value of this paper are the doubts that the author faced during the selection of the "right option" when choosing an intraocular lens. Thus, maximally satisfy the patient's accommodative needs (due to younger age), and at the same time minimally affect the patient's quality of life, in terms of limitations and shortcomings of multifocal lenses (night vision, glare, halo effect, reduced contrast sensitivity...).

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

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Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Slaven

**Ime i prezime / First and Last Name:-Last**

Balog

**Ustanova / Institution:**

Oftalmološka poliklinika "dr. Balog", Osijek, Hrvatska Medicinski Fakultet Osijek, Sveučilište J.J. Strossmayera u Osijeku, Hrvatska / Private Eye Clinic "dr. Balog", Osijek, Croatia Faculty of Medicine, J.J. Strossmayer University of Osijek, Croatia

### 63. Vedrana Vukić

**Naslov:**

Čimbenici rizika za pojavu intraoperativnog sindroma atonične šarenice

**Autori:**

Vukić V., Petric Vicković I., Lacmanović Lončar V., Zrakić N., Vatavuk Z.

**Ustanova:**

KBC Sestre milosrdnice, Vinogradska cesta 29, Zagreb, Hrvatska

**Cilj:**

procjena čimbenika rizika za intraoperativni sindrom atonične šarenice (IFIS) u bolesnika koji su podvrgnuti operaciji katarakte

**Bolesnici i metode:**

analizirani su pacijenti koji su podvrgnuti operaciji katarakte u Klinici „Sestre Milosrdnice“ u razdoblju od siječnja 2022. godine do svibnja 2022. godine. Intraoperativno bolesnici su podijeljeni u dvije skupine, IFIS ili non-IFIS skupina, koje su identificirane prema kriterijima koje su opisali Chang i Campbell. Bolesnici su prema težini IFIS-a svrstani u tri kategorije. Analizirani su sljedeći podatci: spol, dob, oftalmološka stanja, sistemske bolesti, sistemska terapija i trajanje uzimanja iste te preoperativna veličina zjenice

**Rezultati:**

IFIS je identificiran u 4,3% bolesnika. Kao čimbenici rizika za razvoj IFIS-a prikazani su muški spol, starija dob, antagonisti  $\alpha$ -adrenergičkih receptora, lijekovi za hipertenziju i preoperativno uža zjenica. Muškarci izloženi  $\alpha$ 1a antagonistima imali su statistički značajno veći rizik za razvoj IFIS-a, te teži oblik IFIS-a. Preoperativna veličina zjenice korelira s težinom IFIS-a

**Zaključak:**

Razumijevanje i identifikacija čimbenika rizika važni su za prepoznavanje IFIS pacijenata

**Title:**

Risk factors for the occurrence of intraoperative floppy iris syndrome

**Authors:**

Vukic V., Petric Vickovic I., Lacmanovic Loncar V., Zrakic N., Vataavuk Z.

**Institution:**

University Hospital Center "Sestre milosrdnice", Vinogradska cesta 29, Zagreb, Croatia

**Aim:**

assessment of risk factors for intraoperative floppy iris syndrome (IFIS) in patients undergoing cataract surgery

**Patients and methods:**

patients undergoing cataract surgery at the Sisters of Mercy Clinic in the period from January 2022 to May 2022 were analyzed. Intraoperatively, patients were divided into two groups, IFIS or non-

IFIS groups, which were identified according to the criteria described by Chang and Campbell. Patients were classified into three categories according to the severity of IFIS. The following data were analyzed: sex, age, ophthalmic conditions, systemic diseases, systemic therapy and duration of taking it, and preoperative pupil size

**Results:**

IFIS was identified in 4.3% of patients. Risk factors for the development of IFIS include male gender, old age,  $\alpha$ -adrenergic receptor antagonists, drugs for hypertension, and preoperative narrowing of the pupil. Men exposed to  $\alpha$ 1a antagonists had a statistically significantly higher risk for developing IFIS, and a more severe form of IFIS. Preoperative pupil size correlates with IFIS severity

**Conclusion:**

Understanding and identifying risk factors is important for identifying IFIS patients

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Vedrana

**Ime i prezime / First and Last Name:-Last**

Vukić

**Ustanova / Institution:**

KBC Sestre milosrdnice, Vinogradska cesta 29, Zagreb, Hrvatska

## 64. Renata Iveković

### Naslov:

Melanom vjeđa

### Autori:

Iveković R, Zriščak O, Prpć A, Kasumović A, Šimunić M, Dobravec J, Vataavuk Z

### Ustanova:

Klinika za očne bolesti KBC Sestre milosrdnice

### Cilj:

Melanom vjeđa je relativno rijedak tumor - čini manje od 1% zloćudnih tumora vjeđa. Međutim, kao i drugi melanomi kože mogu se proširiti na druge dijelove tijela. Ovaj tumor se obično pojavljuje kao pigmentirano zadebljanje (tumorvjeđe ili produžetak pigmenta iz spojnice).

### Bolesnici i metode:

Predstaviti će se nekoliko slučajeva melanoma vjeđa. Melanomi spojnice i vjeđa predstavljaju jedinstvene izazove za oftalmologa i oftalmološkog onkologa. Sumnjive lezije mogu se identificirati klasičnom "ABCD" metodom procjene (asimetrija, nepravilnosti na granici, varijacija boje, promjer). Ispitivanje bi također trebalo uključivati palpaciju regionalne limfadenopatije i pregled cijelog tijela.

### Rezultati:

Kada patologija potvrdi ili otkrije da je tumor maligni melanom vjeđe, moramo napraviti medicinski pregled i isključiti metastatsko širenje na druge dijelove tijela. Ako nema metastatske bolesti, tumor se može kirurški ukloniti (uključujući velike rubove normalnog tkiva). Tehnike oftalmološke plastične kirurgije obično su potrebne za popravak defekta nastalog nakon uklanjanja tumora. Opseg operacije određen rasprostranjenosti melanoma. Vrsta operacije može biti od jednostavnog resekcije vjeđe do uklanjanja vjeđe, operacije orbite, exenteracije. Zračenje (vanjski snop ili implantat za brahiterapiju) se može dodati ako se ne mogu postići slobodni rubovi. Većina svih pacijenata može se uspješno tretirati pomoću jedne od ovih tehnika.

### Zaključak:

Sumnja na dijagnozu melanoma vjeđe postavlja se klinički i potvrđuje histopatološkom analizom. Značajni čimbenici rizika uključuju debljinu tumora, ulceraciju i mitotičku stopu. Sve bolesnik



e s malignim tumorima moramo upozoriti na rizik od ponavljajućih ili novih tumora te poticati na cjeloživotno praćenje.

**Title:**

Eyelid melanoma

**Authors:**

Ivekovic R, Zrinscak O, Prpic A, Kasumovic A, Simunic M, Dobravec J, Vatauk Z

**Institution:**

University Department of Ophthalmology University Hospital Center Sestre miosrdnice

**Aim:**

Melanoma of the eyelid is a relatively rare tumour making up less than 1% of eyelid cancers. However, like other skin melanomas it can spread to other parts of the body. This tumour typically appears as a pigmented thickening (tumour) of the eyelid or extension of pigment from the conjunctiva.

**Patients and methods:**

Several cases of eyelid melanoma will be presented. Melanomas of the conjunctiva and eyelid present unique management challenges for the ophthalmologist and ocular oncologist. Suspicious lesions can be identified using the classic "ABCD" method of evaluation (Asymmetry, Border irregularity, Color variation, Diameter). Examination should also include palpation for regional lymphadenopathy and general body exam.

**Results:**

When the pathology diagnosis confirms or discovers that the tumour is malignant melanoma of the eyelid, a medical work-up is ordered to stage the patient and thus rule out metastatic spread to other parts of the body. If there is no metastatic disease, the tumour can be surgically removed (including large margins of normal appearing tissue). Ophthalmic plastic surgery techniques are usually required to repair the defect caused by tumour removal. The extent of surgery is governed by the ocular distribution of the tumour. It can range from simple eyelid resection, removal of the eyelid, debulking the orbit, to orbital exenteration. Radiation (external beam or brachytherapy implant) may be

e added if surgical margins are not possible. Most all patients can be repaired using one of the se techniques.

**Conclusion:**

The diagnosis of cutaneous malignant melanoma of the eyelid is suspected clinically and confirmed histologically. Significant risk factors include tumour thickness, ulceration, and mitotic rate. All patients with malignant tumours should be advised of the risk of recurrent or new tumours and encouraged to attend lifelong follow up.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA ORBITU / Orbit section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Renata

**Ime i prezime / First and Last Name:-Last**

Iveković

**Ustanova / Institution:**

Klinika za one bolesti KBC Setre mlosrdnce

## 65. Nataša Cutvarić

### Naslov:

USPOREDBA KLASIFIKACIJE KATARAKTI IZMEĐU ISPITIVAČA S RAZLIČITIM ISKUSTVOM U OFTALMOLOGIJI KORISTEĆI LOCS III KLASIFIKACIJU I NJIHOVA KORELACIJA S PNS SUSTAVOM PENTACAM A

### Autori:

Cutvarić N., Lacmanović Lončar V., Petric Vicković I., Radmilović M., Sušić E., Mihaljević B., Vatavuk Z.

### Ustanova:

KBC Sestre Milosrdnice, Vinogradska cesta 29, Zagreb, Hrvatska

### Cilj:

Cilj ovog istraživanja bilo je ispitati pouzdanost ocjenjivanja katarakte koristeći sustav klasifikacije LOCS III između ispitivača s različitim razinama iskustva u oftalmologiji. Također, istražili smo korelaciju gustoće nuklearne katarakte pomoću Pentacam (Oculus) Nucleus Staging sustava s LOCS III klasifikacijom.

### Bolesnici i metode:

U ovoj komparativnoj studiji sudjelovalo je pet ispitivača s različitim razinama iskustva u oftalmologiji. Pacijenti su bili osobe s kataraktom povezanom s dobi koji su pristupali preoperativnoj pripremi u Kliničkom bolničkom centru Sestre milosrdnice, Zagreb, Hrvatska. Provedena je klinička procjena zamućenja 43 leće na istom biomikroskopu korištenjem LOCS III klasifikacije. Ispitivači su ocijenili nuklearnu boju, zamućenost, kortikalno i stražnje subkapsularno zamućenje leće. Ispitana je korelacija između svih promatrača. Dodatno, za sve pacijente provedeno je utvrđivanje prosječne gustoće nuklearnog zamućenja koristeći Scheimpflugov sustav ocjenjivanja (funkcija Pentacam Nuclear Stage; PNS). Analizirane su korelacije između vrijednosti PNS-a i individualne procjene zamućenja nukleusa leće od strane promatrača.

### Rezultati:

Nađena je statistički značajna razlika u utvrđivanju prisutnosti pojedine vrste zamućenja (kortikalne, nuklearne, stražnje subkapsularne) između promatrača, osobito u utvrđivanju stražnjih subkapsularnih i kortikalnih zamućenja ( $P = 0,010$ ). Međutim, unutar promatranih tipova zamućenja, u svim je kategorijama utvrđena visoka razina suglasnosti među promatračima. Također, nađ

ena je umjerena do jaka pozitivna korelacija između ocjene LOCS III među specijalizantima oftalmologije i maksimalne nuklearne gustoće Scheimpfluga ( $\alpha < 0,05$ ).

### **Zaključak:**

Unatoč različitim razinama iskustva u oftalmologiji, LOCS III sustav klasifikacije ima dobru reproducibilnost između ispitivača i pouzdana je, ekonomična metoda za ocjenjivanje katarakte. Također, daje podatke koji su u zadovoljavajućoj korelaciji s rezultatima dobivenim korištenjem Pentacam Scheimpflug sustava.

### **Title:**

COMPARISON BETWEEN OBSERVERS IN GRADING CATARACT USING LENS OPACITIES CLASSIFICATION SYSTEM III AND THEIR CORRELATION WITH PENTACAM NUCLEUS STAGING

### **Authors:**

Cutvarić N., Lacmanović Lončar V., Petric Vicković I., Radmilović M., Sušić E., Mihaljević B., Vatavuk Z.

### **Institution:**

University Hospital Center "Sestre milosrdnice", Vingradaska cesta 29, Zagreb, Croatia

### **Aim:**

The aim of this study is to test reliability of LOCS III cataract grading between observers at different levels of experience in ophthalmology. Also, we investigated the correlation of nuclear cataract density using Pentacam (Oculus) Nucleus Staging system with LOCS III grades.

### **Patients and methods:**

In this comparative study, clinical cataract assessment was performed by five observers at different levels of experience in ophthalmology. Grading was done on the same slit lamp using the LOCS III system during preoperative visit at the Sestre milosrdnice University Hospital Centre, Zagreb, Croatia. We recruited 43 eyes with age related cataract. The LOCS III nuclear opalescence, nuclear color, cortical and posterior subcapsular cataract scores were graded by the observers. Inter-observer agreement was assessed between all observers. Additionally, nuclear lens density staging was performed for all patients using the Scheimpflug imaging-based grading system (Pentacam Nuclear Stage function; PNS). Correlations among PNS values and individual LOCS III grading from observers with different experience were analyzed.

### **Results:**

There was a statistically significant difference in determining the presence of a specific type of opacification (cortical, nuclear, posterior subcapsular) between the observers, notably due to differences in the detection of posterior subcapsular and cortical opacifications ( $P = 0,010$ ). However, within the observed types of opacification, a high level of inter-observer agreement was found in all the categories. There was also a moderate to strong positive correlation between the LOCS III grading among ophthalmology residents and Scheimpflug maximum nuclear density ( $\alpha < 0,05$ ).

**Conclusion:**

Our findings indicate that despite different experience levels in ophthalmology, the LOCS III scale has a good between-grader reproducibility, and is a reliable, economic method to grade cataracts. Also, it provides data that are in satisfactory correlation with the results obtained using the Pentacam Scheimpflug system.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Nataša

**Ime i prezime / First and Last Name:-Last**

Cutvarić

**Ustanova / Institution:**

KBC Sestre milosrdnice, Zagreb

## 66. Vedrana Vukić

### **Naslov:**

Čimbenici rizika za pojavu intraoperativnog sindroma atonične šarenice

### **Autori:**

Vukić V., Petric Vicković I., Lacmanović Lončar V., Zrakić N., Vataavuk Z.

### **Ustanova:**

KBC Sestre Milosrdnice, Vinogradska cesta 29, Zagreb, Hrvatska

### **Cilj:**

procjena čimbenika rizika za intraoperativni sindrom atonične šarenice (IFIS) u bolesnika koji su podvrgnuti operaciji katarakte

### **Bolesnici i metode:**

analizirani su pacijenti koji su podvrgnuti operaciji katarakte u Klinici „Sestre Milosrdnice“ u razdoblju od siječnja 2022. godine do svibnja 2022. godine. Intraoperativno bolesnici su podijeljeni u dvije skupine, IFIS ili non-IFIS skupina, koje su identificirane prema kriterijima koje su opisali Chang i Campbell. Bolesnici su prema težini IFIS-a svrstani u tri kategorije. Analizirani su sljedeći podatci: spol, dob, oftalmološka stanja, sistemski bolesti, sistemski terapija i trajanje uzimanja iste te preoperativna veličina zjenice

### **Rezultati:**

IFIS je identificiran u 4,3% bolesnika. Kao čimbenici rizika za razvoj IFIS-a prikazani su muški spol, starija dob, antagonisti a-adrenergičkih receptora, lijekovi za hipertenziju i preoperativno uža zjenica. Muškarci izloženi a-1a antagonistima imali su statistički značajno veći rizik za razvoj IFIS-a, te teži oblik IFIS-a. Preoperativna veličina zjenice korelira s težinom IFIS-a

### **Zaključak:**

Razumijevanje i identifikacija čimbenika rizika važni su za prepoznavanje IFIS pacijenata

### **Title:**

Risk factors for the occurrence of intraoperative floppy iris syndrome

**Authors:**

Vukić V., Petric Vicković I., Lacmanović Lončar V., Zrakić N., Vatavek Z.

**Institution:**

University Hospital Center "Sestre milosrdnice", Vingoradska cesta 29, Zagreb, Croatia

**Aim:**

assessment of risk factors for intraoperative floppy iris syndrome (IFIS) in patients undergoing cataract surgery

**Patients and methods:**

patients undergoing cataract surgery at the Sisters of Mercy Clinic in the period from January 2022 to May 2022 were analyzed. Intraoperatively, patients were divided into two groups, IFIS or non-

IFIS groups, which were identified according to the criteria described by Chang and Campbell. Patients were classified into three categories according to the severity of IFIS. The following data were analyzed: sex, age, ophthalmic conditions, systemic diseases, systemic therapy and duration of taking it, and preoperative pupil size

**Results:**

IFIS was identified in 4.3% of patients. Risk factors for the development of IFIS include male gender, old age,  $\alpha$ -adrenergic receptor antagonists, drugs for hypertension, and preoperative narrowing of the pupil. Men exposed to  $\alpha$ 1a antagonists had a statistically significantly higher risk for developing IFIS, and a more severe form of IFIS. Preoperative pupil size correlates with IFIS severity

**Conclusion:**

Understanding and identifying risk factors is important for identifying IFIS patients

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Vedrana

**Ime i prezime / First and Last Name:-Last**

Vukić

**Ustanova / Institution:**

KBC Sestre milosrdnice, Zagreb



## 67. Krešimir Mandić

### **Naslov:**

Yamane - naša iskustva

### **Autori:**

dr.sc. Krešimir Mandić, dr.med. Marija Štanfel, dr.med. Danijela Mrazovac Zimak, dr. med. Dalibor Opačić, prof.dr.sc. Tomislav Jukić, prof.dr.sc. Nenad Vukojević

### **Ustanova:**

KBC Zagreb

### **Cilj:**

Prikazati indikacije i komplikacije implantacije intraokularne leće Yamane metodom u razdoblju od 2 godine

### **Bolesnici i metode:**

Retrospektivnom je analizirano je 19 pacijenata operiranih Yamane metodom ugradnje intraokularne leće u razdoblju od 2 godine. Kod svih pacijenata načinjena je pars plana vitrektomija sa ugradnjom intraokularne leće. Analizirani su dob, spol, indikacije, prije i poslijepooperativna vidna oštrina, intraoperativne te rane i kasne komplikacije zahvata .

### **Rezultati:**

Najčešća indikacija za zahvat bila je afakija nakon PHACO operacije. Nisu uočene ozbiljne intraoperativne komplikacije. Jedan pacijent imao je odignuće retine, 10 dana nakon zahvata.

### **Zaključak:**

Yamane ugradnja intraokularne leće efikasna je metoda ugradnje intraokularne leće. Radi se o postupku koji ima relativno strmu krivulju učenja, no zahtijeva vladanje vireoretinalnim vještima za rješavanje rijetkih ali potencijalno ozbiljnih komplikacija.

### **Title:**

Yamane - our experience

**Authors:**

Krešimir Mandić MD PhD, Marija Štanfel MD, Danijela Mrazovac Zimak MD, Dalibor Opačić MD , prof. Tomislav Jukić MD PhD, prof. Nenad Vukojević MD PhD

**Institution:**

Clinic Hospital Centar Zageb

**Aim:**

Present indications and complications of Yamane procedure in 2 years period

**Patients and methods:**

Retrospective analysis of 19 patients operated with Yamane implantation of intraocular lens. In all patients, 23 G pars plana vitrectomy with Yamane procedure was performed. Age, gender, indications, pre and post operative visual acuity, intraoperative, postoperative complications were analyzed.

**Results:**

Most frequent indications for surgery was aphakia after failed PHACO surgery. There were no serious intraoperative complications. One patient had retinal detachment 10 days after procedure.

**Conclusion:**

Yamane technique is an effective procedure for intrascleral fixation of intraocular lens. This technique has a relative steep learning curve which demands vitreoretinal surgical skills for dealing with rare but potentially vision-threatening complications.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Krešimir

**Ime i prezime / First and Last Name:-Last**

Mandić

**Ustanova / Institution:**

KBC Zagreb

## 68. Jelena Juri Mandić

### **Naslov:**

Nova metoda ugradnje zlatnog utega kod pacijenata sa parezom facijalisa

### **Autori:**

Jelena Juri Mandić, Maja Bakula, Jasenka Petrović Jurčević

### **Ustanova:**

KBC Zagreb, Klinika za očne bolesti, Medicinskog fakulteta Sveučilišta u Zagrebu

### **Cilj:**

Prikazati novu kiruršku metodu ugradnje zlatnog utega u gornju vjeđu kod bolesnika sa perifernom kljenuti facijalnog živca.

### **Bolesnici i metode:**

Kod tri bolesnika sa unilateralnom perifernom kljenuti facijalnog živca metodom posteriornog pristupa na tarzalnu ploču gornje vjeđe, ugradi se zlatni uteg. Kod svakog bolesnika u skolpu preop pregelda učini se proba utega te se ovisno o stupnju izraženosti retrakcije gornje vjeđe i stupnju lagpftalmusa donese konačna odluka o težini utega koji se ugrađuje. Kod dva bolesnika ugrađen je zlatni uteg težine 1,2 g, a kod trećeg bolesnika uteg težine 1,0 g.

### **Rezultati:**

Kod nijednog bolesnika se za vrijeme operacije ne bilježe komplikacije. U postoperativnom periodu praćenja od 3 mjeseca također nije zabilježena nikakva komplikacija koja bi zahtijevala eksplantaciju ili zamjenu sa ugradnjom utega na konvencionalan način.

### **Zaključak:**

Kod bolesnika sa perifernom kljenuti facijalnog živca, narušenom dinamikom i insuficijentnom pokretljivošću gornje vjeđe i supracilijuma te posljedičnim lagoftalmusom, ugradnja zlatnog utega predstavlja "zlatni standard" liječenja. Posteriorni pristup na tarzalnu ploču minimalno je invazivan, brz, siguran i učinkovit način ugradnje zlatnih utega različite težine te bio mogao biti alternativa uobičajenoj kirurškoj tehnici u indiciranim slučajevima.

### **Title:**

A novel technique of golden weight implantation for patients with facial nerve palsy

**Authors:**

Jelena Juri Mandić, Maja Bakula, Jasenka Petrović Jurčević

**Institution:**

UHC Zagreb, Department of Ophthalmology, Medical School University of Zagreb

**Aim:**

To present a new surgical method of implanting a gold weight in the upper eyelid in patients with peripheral facial nerve palsy.

**Patients and methods:**

In three patients with unilateral peripheral facial nerve palsy, a golden weight was implanted by the method of posterior access to the tarsal plate of the upper eyelid. During outpatient clinical evaluation all patients underwent implant weight testing. Dependent on the degree of upper eyelid retraction and lagophthalmus degree, the final decision was made regarding the implant weight. An 1.2 grams golden weight was implanted in two patients, and a third patient was implanted with 1.0 grams golden weight.

**Results:**

No complications were reported during surgery. During the follow-up period of 3 months, no complications were also recorded that would require explantation or replacement with the implantation of weights in a conventional manner.

**Conclusion:**

In patients with peripheral facial nerve palsy along with impaired dynamics and insufficient motility of the upper eyelid and supracilium with consequent lagophthalmos, implantation of a golden weight is the „gold standard“ of treatment. Posterior access to the tarsal plate is a minimally invasive, fast, safe and effective way to install gold weights of different weights and could be alternative approach in certain cases.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA ORBITU / Orbit section

**Titula / Title:**

Doc.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Jelena

**Ime i prezime / First and Last Name:-Last**

Juri Mandić

**Ustanova / Institution:**

KBC Zagreb, UHC Zagreb

## 69. Eva Kos

### Naslov:

Usporedba formula za izračun snage IOL-  
a u bolesnika s normalnom i velikom aksijalnom duljinom oka

### Autori:

Kos Eva, Kuzmanović Elabjer Biljana, Bušić Iva, Bušić Mladen

### Ustanova:

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb; Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta Josipa Jurja Strossmayera u Osijeku; Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

### Cilj:

Usporediti različite metode za izračun snage IOL-  
a za nekomplikiranu operaciju katarakte u bolesnika s normalnom i velikom aksijalnom duljinom oka

### Bolesnici i metode:

Ova pilot studija uključivala je 23 oka 23 bolesnika. Na temelju prijeoperativno izmjerene aksijalne duljine oka podijeljeni su u dvije skupine: normalna aksijalna duljina 22-24 mm (15 očiju) i velika aksijalna duljina > 24 mm (8 očiju). Prva metoda uključivala je SRK/T formulu koristeći optički biometar IOL MASTER 700. Druga metoda uključivala je Barrett Universal I formulu koristeći mrežni kalkulator i mjerenja optičke biometrije (aksijalna duljina, K1, K2, ACD, debljina leće i WTW) mjerena IOL MASTER-om. Treća metoda također je uključivala Barrett Universal II formulu, ali su za razliku od prethodne metode korištene keratometrijske vrijednosti K1 i K2 iz EKR izvješća za centralnih 4.5 mm, izmjerene OCULUS Pentacam Scheimpflug topografskim sustavom, a ne IOL MASTER-om. Posljednja metoda uključivala je Hill-RBF 3.0 formulu koristeći mrežni kalkulator s parametrima optičke biometrije izmjerenima IOL MASTER-om. Očekivana ciljna refrakcija za implantiranu leću za svaku pojedinu metodu uspoređena je sa stvarnom postoperativnom refrakcijom. Pogreška u predviđanju za svaku metodu dobivena je oduzimanjem očekivane ciljne refrakcije za implantiranu leću od postoperativnog objektivnog refrakcijskog ishoda izmjerenog auto-

refraktokeratometrom mjesec dana nakon operacije. Wilcoxonov test korišten je za usporedbu učinka pojedinih formula u predviđanju refrakcije.

### **Rezultati:**

Općenito, korištenjem Wilcoxonovog jednosmjernog testa, pogreška u predviđanju za Barrett Universal II formulu u kombinaciji s Pentacamom bila je manja od pogreške u predviđanju SKR/T formule ( $P=.018$ ), Barrett Universal II formule s parametrima iz IOL Master-a ( $P=.006$ ) te Hill - RBF formule ( $P<.001$ ). Za oči velike aksijalne duljine, korištenjem Wilcoxonovog jednostranog testa, pogreška u predviđanju za Barrett Universal II formulu u kombinaciji s Pentacamom također je bila manja od pogreške u predviđanju SKR/T formule ( $P=.020$ ), Barrett Universal II formule s podacima iz IOL Master-a ( $P=.008$ ) te pogreške u predviđanju Hill-RBF formule ( $P<.004$ ). Za oči normalne aksijalne duljine, Barrett Universal II formula u kombinaciji s Pentacamom pokazala je najmanju srednju apsolutnu pogrešku u predviđanju u usporedbi sa ostalim analiziranim formulama, no uz statistički značajan rezultat samo u usporedbi s Hill-RBF formulom ( $P=0,019$ ).

### **Zaključak:**

Ova pilot studija sugerira da Barrett Universal II formula u kombinaciji s keratometrijskim vrijednostima iz EKR izvješća s Pentacama, može točnije predvidjeti postoperativnu refrakciju u odnosu na ostale uspoređivane formule, što bi moglo pridonijeti preciznijem odabiru snage intraokularne leće za pojedinog pacijenta u promatranoj skupini. Potrebna su daljnja istraživanja na većem uzorku.

### **Title:**

Comparison of IOL power calculation formulas in normal and long axial eyes

### **Authors:**

Kos Eva, Kuzmanović Elabjer Biljana, Bušić Iva, Bušić Mladen

### **Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb; Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek; Reference Centre of the Ministry of Health of the Republic of Croatia for Pediatric Ophthalmology and Strabismus



**Aim:**

To assess different methods of IOL power calculation for uneventful cataract surgery in patients with normal and long axial eyes.

**Patients and methods:**

This pilot study included 23 eyes of 23 patients. According to preoperatively measured axial length they were divided into two groups: normal axial length 22-24 mm (15 eyes) and long axial length > 24 mm (8 eyes). IOL power was calculated via four different methods as follows. The first method included the SRK/T formula using the IOL MASTER 700 optical biometer. The second method included the Barrett Universal II formula using an online calculator with optical biometry measurements (axial length, K1, K2, optical ACD, lens thickness and WTW) measured with IOL MASTER. The third method also included the Barrett Universal II formula, but with a difference from the previous one in K1 and K2 readings obtained from EKR report for central 4.5 mm using OCULUS Pentacam Scheimpflug topography system rather than IOL MASTER. The last method included the Hill-RBF 3.0 formula with optical biometry measurements measured with IOL MASTER which were entered into an online calculator. Expected target refraction for implanted IOL for each method was compared with actual postoperative refraction. The prediction error of each method was obtained by subtracting the expected target refraction for implanted IOL from the postoperative objective refractive outcome measured with autorefractometer one month after surgery. Wilcoxon test was used to compare the refractive prediction performance by formulas

**Results:**

In general, using Wilcoxon one-sided test the prediction error for the Barrett Universal II formula in combination with Pentacam was smaller than SKR/T ( $P=.018$ ), Barrett Universal II formula with parameters from IOL Master ( $P=.006$ ), and Hill-RBF ( $P<.001$ ) prediction errors. For long axial eyes, using Wilcoxon one-sided test, the prediction error for the Barrett Universal II formula in combination with Pentacam was also smaller than SKR/T ( $P=.020$ ), Barrett Universal II formula from IOL Master ( $P=.008$ ) and Hill-RBF ( $P<.004$ ) prediction errors. In normal axial eyes, Barrett Universal II formula in the combination with corneal values derived from Pentacam provided the lowest mean absolute prediction error, compared to other analyzed formulas, but this was statistically significant only for Hill-RBF ( $P=0.019$ ).

**Conclusion:**

This pilot study suggests that the Barrett Universal II formula in combination with corneal values derived from the EKR report from Pentacam may more accurately predict postoperative refraction than other evaluated formulas which could help in more precise IOL power selection for an individual patient in the study group. Further studies with larger study groups are needed.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Eva

**Ime i prezime / First and Last Name:-Last**

Kos

**Ustanova / Institution:**

Klinička bolnica Sveti DUh

## 70. Kajo Bućan

### **Naslov:**

Odrediti utjecaj početne vidne oštine na rezultate liječenja antivaskularnim endotelnim čimbenikom rasta u bolesnika s venskom okluzijom i makularnim edemom

### **Autori:**

Bućan Kajo, Marković Irena, Batistić Darko, Vučinović Ana, Rajčić Ivan, Bućan Ivona

### **Ustanova:**

Klinika za očne bolesti KBC Split,

### **Cilj:**

Odrediti utjecaj početne vidne oštine na rezultate liječenja antivaskularnim endotelnim čimbenikom rasta (VEGF) u bolesnika s venskom okluzijom i makularnim edemom

### **Bolesnici i metode:**

Retrospektivna analiza provedena je na 42 pacijenata (ukupno 44 oka) koji su bili podvrgnuti anti-VEGF intravitrealnoj terapiji bevacizumabom zbog makularnog edema kao posljedicom okluzije ogranka mrežnične vene i/ili tromboze središnje retinalne vene. Kriteriji isključenja uključivali su prethodne kirurške zahvate na oku, lasersku terapiju oka, intravitrealnu terapiju, aktivnu očnu bolest intravitrealnu injekciju zamućenja optičkih medija koje onemogućava dijagnostiku bolesti i oka. Bolesnici su podijeljeni u skupine prema početnoj korigiranoj vidnoj oštini. Nakon tri i šest mjeseci ispitali su se korigirana vidna oština i središnja fovealna debljina mrežnice putem OCT.

### **Rezultati:**

Bolesnici s trombozom središnje mrežnične vene i makularnim edemom te početnom vidnom oštinom  $\leq 0.05$  imali su najveće poboljšanje vidne oštine i CST od početne vrijednosti (+37,8 slova,  $p < 0,001$ ;  $-204,31 \mu\text{m}$ ,  $p < 0,005$ ) uz terapiju anti-VEGF u usporedbi s pacijentima s početnom vidnom oštinom od 0,4 i više ( $-7,1$  slovo,  $p = 0,11$ ;  $-35,7,92 \mu\text{m}$ ,  $p = 0,46$ ).

**Zaključak:**

Liječenje makularnog edema anti-VEGF terapijom u bolesnika sa trombozom mrežnične vene doprinosi većem relativnom anatomskom i funkcionalnom oporavku vidne oštine u bolesnika sa početnom lošijom vidnom oštrinom!

**Title:**

Relationship between initial and final visual acuity in patients with retinal venous occlusion treated with anti-VEGF intravitreal therapy

**Authors:**

Bućan Kajo, Marković Irena, Batistić Darko, Vučinović Ana, Rajčić Ivan, Bućan Ivona

**Institution:**

Department of Ophthalmology, University Hospital Center Split

**Aim:**

To determine the influence of initial visual acuity on the results of treatment with anti-vascular endothelial growth factor (VEGF) in patients with venous occlusion and macular edema.

**Patients and methods:**

A retrospective analysis was performed on 42 patients (44 eyes in total) who underwent anti-VEGF intravitreal therapy with bevacizumab for macular edema due to retinal vein branch occlusion and / or central retinal vein thrombosis. Exclusion criteria included previous eye surgery, laser eye therapy, intravitreal therapy, active eye disease, intravitreal injection, blurring of optical media which makes it impossible to diagnose eye disease. Patients were divided into groups according to the initial best corrected visual acuity. After three and six months, best corrected visual acuity and central foveal retinal thickness were examined by OCT.

**Results:**

Patients with central retinal vein occlusion and macular edema and best corrected initial visual acuity  $\leq 0.05$  had the greatest improvement in visual acuity and CST from baseline (+37.8 letters,  $p < 0.001$ ;  $-204.31 \mu\text{m}$ ,  $p < 0.005$ ) with anti-VEGF compared to patients with an initial visual acuity of 0.4 and above ( $-7.1$  letter,  $p = 0.11$ ;  $-35.792 \mu\text{m}$ ,  $p = 0.46$ ).

**Conclusion:**

Treatment of macular edema with anti-VEGF therapy in patients with retinal vein occlusion contributes to greater relative anatomical and functional recovery of visual acuity in patients with initial poorer visual acuity!

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Kajo

**Ime i prezime / First and Last Name:-Last**

Bućan

**Ustanova / Institution:**

Klinika za očne bolesti KBC Split

## 71. Martin Oroz

### **Naslov:**

Okluzija grane centralne retinalne vene kao prvi znak COVID-19 infekcije

### **Autori:**

Martin Oroz, dr.med; dr.sc. Krešimir Mandić, dr.med; prof.dr.sc Nenad Vukojević, dr.med

### **Ustanova:**

Klinika za očne bolesti, KBC Zagreb

### **Cilj:**

Prikazati slučaj mladog bolesnika s okluzijom hemisferne grane centralne retinalne vene (CRV) kao prvim i jedinim znakom COVID-19 infekcije

### **Bolesnici i metode:**

Opis kliničkog tijeka, dijagnostičkih slikovnih metoda i ishoda bolesti

### **Rezultati:**

Pacijent u dobi od 26 godina, bez prijašnjih bolesti, javlja se u hitnu službu sa smetnjom „lebdeće točke“ ispred desnog oka u trajanju od 7 dana. Učinjenim pregledom desnog oka nađe se optički disk nejasnih granica u nazalnom dijelu te plamičasta i točkasta krvarenja i dilatirana gornja hemisferna grana CRV. Daljnjom internističkom obradom u hitnoj službi jedino odstupanje koje se uočava je povišenje D-dimera, te pozitivan PCR test na COVID19, zbog čega se postavlja sumnja na okluziju vene uzrokovanu COVID19 infekcijom. Optičkom koherentnom tomografijom isključuje se postojanje cistoidnog makularnog edema, a fluorescinskom angiografijom potvrđuje se dijagnoza okluzije grane CRV desnog oka. Pacijent se upućuje na ciljanu hematološku i reumatološku obradu te se daljnjim praćenjem potvrđuje da nije došlo do pada vidne oštine ili razvoja makularnog edema.

### **Zaključak:**

Poznato je da je COVID19 infekcija protrombogeno stanje i uzrok čestih tromboembolijskih incidenata. Ovaj slučaj mladog pacijenta bez komorbiditeta i drugih simptoma ukazuje da se COVID 19 infekcija može prezentirati okluzijom grane centralne vene kao prvim znakom bolesti.

### **Title:**

Hemiretinal vein occlusion as a first manifestation of COVID 19 infection

**Authors:**

Martin Oroz, dr.med; dr.sc. Krešimir Mandić, dr.med; prof.dr.sc Nenad Vukojević, dr.med

**Institution:**

Department of Ophthalmology, University Hospital Centre Zagreb

**Aim:**

To report a case of a young, otherwise healthy, patient with hemiretinal vein occlusion (HRVO) as a first, and only, manifestation of COVID19

**Patients and methods:**

Clinical presentation, description of imaging methods and case outcomes

**Results:**

A 26-year-old male with no past medical history, presented to ER complaining of a „floater“ in front of his right eye, lasting 7 days. Examination of the right eye revealed edema of the nasal region of optic disc, diffusely scattered flame-shaped and dot hemorrhages and a tortuous and dilated superior hemiretinal vein branch. Further medical evaluation revealed only slight elevation of D-dimer and positive PCR test for COVID-19, which arouse suspicion of retinal vein occlusion caused by COVID19 infection. Optical Coherence Tomography excluded cystoid macular edema, and fluorescein angiography confirmed the diagnosis of hemiretinal vein occlusion of the right eye. Patient went through additional workup for hematologic and rheumatic disorders, and further follow-up showed gradual resolution of the initial clinical presentation, with no progression.

**Conclusion:**

It has been reported that COVID 19 can increase the incidence of thromboembolic events. This case of a young patient with no past medical history or other symptoms, shows that COVID 19 infection could present with only hemiretinal vein occlusion as a first sign of the disease.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Martin

**Ime i prezime / First and Last Name:-Last**

Oroz

**Ustanova / Institution:**

Klinički bolnički centar Zagreb



## 72. Ante Prpić

### **Naslov:**

Uloga termalne kamere u procjeni aktivnosti distireoidne orbitopatije

### **Autori:**

Prpić A, Kasumović A, Mirošević G, Zrinščak O, Iveković R, Vatauvuk Z

### **Ustanova:**

Klinički Bolnički Centar "Sestre milosrdnice", Zagreb

### **Cilj:**

Ispitati ulogu termalne kamere u procjeni aktivnosti distireoidne orbitopatije (DTO) u usporedbi s Clinical Activity Score (CAS) skalom, vrijednostima egzoftalmometrije i nalazima hormona štitnjače.

### **Bolesnici i metode:**

U ovom presječnom istraživanju je sudjelovalo ukupno 20 bolesnika od kojih je 10 bolesnika bilo u aktivnoj fazi DTO prema zbroju na CAS skali (3 ili više) a 10 bolesnika u inaktivnoj fazi DTO. Svi bolesnici su liječeni u Ordinaciji za bolesti štitnjače na Zavodu za endokrinologiju, dijabetes i bolesti metabolizma "Mladen Sekso" te Klinici za očne bolesti KBC Sestre milosrdnice u Zagrebu. Korištena je termalna kamera Flir E8 za mjerenje temperature orbitalnog i periorbitalnog područja te su vrijednosti komparirane s CAS skalom po Mouritsu, vrijednostima egzoftalmometrije dobivene MW9500 egzoftalmometrom i nalazima hormona štitnjače (TSH i FT4). Istraživanje je provedeno prema principima Helsinške deklaracije i dobre istraživačke prakse.

### **Rezultati:**

Bolesnici u aktivnoj fazi prema CAS skali su imali više vrijednosti temperature orbitalnog i periorbitalnog područja uz statističku značajnost. Vrijednosti egzoftalmometrije su također statistički značajnije korelirale s vrijednostima temperature i većem zbroju na CAS skali. Nije pronađena statistička značajnost u nalazima hormona štitnjače s ostalim mjerenim parametrima.

### **Zaključak:**

Demonstrirana je vrijednost termalne kamere u procjeni aktivnosti DTO koja je pokazala više vrijednosti temperature orbitalnog i periorbitalnog područja u bolesnika u aktivnoj fazi bolesti.

**Title:**

The role of thermal camera in the assessment of dysthyroid orbitopathy activity

**Authors:**

Prpić A, Kasumović A, Mirošević G, Zrinščak O, Iveković R, Vataavuk Z

**Institution:**

University Hospital Center "Sisters of Mercy", Zagreb

**Aim:**

To investigate the role of thermal camera in the assessment of dysthyroid orbitopathy (DTO) activity compared to the Clinical Activity Score (CAS) scale, exophthalmometry values, and thyroid hormone levels.

**Patients and methods:**

A total of 20 patients participated in this cross-sectional study, of whom 10 were in the active phase of DTO according to the sum on the CAS scale (3 or more) and 10 patients in the inactive phase of DTO. All patients were treated at the Clinic for Thyroid Diseases at the Department of Endocrinology, Diabetes and Metabolic Diseases "Mladen Sekso" and the Clinic for Ophthalmology at the Clinical Hospital Center "Sisters of Mercy" in Zagreb. The Flir E8 thermal camera was used to measure the temperature of the orbital and periorbital areas and the values were compared with the CAS Mourits scale, exophthalmometry values obtained by MW9500 exophthalmometry and thyroid hormone levels (TSH and FT4). The research was conducted according to the principles of the Helsinki Declaration and good research practice.

**Results:**

Patients in the active phase according to the CAS scale had higher values of orbital and periorbital area temperature with statistical significance. Exophthalmometry values also correlated statistically significantly with temperature values and higher sum on the CAS scale. No statistical significance was found in the levels of thyroid hormones with other measured parameters.

**Conclusion:**

The value of the thermal camera in the assessment of DTO activity was demonstrated, which showed higher values of the temperature of the orbital and periorbital area in patients in the active phase of the disease.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ante

**Ime i prezime / First and Last Name:-Last**

Prpić

**Ustanova / Institution:**

Klinički Bolnički Centar "Sestre milosrdnice", Zagreb

### 73. Tomislav Vidović

**Naslov:**

Klinička obilježja bolesnika s prolaznim oštećenjem vida

**Autori:**

Tomislav Vidović, Tamara Mišljenović Vučerić, Igor Petriček, Jelena Metikoš, Ana Kuzman

**Ustanova:**

Klinika za očne bolesti Medicinskog fakulteta Sveučilišta u Zagrebu, KBC Zagreb

**Cilj:**

Prikazati kliničke osobitosti bolesnika s tranzitornim zamućenjem vida

**Bolesnici i metode:**

Ovo istraživanje uključuje 18 bolesnika s tranzitornim oštećenjem vida koji su liječeni na Klinici za očne bolesti. Osim oftalmološkog pregleda, učinjeno je Octopus perimetrija, VEP, UZV oka i očne šupljine, MR mozga i orbita s angiografijom, CDFI karotidnog i VB sliva, Rtg srca i pluća, internistička, kardiološka i neurološka opservacija. Po potrebi je učinjena i druga dodatna opservacija.

**Rezultati:**

U 3 bolesnika nađena je idiopatska intrakranijska hipertenzija, u 2 bolesnika prolazno zamućenje vida bilo je predznak arteritičkog oblika prednje ishemičke optičke neuropatije, u 3 bolesnika s rčana insuficijencija, odnosno aritmije srca, a u 2 bolesnika vertebro - basilarni sindrom, odnosno insuficijencija. U jednog bolesnika anatomski promjena vertebralne arterije. U 2 bolesnika nađena je migrena s aurom, dok se u 6 bolesnika nije našao uzrok niti nakon opsežne opservacije.

**Zaključak:**

Tranzitorno oštećenje vida je česti uzrok upućivanju oftalmologu. Uzroci mogu biti mnogobrojni. Iako se u određenom broju pacijenata ne nađe uzrok niti nakon opsežne opservacije, prolazno oštećenje vida može biti znak stanja koje može ugroziti zdravlje i život pacijenta. Stoga je važno prepoznati tranzitorno oštećenje vida s akutnom ugrozom zdravlja ili života kako bi se na vrijeme proveli odgovarajući dijagnostičko - terapijski postupci.

**Title:**

Clinical features of patients with transient visual loss

**Authors:**

Tomislav Vidović, Tamara Mišljenović Vučerić, Igor Petriček, Jelena Metikoš, Ana Kuzman

**Institution:**

Department of Ophthalmology, Zagreb University Hospital, Zagreb, University of Zagreb, School of Medicine, Zagreb

**Aim:**

To present the clinical features of patients with transient visual loss

**Patients and methods:**

This study included 18 patients with transient visual loss who were treated at the Department of Ophthalmology. Every patient underwent ophthalmological examination, Octopus perimetry, VEP, ultrasound of the eye and orbit, MRI of the brain and orbit with angiography, CDFI of the carotid and VB basins, X-ray of the heart and lungs, internal medicine, cardiac and neurological observation and other diagnostic procedures when needed.

**Results:**

Idiopathic intracranial hypertension was found in 3 patients, transient visual loss in 2 patients was a sign of an arteritic form of anterior ischemic optic neuropathy, in 3 patients heart failure or cardiac arrhythmia, and in 2 patients vertebrobasilar syndrome or insufficiency. In one patient anatomical change of the vertebral artery. Migraine with aura was found in 2 patients, while in 6 patients the cause was not found even after extensive observation.

**Conclusion:**

Transient visual loss is a common cause of referral to an ophthalmologist. The causes are diverse. Although no cause could be found in a certain number of patients after extensive observation, the transient visual loss could be a sign of a life-threatening condition. Therefore, it is important to distinguish whether the transient visual loss is associated with life-threatening or benign conditions in order to carry out appropriate diagnostic - therapeutic procedures in a timely manner.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA NEUROOFTALMOLOGIJU / Neuro-Ophthalmology section

**Titula / Title:**

Doc.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Tomislav

**Ime i prezime / First and Last Name:-Last**

Vidović

**Ustanova / Institution:**

Klinika za očne bolesti Medicinskog fakulteta Sveučilišta u Zagrebu, KBC Zagreb Department of Ophthalmology, Zagreb University Hospital, Zagreb, University of Zagreb, School of Medicine, Zagreb

## 74. Ines Matoc

### Naslov:

U kakvom su odnosu oksibuprokain i rožnica – stoji li im njena debljina na putu?

### Autori:

Ines Matoc, Aida Kasumović, Idoia Goni Guarro, Valentina Lacmanović Lončar, Ivanka Petric Vicković, Zoran Vataavuk

### Ustanova:

KBC Sestre milosrdnice Zagreb

### Cilj:

Odrediti učinak oksibuprokaina na debljinu epitela i rožnice kod zdravih ispitanika dobivenih O CT-om prednjeg segmenta.

### Bolesnici i metode:

Ova prospektivna studija uključivala je 50 očiju 25 ispitanika. Rožnica je snimana optičkom koherentnom tomografijom za prednji segment (AS OCT, AngioVue, Avanti RTVue-XR, Optovue, CA). Mjerenja su vršena prije i uzastopno svake minute, tijekom pet minuta, nakon ukapavanja kapi oksibuprokaina 0,4% u jedno oko, a fiziološke otopine u drugo oko, koje je služilo kao kontrolna skupina, a potom i dva dodatna mjerenja nakon ukapavanja druge kapi. Analiza je vršena na mapama unutar centralne zone rožnice od 7-7 mm, a uspoređivali su se idući parametri: centralna, superiorna i inferiorna debljina epitela rožnice, najdeblja i najtanja točka epitela, varijabilnost debljine epitela te centralna debljina rožnice. Utjecaj suznog filma na debljinu rožnice umanjen je treptanjem prije svakog snimanja.

### Rezultati:

CCT i epitelni parametri (superiorna, inferiorna, minimalna i maksimalna epitelna debljina) prolazili su kroz slične promjene pod utjecajem oksibuprokaina i fiziološke otopine. Pokazano je malo, ali statistički neznačajno ( $P > 0.05$ ) povećanje vrijednosti nakon prvog kapanja, a potom postepeno vraćanje na prvobitne vrijednosti uz manje ili veće oscilacije. Nakon drugog kapanja sve navedene vrijednosti ostale su stabilne kroz 5 minuta, bez statistički značajnih razlika. Najveće promjene uočene su 30 sekundi nakon prvog kapanja anestetika. Razlike između početnih vrijednosti za parametre: CCT, superiorna i inferiorna debljina epitela rožnice, najtanja i najdeblja točk

a epitela te onih 30 sekundi nakon ukapavanja anestetika kretale su se redom: – 1 do 6  $\mu\text{m}$ , – 1 do 9  $\mu\text{m}$ , – 0 do 4  $\mu\text{m}$ , – 0 do 10  $\mu\text{m}$ , – 0 do 9  $\mu\text{m}$ .

### **Zaključak:**

Kapanje jedne ili dvije kapi lokalnog anestetika 0,4% oksibuprokaina dovodi do blagog i kratkotrajnog, ali statistički neznačajnog porasta debljine epitela i centralne rožnične debljine na svim rožničnim lokacijama, evaluirano AS OCT-om. Efekat lokalnog anestetika treba uzeti u obzir tijekom mjerenja intraokularnog tlaka te preoperativnih mjerenja za laser in situ keratomileusis.

### **Title:**

What is The Relationship Between Oxybuprocaine and Cornea - Does Its Thickness Stand in Their Way?

### **Authors:**

Ines Matoc, Aida Kasumović, Idoia Goni Guarro, Valentina Lacmanović Lončar, Ivanka Petric Vicković, Zoran Vataavuk

### **Institution:**

The Sestre milosrdnice University Hospital Center Zagreb

### **Aim:**

To determine the effect of oxybuprocaine on epithelial and corneal thickness in healthy subjects obtained by anterior segment OCT.

### **Patients and methods:**

This prospective study included 50 eyes of 25 subjects. The cornea was imaged by optical coherence tomography for the anterior segment (AS OCT, AngioVue, Avanti RTVue-XR, Optovue, CA). Measurements were performed before and consecutively every minute, for five minutes, after instilling one drop of 0.4% oxybuprocaine in one eye and saline solution in the other eye, which served as a control group, and then two additional measurements after instilling the second drop. The analysis was performed on maps within the central corneal zone of 7-mm, and the following parameters were compared: central, superior and inferior corneal epithelial thickness, thickest and thinnest epithelial point, epithelial thickness variability and central corneal thickness. The effect of tear film on corneal thickness was reduced by blinking prior to each scan.



**Results:**

CCT and epithelial parameters (superior, inferior, minimum, and maximum epithelial thickness) underwent similar changes under the influence of oxybuprocaine and saline solution. A small but statistically insignificant ( $P > 0.05$ ) increase in values after the first drop was shown, followed by a gradual return to the original values with more or less oscillations. After the second drop, all values were stable for 5 minutes, with no statistically significant differences. The greatest changes were observed 30 seconds after the first drop of anesthetic. The difference between the initial values for the parameters: CCT, superior and inferior thickness of the corneal epithelium, the thinnest and thickest point of the epithelium and those 30 seconds after instillation of anesthetics ranged in order: - 1 to 6  $\mu\text{m}$ , - 1 to 9  $\mu\text{m}$ , - 0 to 4  $\mu\text{m}$ , - 0 to 10  $\mu\text{m}$ , - 0 to 9  $\mu\text{m}$ .

**Conclusion:**

Dripping one or two drops of local anesthetic 0.4% oxybuprocaine leads to a mild and short-term but statistically insignificant increase in epithelial thickness and central corneal thickness at all corneal sites, evaluated by AS OCT. The effect of the local anesthetic should be considered during intraocular pressure measurements and preoperative measurements for laser in situ keratomileusis.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ines

**Ime i prezime / First and Last Name:-Last**

Matoc

**Ustanova / Institution:**

KBC Sestre milosrdnice Zagreb

## 75. Jelena Metikoš

### **Naslov:**

Klinička iskustva u praćenju pacijenata s idiopatskom intrakranijskom hipertenzijom

### **Autori:**

Metikoš Jelena, Vidović Tomislav, Mišljenović Vučerić Tamara, Barać Josip

### **Ustanova:**

Klinički bolnički centar Osijek

### **Cilj:**

Prikazati rezultate praćenja pacijenata s dijagnozom idiopatske intrakranijske hipertenzije na terapiji acetazolamidom i redukcijom tjelesne težine

### **Bolesnici i metode:**

Pratili smo 12 pacijenata s dijagnozom idiopatske intrakranijske hipertenzije kliničkim pregledom, Octopus 900 perimetrijom, UZV oka i očne šupljine, OCT, MR mozga i orbita s angiografijom i venografijom

### **Rezultati:**

Kod najvećeg broja pacijenata s dijagnozom idiopatske intrakranijske hipertenzije je nađeno oštećenje vidnoga polja, elevacija optičkog diska, povišenje prosječne vrijednosti sloja RNFL te diskretne promjene na MR mozga i orbita s venografijom i angiografijom, kod dijela pacijenata i tranzitorno ili stalno smanjenje vidne oštine i ostali neurološki simptomi (glavobolja, diplopija, tinitus...). U svih pacijenata je provedena terapija per os acetazolamidom i redukcijom tjelesne težine koja je dovela do poboljšanja svih parametara praćenja

### **Zaključak:**

Redukcija tjelesne težine te terapija acetazolamidom u pacijenata s dijagnozom idiopatske intrakranijske hipertenzije dovode do regresije edema glave optičkog živca, poboljšanja vidne oštine, oporavka vidnoga polja i ostalih neuroloških simptoma

### **Title:**

Clinical experience in managing patients with idiopathic intracranial hypertension

**Authors:**

Metikoš Jelena, Vidović Tomislav, Mišljenović Vučerić Tamara, Barać Josip

**Institution:**

Clinical hospital centre Osijek

**Aim:**

Show the results of managing patients with idiopathic intracranial hypertension using acetazolamide therapy and body weight reduction

**Patients and methods:**

We regularly followed up 12 patients diagnosed with idiopathic intracranial hypertension. Patients were monitored using clinical examination, Octopus 900 perimetry, ultrasound of the eye, OCT, MRI of the brain and orbits with angiography and venography

**Results:**

Most patients diagnosed with idiopathic intracranial hypertension showed visual field defects, elevated optical disc, increase in the average value of RNFL thickness, and discrete changes in the MRI of the brain and orbits with angiography and venography. Some patients also showed a transitory or permanent reduction of visual acuity and neurological symptoms (headache, diplopia, tinnitus...). All patients were treated with acetazolamide, in addition to body weight reduction, which led to improvement of all monitored parameters.

**Conclusion:**

Body weight reduction and acetazolamide therapy in patients diagnosed with idiopathic intracranial hypertension lead to optic disc edema regression, improvement of visual acuity, visual field recovery, and amelioration of neurological symptoms

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA NEUROOFTALMOLOGIJU / Neuro-Ophthalmology section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Jelena

**Ime i prezime / First and Last Name:-Last**

Metikoš

**Ustanova / Institution:**

Klinički bolnički centar Osijek/ Clinical hospital centre Osijek

## 76. Iva Bušić

### **Naslov:**

Usporedba formula za računanje jakosti intraokularnih leća kod osoba s hipermetropijom

### **Autori:**

Bušić I, Kuzmanović Elabjer B, Kos E, Cigić V, Bušić M

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

### **Cilj:**

Usporediti formule za računanje jakosti intraokularnih leća kod osoba s hipermetropijom

### **Bolesnici i metode:**

U prospektivno pilot istraživanje uključeno je deset ispitanika sa dijagnosticiranom senilnom kataraktom te aksijalnom duljinom oka manjom od 22 mm, izmjerenom pomoću optičke biometrije. Za prijeoperacijski izračun jakosti intraokularne leće koristile su se formule SRK/T, Barrett Universal II Formula, u koju su bile uvrštene keratometrijske vrijednosti s Oculus Pentacama odnosno Zeiss IOL Mastera, te HILL-RBF formula. Ispitanicima je mjesec dana nakon operacije mrene bila određena objektivna refraktivna vrijednost s pomoću automatskog refrakto-keratometra, a s pomoću Wilcoxonovog testa se zatim usporedilo odstupanje postoperativne refraktivne vrijednosti u odnosu na predviđenu refraktivnu vrijednost, izračunatu prije operacije mrene pomoću svake od navedenih formula. Posljedično su se međusobno usporedile vrijednosti dobivene svakom od formula za pojedinog pacijenta.

### **Rezultati:**

Barrettova Universal II formula s uvrštenim keratometrijskim vrijednostima po Zeiss IOL Master u pokazala se kao najtočnija formula za izračun jakosti intraokularne leće kod osoba s hipermetropijom, no razlika u odnosu na ostale formule nije statistički značajna ( $p > 0.05$ ). Po točnosti su dalje uslijedile Barrett Universal II formula s uvrštenim keratometrijskim vrijednostima po Oculus Pentacamu, zatim SRK/T formula, a posljednja je bila HILL-RBF formula.

### **Zaključak:**

S obzirom na to da je u pilot istraživanje uključeno desetero ispitanika, potreban je veći broj ispitanika kako bi se mogla dokazati odnosno opovrgnuti najveća točnost Barrett Universal II formule s keratometrijskim vrijednostima po Zeiss IOL Masteru. Također, s obzirom na to da na objektivno određivanje postoperativnih keratometrijskih vrijednosti može utjecati suho oko kao česta pojava nakon operacije katarakte, ostaje pitanje može li se povećati točnost određivanja refrakcije prethodnim kapanjem umjetnih suza, i ako da, u kojem vremenskom periodu prije samog ispitivanja.

**Title:**

Comparison of different formulas for intraocular lens power calculation in patients with hypermetropia

**Authors:**

Bušić I, Kuzmanović Elabjer B, Bjeloš M, Cigić V, Bušić M

**Institution:**

University Eye Clinic, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To compare formulas for intraocular lens power calculation in patients with hypermetropia

**Patients and methods:**

Ten patients with diagnosis of senile cataract and axial eye length of less than 22 mm, measured by optical biometry, were included in a prospective pilot study. For preoperative calculation of intraocular lens power, SRK / T formula, Barrett Universal II Formula, which included keratometric values from Oculus Pentacam or Zeiss IOL Master, and HILL-RBF formula were used. Refractive outcome was measured objectively using automatic refractometry keratometer one month after cataract surgery. The Wilcoxon test was used to compare the deviation of the postoperative refractive outcome from predicted refractive values calculated before cataract surgery using each of these formulas. In the end, values obtained with each of the formulas for every patient were compared.

**Results:**

Barrett's Universal II formula with keratometric values from Zeiss IOL Master was the most accurate formula for intraocular lens power calculation in patients with hypermetropia, but results

were not statistically significant ( $p > 0.05$ ). Barrett Universal II formula with keratometric values from Oculus Pentacam was the second accurate, followed by SRK / T formula, and the HILL-RBF formula was the least accurate one.

**Conclusion:**

Given that ten patients were included in the pilot study, a larger number of patients is needed to prove or disprove the highest accuracy of the Barrett Universal II formula with keratometric values from the Zeiss IOL Master. Also, since the objective measurement of postoperative keratometric values may be affected by dry eye as a common occurrence after cataract surgery, the question remains whether it is possible to increase the accuracy of measurement by previous application of artificial tears, and if so, during what time period should application be performed.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Iva

**Ime i prezime / First and Last Name:-Last**

Bušić

**Ustanova / Institution:**

Klinička bolnica Sveti Duh

## 77. Darko Batistić

### **Naslov:**

Intravitrealna fakoemulzifikacija

### **Autori:**

Batistić D, Bućan K, Znaor Lj, Siničić A.

### **Ustanova:**

Klinički bolnički centar Split

### **Cilj:**

Tradicionalno se intravitrealna fakoemulzifikacija za potonuli nukleus izvodi pomoću fragmatoma. Standardna ultrazvučna sonda koja se koristi za kirurgiju katarakte (Infinity) je naprednija od fragmatoma jer koristi torzijski ultrazvuk (Ozil funkcija). Cilj je bio pokazati da je intravitrealna fakoemulzifikacija s Infinity ultrazvučnom sondom moguća i superiornija od fragmatoma i da je njezina primjena u vitrealnom prostoru sigurna za uklanjanje potonulog nukleusa.

### **Bolesnici i metode:**

Tri bolesnika s potonulim nukleusom i jedan s luksiranom lećom u prostor staklastog tijela zbog traume upućena su na PPV. Nakon prednje i core vitrektomije silikonska navlaka s vrha fakoemulzifikacijske sonde je uklonjena i irigacijska tekućina je zaključana. Potom je standardna fakosonda za kirurgiju katarakte (Infinity) kao naprednija od fragmatoma uvedena u prostor staklastog tijela putem pars plana kroz 20 G sklerotomiju. 23 g PPV uz krovno osvjetljenje je izvedena za uklanjanje potonulog nukleusa.

### **Rezultati:**

Fakosonda koja se koristi u kirurgiji katarakte je naprednija fakosonda od fragmatoma. Fragmatom nije potreban. Fakosonda (Infinity) je vrlo sigurna za korištenje, dinamika fluida je bolja nego kod fragmatoma.

### **Zaključak:**

PPV na 4 otvora uz krovno osvjetljenje bimanualnom tehnikom sa intravitrealnom fakoemulzifikacijom pomoću torzijske fakoemulzifikacijske sonde je sigurna tehnika za uklanjanje potonulog nukleusa.



**Title:**

Intravitreal phacoemulsification

**Authors:**

Batistić D, Bućan K, Znaor Lj, Siničić A.

**Institution:**

Clinical Hospital Centre Split

**Aim:**

Traditionally, intravitreal phacoemulsification for dropped nucleus is performed using phacoemulsification. The standard phacoemulsification handpiece for cataract surgery (Infinity) is more advanced than phacoemulsification because it has torsional ultrasound (Ozil function). Aim was to show that intravitreal phacoemulsification with Infinity phacoemulsification handpiece is superior to phacoemulsification and is safe to use for removal of dropped nucleus.

**Patients and methods:**

Three patients with dropped nucleus and one with lens luxation due to eye trauma were referred to PPV. The sleeve from the tip of phacoemulsification handpiece was removed and the irrigation fluid was locked. Then the standard phacoemulsification handpiece for cataract surgery (Infinity) as a more advanced than phacoemulsification was introduced in vitreous cavity via pars plana through 20 G sclerotomy. 4 port 23G PPV was performed to remove the dropped nucleus.

**Results:**

Phacoemulsification handpiece is more advanced than phacoemulsification handpiece than phacoemulsification. A phacoemulsification handpiece is not required. The phacoemulsification handpiece is very safe to use, there is less shattering and the fluidics is better than with phacoemulsification.

**Conclusion:**

4 port PPV with intravitreal phacoemulsification using a torsional phacoemulsification handpiece is a safe technique for removal of a dropped nucleus.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Darko

**Ime i prezime / First and Last Name:-Last**

Batistić

**Ustanova / Institution:**

KBC Split

## 78. Poposki Vladimir

### Naslov:

Novi OCT-A-vođeni subumbralni laserski tretman za liječenje akutne centralne serozne korioretinopatije

### Autori:

Poposki Vladimir. Lavaque Alejandro. Agüero Carlos. Vilaplana Daniel.

### Ustanova:

Parque de Salud - Mar, Barcelona, Spain; Institut Català de Retina (ICR), Barcelona, Spain; Centro de Especialidades Oftalmológicas (CEO), Tucumán, Argentina

### Cilj:

Procijeniti rezultate kratkopulsnog laserskog tretmana vođenog novom klasifikacijom temeljenom na interpretaciji horoidalnih OCT-

A slika u bolesnika s dijagnozom akutnog oblika centralne serozne korioretinopatije (CSKR).

### Bolesnici i metode:

Dvadeset i tri oka 21 pacijenta (16 muškaraca; 5 žena), s dijagnozom akutne CSKR-e, liječena su Pascal-

EpM i praćena u prosjeku 26 mjeseci. Trajanje simptoma prije liječenja: prosječno 6 tjedana. OCT-

A je otkrila tri različita horoidalna uzorka u bolesnika s CSKR. Razvrstani su kao: 1- Kombinirani (48%); 2- Izolirani (32%) i, 3- Stopljeni (20%). Svi su otkrili područje hiperaktivnosti u žilnici gdje je primijenjen tretman kratkim pulsni laserom. Praćenje: po 7 dana, 2 tjedna, a nakon toga, svaka 3 mjeseca.

### Rezultati:

Prije tretmana, najbolje korigirana vidna oštrina (BCVA) je bila u rasponu od 20/200 do 20/40 (srednja vrijednost 20/80). Srednja centralna debljina makule (CMT) bila je 289 mikrona (230-301). Nakon tretmana kratkopulsni laserom, BCVA se poboljšala s 20/20 na 20/40 (prosječno 20/30). Srednja vrijednost CMT smanjena je na 194 mikrona (135-211). Jednostruki laserski tretman primijenjen je na 20 očiju. Dva oka zahtijevala su 2 tretmana, a samo jedno oko 3 tretmana. Prosječni broj tretmana po oku bio je 1,1. Nije propisano ni napravljeno nikakvo drugo lokalno ili sustavno liječenje.

**Zaključak:**

Tretman kratkopulsnim subumbralnim laserom (Pascal) čini se sigurnim i učinkovitim liječenjem u pacijenata s dijagnozom akutnog oblika centralne serozne korioretinopatije.

**Title:**

Novel OCT-A Guided Subumbral Laser Treatment for Acute Central Serous Chorioretinopathy

**Authors:**

Poposki Vladimir. Lavaque Alejandro. Agüero Carlos. Vilaplana Daniel.

**Institution:**

Parque de Salud - Mar, Barcelona, Spain; Institut Català de Retina (ICR), Barcelona, Spain; Centro de Especialidades Oftalmológicas (CEO), Tucumán, Argentina

**Aim:**

Procijeniti rezultate kratkog pulsno laserskog tretmana vođenog novom klasifikacijom temeljenom na interpretaciji horoidalnih OCT-A slika u bolesnika s dijagnozom akutnih oblika centralne serozne korioretinopatije (CSCR).

**Patients and methods:**

Twenty-three eyes of 21 patients (16 male; 5 female), diagnosed with acute CSCR, were treated with Pascal-EpM and followed for an average of 26 months. Duration of symptoms before treatment: 6 weeks in average. Three different choroidal patterns were detected by OCTA in patients with CSCR. They were classified as: 1-combined (48%); 2- Isolated (32%) and, 3-fused (20%). All of them revealed an area of hyperactivity in the choroid where the short pulse laser treatment was applied. Follow-up: 7 days, 2 weeks, and every 3 months thereafter.

**Results:**

Before treatment, best corrected visual acuity (BCVA) range from 20/200 to 20/40 (mean 20/80). Mean central macular thickness (CMT) was 289 microns (range 230-301). After short pulse treatment, BCVA improved from 20/20 to 20/40 (mean 20/30). Mean CMT decreased to 194 microns (range 135-211). Single laser treatment was applied in 20 eyes. Two eyes required 2 treatments and only one eye 3 treatments. Mean number treatment per eye was 1.1. No other topical nor systemic treatment was prescribed.

**Conclusion:**

Short Pulse Laser Treatment (Pascal) seems to be a safe and effective treatment in patients diagnosed with acute form of CSCR.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Vladimir

**Ime i prezime / First and Last Name:-Last**

Poposki

**Ustanova / Institution:**

Parque de Salud - Mar & Institut Català de Retina

## 79. Iva Mazija

### Naslov:

Dijagnostički izazov sekundarnog glaukoma zatvorenog kuta s posteriornim mehanizmom „guranja“ bez pupilarnog bloka

### Autori:

Iva Mazija, Sonja Jandroković, Dina Lešin Gaćina, Sania Vidas Pauk, Ivan Škegro, Ana Pupić-Bakrač

### Ustanova:

Oftalmološka ordinacija dr. Nikolina Basioli, KBC Zagreb

### Cilj:

Prikazati rijedak slučaj pacijenta s obostranim cistama cilijarnog tijela, te posljedičnim uskim kutom s posteriornim mehanizmom „guranja“ bez pupilarnog bloka

### Bolesnici i metode:

prikaz slučaja

### Rezultati:

Glaukom zatvorenog kuta kao posljedica ciste cilijarnog tijela rijetko je stanje. Pacijenti vrlo često budu liječeni s više lijekova i kirurških intervencija. Predstavljamo rijedak slučaj jednostranog zatvaranja kuta uzrokovanog višestrukim cistama cilijarnog tijela na oba oka.

Muškarac (41g) se javio u hitnu službu nakon pregleda u vanjskoj ustanovi gdje su mu izmjerene povišene vrijednosti intraokularnog tlaka (IOT) 16/42 mmHg. Vrijednosti očnog tlaka su kompenzirane liječenjem u hitnoj službi te je pacijent upućen na daljnju obradu. Tijekom obrade se učinio kompletan oftalmološki pregled, gonioskopija i pahimetrija. Uz to se učinio dnevna krivulja tlaka, Pentacam radi snimanja prednjeg segmenta, vidno polje Octopus 900 G, OCT. Gonioskopski se naše uži kut, ali otvoren (2 po Schafferu), konveksan korijen šarenice bez iridotrabekularnog (IT) kontakta te se pacijent uputi na ultrazvučnu biomikroskopiju (UBM). Na UBM-u se naše obostrano prednja očna sobica uredne dubine u središnjem dijelu, ali plića prema uglu, stražnja sobica duboka, te cilijarna tijela sa cistama koja suzuju očni kut. Na ponovljenom UBM pregledu se ustanove područja bez cisti te se na tim mjestima planira YAG laser periferne iridotomije (LPI). Učinio se YAG LPI na oba oka i pacijentu se ostave u terapiji timolol 0.5% 2x1 i pilocarpin 1% kapi 2x1. Na kontrolnom pregledu nakon mjesec dana očni tlak bude aplanacijski 12/1

3 mmHg, a gonioskopski se vidi kut sada otvora 2-

3, konveksan korijen šarenice, bez znakova IT kontakta. U planu su učestalije kontrole i pacijent u je temeljito objašnjeno stanje kako bi se moglo intervenirati na vrijeme. Ujedno prikazujemo nekoliko slučajeva pacijenta kojima nisu na vrijeme dijagnosticirane ciste cilijarnog tijela te rezultate različitih terapijskih intervencija

### **Zaključak:**

Posteriorni mehanizam potiskivanja koji uzrokuje povremeno zatvaranje očnog kuta vrlo često se ne prepoznaje na vrijeme. Pacijenti se bezuspješno liječe različitim lijekovima, laserskim i kirurškim metodama. Ciste cilijarnog tijela jedan su od uzroka glaukoma zatvorenog kuta uzrokovanog mehanizmom stražnjeg potiskivanja bez bloka zjenice. Navedenu dijagnozu treba uzeti u obzir u bolesnika s uskim kutom, osobito u slučajevima očne hipertenzije ili glaukoma koji ne reagiraju na perifernu iridotomiju. Dijagnoza se potvrđuje isključivo UBM-om. Terapija nije definirana, ali se navode ciklodestrukcija i filtracijski kirurški zahvati.

### **Title:**

Diagnostic challenge of secondary angle closure glaucoma with posterior "pushing" mechanism without pupillary block

### **Authors:**

Iva Mazija, Sonja Jandroković, Dina Lešin Gaćina, Sania Vidas Pauk, Ivan Škegro, Ana Pupiće-Bakrač

### **Institution:**

Private ophthalmology practice Nikolina Basioli MD, University Hospital Center Zagreb

### **Aim:**

To present a rare case of a patient with bilateral ciliary body cysts, and the consequent narrow angle with a posterior pushing mechanism without pupillary block

### **Patients and methods:**

case report

### **Results:**

Closed-angle glaucoma as a consequence of a ciliary body cyst is a rare condition. Patients are often tre

at-

ed with various medications and surgical interventions. We present a rare case of unilateral angle closure caused by multiple ciliary body cysts in both eyes.

A male (41 years) reported to the emergency department after an examination at an external institution where intraocular pressure (IOP) values of 16/42 mmHg were measured. IOP was compensated by emer-

gency treatment and the patient was referred for further evaluation. The complete ophthalmological examination was performed, including gonioscopy and pachymetry. Additionally, a diurnal IOP curve was made, the Pentacam scan to record the anterior segment anatomy, visual field Octopus 900 G program and OCT. Gonioscopy showed a narrower angle, but open (2 according to Schaffer), a convex iris root without iridotrabecular (IT) contact. The patient was referred to ultrasound biomicroscopy (UBM) which revealed normal depth of the central part of anterior chamber, the shallower anterior chamber towards the corner, a deep posterior chamber, and the ciliary bodies with cysts that narrow angle of the eye. At the repeated UBM examination, areas without cysts were identified and YAG laser peripheral iridotomy (LPI) was suggested at these sites. YAG LPI was performed on both eyes and the patient was provided with therapy of timolol 0.5% 2x1 and pilocarpine 1% drops 2x1. At the follow-up examination after a month, the IOP was 12/13 mmHg, gonioscopic finding showed angle opening of 2-3, and the convex iris root without signs of IT contact.

Frequent follow-

ups were planned and the patient was provided by thorough explanation of the condition so that he can intervene in time.

We also present several cases of patients who were not diagnosed with ciliary cysts in time and the results of various therapeutic interventions.

### **Conclusion:**

The posterior "pushing" mechanism without pupillary block that causes intermittent closure of angle of the eye is not recognized in time frequently. Patients are often treated with various medications unsuccessfully, by laser and surgical methods. Ciliary body cysts are one of the causes of angle-closure glaucoma caused by posterior "pushing" mechanism without pupillary block. Diagnosis should be considered in patients with a narrow angle, especially in cases of ocular hypertension or glaucoma that do not respond to peripheral iridotomy. The diagnosis is confirmed exclusively by UBM. Therapy is not defined, but cyclodestructive procedures and filtration surgery are suggested.

### **Kongres / Congresses:**

21. Kongres HOOD-a



**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Iva

**Ime i prezime / First and Last Name:-Last**

Mazija

**Adresa / Street Address**

Put Nina 42a

**Grad / City**

Zadar

**Poštanski broj / Postal / Zip Code**

23000

**Zemlja / Country**

Hrvatska

**Ustanova / Institution:**

Oftalmološka ordinacija dr. Nikolina Basioli, KBC Zagreb

## 80. Ana Vučinović

### Naslov:

Utjecaj Covid 19 pandemije na porast broja okluzivnih vaskularnih incidenata mrežnice

### Autori:

Ana Vučinović, Žana Ljubić, Bruno Markioli, Kajo Bućan

### Ustanova:

Klinički bolnički centar Split

### Cilj:

Cilj ovog istraživanja bio je ispitati postoji li porast broja okluzivnih vaskularnih incidenata mrežnice tijekom epidemije Covid 19 u odnosu na razdoblje prije epidemije.

### Bolesnici i metode:

U ovo retrospektivno opservacijsko istraživanje uključeni su bolesnici liječeni na Klinici za očne bolesti KBC Split u razdoblju od siječnja 2018.g. do siječnja 2020.g., te od veljače 2020.g. do veljače 2022.g. Primarni ishod bio je broj novodijagnosticiranih okluzija arterije centralis retine (OACR) i okluzija vene centralis retine (OVCR). U istraživanje je uključeno ukupno 66 bolesnika sa OACR i 117 bolesnika sa OVCR. Analizirani su podaci o spolu, dobi, rizičnim čimbenicima (šećerna bolest, arterijska hipertenzija, srčana aritmija, pušenje, oralni kontraceptivi), stanju preboljenja SARS CoV 2 infekcije i cijeptom statusu Covid 19. Istraživanje je provedeno u skladu s Deklaracijom iz Helsinkija.

### Rezultati:

Ukupni broj novooboljelih OACR u ispitivanom razdoblju je 38. Ukupni broj novooboljelih OVCR u ispitivanom razdoblju je 52. Broj novodijagnosticiranih OACR je statistički značajno viši u razdoblju epidemije u odnosu na preepidemijsko razdoblje ( $N_1=28$ ,  $N_2=38$ ;  $p<0,05$ ). Životna dob bolesnika dijagnosticiranih s OACR tijekom razdoblja epidemije Covid 19 bila je niža u odnosu na prethodno razdoblje-

15,78% pacijenata bilo je dobi ispod 60 godina. Od ukupnog broja novodijagnosticiranih s OACR 53% je preboljelo SARS CoV 2 infekciju, a 28% je cijepljeno protiv Covid 19. Nije bilo statistički značajne razlike između ispitivanih vremenskih perioda u broju novodijagnosticiranih OVCR.

**Zaključak:**

Ovim istraživanjem smo pokazali da u ispitivanom razdoblju od početka epidemije Covid 19 postoji porast broja vaskularnih okluzivnih incidenata mrežnice u odnosu na predepidemijsko razdoblje. Rezultati našeg istraživanja nas upućuju na zaključak da su preboljenje i cijepljenje rizični čimbenici za pojavu bolesti.

**Title:**

Effect of Covid 19 pandemic on increase in cases of retinal vascular occlusive incidents

**Authors:**

Ana Vučinović, Žana Ljubić, Bruno Markioli, Kajo Bućan

**Institution:**

Split University Hospital

**Aim:**

The aim of this study was to examine whether new cases of CRAO and CRVO increased during the Covid 19 pandemic.

**Patients and methods:**

We conducted a retrospective observational study of patients hospitalised at the Department of Ophthalmology, University Hospital Split, Croatia with the diagnosis of CRAO and CRVO from January, 2018 to January, 2020, and from February 2020 to February 2022. The key outcome was the number of newly diagnosed CRAO and CRVO in each period. There were 66 patients with CRAO and 117 patients with CRVO in total. We analysed data on age, sex, risk factors (diabetes, hypertension, arrhythmia, smoking, oral contraceptive use), Covid 19 vaccination. This study was conducted in accordance with the declaration of Helsinki.

**Results:**

Total number of patients diagnosed with CRAO in the period of Covid 19 pandemic was 38. Total number of patients diagnosed with CRVO in the period of Covid 19 pandemic was 52. Number of new CRAO cases was significantly higher in the period of Covid 19 pandemic ( $N_1=28$ ,  $N_2=38$ ;  $p<0,05$ ). 15,78% patients with CRAO during the pandemic were younger than 60 years of age. 53% of CRAO patients had had previous Covid 19 infection and 28% of patients were vaccinated. There was no significant difference in the number of CRVO cases.

**Conclusion:**

This study showed that there was an increase in the total number of new CRAO cases in the period of Covid 19 pandemic. These results indicate that both Covid 19 infection and vaccination are risk factors for this disease.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ana

**Ime i prezime / First and Last Name:-Last**

Vučinović

**Ustanova / Institution:**

KBC Split

## 81. Tomislav Mušac

### **Naslov:**

Traumatska ruptura donjeg ravnog mišića - prikaz slučaja

### **Autori:**

T. Mušac, D. Čuržik, M. Vinković, J. Barać

### **Ustanova:**

KBC Osijek, Klinika za očne bolesti

### **Cilj:**

Prikaz kliničkog tijeka liječenja traumatske rupture donjeg ravnog mišića

### **Bolesnici i metode:**

Prikaz slučaja

### **Rezultati:**

Muškarac u dobi od 52 godine javio se u našu dežurnu oftalmološku ambulantu u kasnim popodnevrim satima zbog ozljede desnog oka. Ozljedu je zadobio prethodni dan oko 20h prilikom pada i udara desnom stranom lica o sklopku na zidu. Lokalni nalaz desnog oka imponira kao hiperemija i kemoza, uz vidljiv distalni dio donjeg ravnog mišića koji prolabira iz lacerirane spojnice. Na rupturiranom rubu mišića vidljiva je početna nekroza. U primarnoj poziciji desni bulbus je u laganoj supradukciji, uz potpunu nemogućnost infradukcije. Iako hitni CT ne pokazuje sigurne znakove rupturiranja mišića, klinički je ruptura nesumnjiva i pacijent se podvrgava hitnom operacijskom zahvatu u općoj anesteziji tijekom kojeg se uoči potpuna avulzija spojnice, prednjeg tenona i proksimalnog dijela donjeg ravnog mišića te se učini nekrektomija i reparacija mišića.

**Zaključak:**

Prvi postoperativni dan pacijent ima uredan orto položaj uz djelomično ograničenu infra i supradukciju. Na slijedećim kontrolama bulbomotorika je poboljšana.

**Title:**

Traumatic Rupture of Inferior Rectus Muscle - Case Report

**Authors:**

T. Mušac, D. Čuržik, M. Vinković, J. Barać

**Institution:**

University Hospital Centre Osijek, Eye Department

**Aim:**

Presentation of the clinical course and treatment of traumatic rupture of inferior rectus muscle

**Patients and methods:**

Case report

**Results:**

A 52-year-old man reported to our on-duty ophthalmology department in the late afternoon hours due to right eye injury. He was injured the previous day at around 8 pm during a fall and a blow to the right side of the face against the switch on the wall. The local finding of the right eye impressed as hyperemia and chemosis, with a visible distal portion of the inferior rectus muscle prolapsed from the lacerated conjunctiva. Distal part of ruptured edge of the muscle showed initial necrosis. In the primary position the right eye was in light hypertropia, with the complete impossibility of infraduction. Although emergency computed tomography (CT) scan showed no sure signs of muscle rupture, clinical rupture was undoubted and the patient undergoes emergency surgery. Under general anesthesia, complete avulsion of the conjunctiva, anterior tenon and proximal part of the inferior rectus muscle were discovered. Necrectomy and muscle repair were performed.

**Conclusion:**

On the first postoperative day patient had tidy primary position with partially limited infra and supraduction. On the follow-up eye motion was improved.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Darije

**Ime i prezime / First and Last Name:-Last**

Čuržik

**Ustanova / Institution:**

KBC Osijek, Klinika za očne bolesti

## 82. Ivan Štimac Rojtinić

### **Naslov:**

VR simulacije fakoemulzifikacije

### **Autori:**

Ivan Štimac Rojtinić, Biljana Kuzmanović Elabjer, Mladen Bušić

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### **Cilj:**

Predstaviti novi način učenja fakoemulzifikacije

### **Bolesnici i metode:**

Uvesti kirurge u novo razdoblje učenja fakoemulzifikacije

### **Rezultati:**

Izobrazba kirurga za operaciju katarakte trenutačno se svodi na asistiranje u operacijskoj dvorani i Wet lab. Wet lab ispunjava svoju obrazovnu funkciju jako dobro no ima svoje mane, kao što su vrijeme, prostor, osoblje te ograničen broj ponavljanja. Vr simulatori mogu pomoći u izobrazbi kirurga ali bez navedenih ograničenja za Wet Lab. Vr simulator ima nedostatke. Kombinacija ova dva načina učenja trebala bi postati nastavni plan i program u izobrazbi fakoemulzifikacije.

### **Zaključak:**

VR simulacija nudi izobrazbu kirurga u sigurnim uvjetima za učenje gdje konstantno ponavljanje postupaka može postupno poboljšati kirurške vještine.

### **Title:**

VR phacoemulsification simulations

### **Authors:**

Ivan Štimac Rojtinić, Biljana Kuzmanović Elabjer, Mladen Bušić



**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

Introduce a new way of learning for cataract surgery

**Patients and methods:**

Introduce surgeons to the new era of phacoemulsification learning

**Results:**

Training a surgeon for cataract surgery currently boils down to assisting in the operating room and Wet lab. Wet lab fulfills its educational function very well but has its drawbacks, such as time, space, staff and a limited number of repetitions. VR simulators can help train surgeons, but without the restrictions of the Wet Lab. Virtual reality simulators also have their drawbacks. The combination of these two learning models should become the curriculum for phacoemulsification training.

**Conclusion:**

VR simulation provides training for surgeons in safe learning conditions where constant repetition of procedures can gradually enhance surgical skills.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ivan

**Ime i prezime / First and Last Name:-Last**

Štimac Rojtinić

**Ustanova / Institution:**

Klinčka bolnica Sveti Duh

### 83. Ana Pupić-Bakrač

#### Naslov:

Oftalmoplegija inducirana oftalmičkim herpes zosterom: anatomske, patogenetske i terapijske značajke

#### Autori:

Ana Pupić-Bakrač, Jure Pupić-Bakrač, Ivana Gabrić, Nenad Vukojević, Tomislav Jukić

#### Ustanova:

Opća Bolnica Zadar: Klinički bolnički centar Zagreb

#### Cilj:

Istražiti anatomske, patogenetske i farmakološke karakteristike oftalmoplegije inducirane oftalmičkim herpes zosterom (HZO).

#### Bolesnici i metode:

Proveden je sustavni pregled literature baziran na prikazima slučajeva ili serijama slučajeva.

#### Rezultati:

Istraživanje je uključivalo 96 bolesnika (54 [56.25%] žene i 42 [43.75%] muškarca [P = 0.221]). Pr osječna dob bolesnika bila je 64.32 ±17.48 godina. Svi bolesnici uključeni u istraživanje su imali oftalmoplegiju induciranu HZO-om, s osipom kao inicijalnim simptomom kod 87 (90.62%) bolesnika, te dvoslikama kod 9 (9.38%) bolesnika. Ukupno 37 bolesnika (38.54%) se oporavilo u potpunosti, dok je 59 (61.46%) bolesnika imalo trajnu oftalmoplegiju. Žene su se oporavile u 26/54 slučajeva, a muškarci u 11/42 slučajeva (P = 0.028). Stopa oporavka poslije peroralne naspram intravenske antivirusne terapije (15/38 naspram 19/46), te >10 dana naspram ≤ 10 dana antivirusne terapije (22/54 naspram 12/30) se nisu statistički značajno razlikovale (P = 0.865 i P = 0.947). Imunokompetentni bolesnici liječeni s kortikosteroidima su imali statistički značajno bolje stope oporavka od imunodeficientnih bolesnika na kortikosteroidnoj terapiji (5/22 [22.73%] i 17/34 [50.00%], [P = 0.041]).

#### Zaključak:

Ishod oftalmoplegije inducirane HZO-om je povezan sa spolom, imunološkim statusom bolesnika, upotrebom kortikosteroida i vremenom uvođenja antivirusne terapije.

**Title:**

Herpes zoster ophthalmicus-related ophthalmoplegia: anatomical, pathogenetic and therapeutic perspectives

**Authors:**

Ana PupiĆ-Bakraĉ, Jure PupiĆ-Bakraĉ, Ivana GabriĆ, Nenad VukojeviĆ, Tomislav JukiĆ

**Institution:**

General Hospital Zadar; University Hospital Center Zagreb

**Aim:**

To investigate the anatomical, pathogenetic, and pharmacological characteristics of herpes zoster ophthalmicus (HZO)-related ophthalmoplegia.

**Patients and methods:**

Case report-based systematic review was performed.

**Results:**

This study included 96 patients (54 [56.25%] women and 42 [43.75%] men [ $p = 0.221$ ]). The mean age at presentation was  $64.32 \pm 17.48$  years. All the patients included in the study had HZO-related ophthalmoplegia, with rash presenting as initial symptom in 87 (90.62%) cases, and diplopia in nine (9.38%) cases. Thirty-seven (38.54%) patients achieved complete recovery, while 59 (61.46%) patients had permanent ophthalmoplegia. Females recovered in 26/54 cases and males in 11/42 cases ( $p = 0.028$ ). Recovery rates after peroral versus intravenous antivirals (15/38 versus 19/46) and >10 days versus  $\leq 10$  days antiviral treatment (22/54 versus 12/30) did not significantly differ ( $p = 0.865$  and  $p = 0.947$ , respectively). Immunocompetent patients treated with corticosteroids had significantly better recovery rates compared to immunodeficient counterparts (5/22 [22.73%] and 17/34 [50.00%]), respectively ( $p = 0.041$ ).

**Conclusion:**

The outcome of HZO-related ophthalmoplegia is associated with gender, immune status, corticosteroid use and time of antiviral treatment initiation.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ana

**Ime i prezime / First and Last Name:-Last**

Pupić-Bakrač

**Ustanova / Institution:**

Opća bolnica Zadar

## 84. Luka Bilić

### **Naslov:**

Istaživanje učinkovitosti i pojavnosti neželjenih optičkih nuspojava kod Alcon Vivity EDOF intraokularnih leća

### **Autori:**

Luka Bilić, Nadežda Bilić, Branka Jurić, Mirna Kliček, Ana Biščan Tvrdi, Maja Merlak

### **Ustanova:**

Poliklinika Bilić Vision

### **Cilj:**

Istražiti efikasnost Alcon Vivity intraokularnih leća sa produženim fokusom sa posebnim osvrtom na neovisnost o poslijeoperativnoj potrebi za nošenjem naočala za daljinu i blizinu i na prisutnost neželjenih optičkih nuspojava, prvenstveno u mezoptičkim uvjetima.

### **Bolesnici i metode:**

Ovo prospektivno istraživanje smo proveli u grupi od 16 pacijenata koji su se željeli riješiti potrebe za nošenjem naočala na blizu i daleko. U istraživanje su uvršteni pacijenti sa bistrom i sa zamućenom kristalinom lećom, ali bez druge očne patologije koja potencijalno ugrožava vidnu oštrinu. U istraživanju smo koristili dvije operativne metode, PHACO i Femto LASERsku potpomognutu operaciju sive mrežnice/odstranjenja prozirne leće sa obostranom ugradnjom Vivity EDOF IOL. Poslijeoperativno ocjenjivana je neovisnost o naočalima za blizinu i daljinu pomoću određivanja najbolje nekorrigirane i korigirane vidne oštrine na daljinu, ispitivanjem vida na blizu pomoću optotipa po Jaegeru i izradom defokus krivulje. Učestalost i izražajnost disfotopsija mjerena je Quality of Vision standardiziranim upitnikom.

### **Rezultati:**

Zbog potrebe završetka poslijeoperativnog praćenja sudionika studije, rezultati će biti izneseni na kongresu HODa.

### **Zaključak:**

Zbog potrebe završetka poslijeoperativnog praćenja sudionika studije, rezultati će biti izneseni na kongresu HODa.

**Title:**

Research of efficiency and occurrence of dysphotopsia after implantation of Alcon Vivity EDOF intraocular lenses

**Authors:**

Luka Bilić, Nadežda Bilić, Branka Jurić, Mirna Kliček, Ana Biščan Tvrđi, Maja Merlak

**Institution:**

Bilić Vision Polyclinic

**Aim:**

To establish the efficiency of Alcon Vivity intraocular lenses with elongated focus with special interest in spectacle independence for far and near and occurrence of dysphotopsia, primarily in mesopic conditions.

**Patients and methods:**

This prospective study was conducted in a group of 16 patients who wanted to achieve spectacle independence for far and near vision. Patients were included in the study regardless of the opacification of crystalline lens but exclusion criteria were any other ocular pathology that could compromise visual acuity. We used two operative methods, PHACO and Femto LASER assisted cataract surgery/clear lens extraction with bilateral implantation of Alcon Vivity EDOF IOL. Postoperative follow up included assessment of spectacle independence for far and near by measuring best uncorrected and corrected distance visual acuity, by measuring near vision using Jaeger charts and making of defocus curve. Frequency and intensity of dysphotopsia occurrence was measured by the standardized Quality of Vision Questionnaire.

**Results:**

Due to need of completion of postoperative data collection, results and conclusions will be presented at the 21st Congress of HOD.

**Conclusion:**

Due to need of completion of postoperative data collection, results and conclusions will be presented at the 21st Congress of HOD.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Luka

**Ime i prezime / First and Last Name:-Last**

Bilić

**Ustanova / Institution:**

Poliklinika Bilić vision



## 85. Ivanka Petric Vicković

### **Naslov:**

Amnijska membrana u liječenju bolesti površine oka

### **Autori:**

Petric Vicković I, Lacmanović Lončar V, Iveković R, Vatavuk Z

### **Ustanova:**

KBC Sestre milosrdnice

### **Cilj:**

Primjena amnijske membrane u liječenju bolesti površine oka

### **Bolesnici i metode:**

Retrospektivno analizirali smo bolesnike liječene transplantacijom amnijske membrane na Klinici za očne bolesti KBC Sestre milosrdnice u razdoblju od 2015. godine do 2022. godine.

### **Rezultati:**

Transplantacija amnijske membrane korištena je u liječenju perzistentnih defekata rožnice, parcijalne deficijencije limbalnih stanica, bulozne keratopatije, ulkusa rožnice, te u rekonstrukciji defekata spojnice nakon operacije pterigija, lezija spojnice i simblefarona

### **Zaključak:**

Uspjeh transplantacije amnijske membrane ovisan je o patofiziologiji tretirane lezije. Amnijska membrana primjenjuje se u širokom rasponu bolesti površine oka.

### **Title:**

Amniotic membrane for management of ocular surface disease

### **Authors:**

Petric Vicković I, Lacmanović Lončar V, Iveković R, Vatavuk Z

### **Institution:**

University hospital center Sestre milosrdnice

**Aim:**

To analyze the rational use of amniotic membrane tissue in the treatment of ocular surface disease

**Patients and methods:**

In retrospective study the medical records of all patients who had amniotic membrane reconstruction by the same surgeon from 2015 to 2022 at the University hospital Sestre milosrdnice were reviewed.

**Results:**

Amniotic membrane transplantation has been used for persistent epithelial defects, partial limbal stem cell deficiency, bullous keratopathy and corneoscleral ulcers, reconstruction of conjunctival defects following removal of pterygia, conjunctival lesions and symblephara. More recently, amniotic membrane has been used as a substrate for cultivation of limbal epithelial cells.

**Conclusion:**

The success of AMT is dependent on the underlying condition. The spectrum of clinical indications continues to expand and encompass a varying range of ocular surface pathology.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ivanka

**Ime i prezime / First and Last Name:-Last**

Petric Vicković

**Ustanova / Institution:** KBC Sestre milosrdnice

## 86. Slaven Franin

**Naslov:**

TINU sindrom - prikaz slučaja

**Autori:**

Slaven Franin

**Ustanova:**

Opća bolnica Varaždin

**Cilj:**

Prikaz slučaja

**Bolesnici i metode:**

Pacijent, Ž, r. 2009.

**Rezultati:**

Prikaz prepoznavanja slučaja TINU sindroma u oftalmološkoj kliničkoj praksi i interdisciplinarno zbrinjavanje pacijenta.

**Zaključak:**

U hitnoj službi se prezentirala dvanaestogodišnja djevojčica zbog crvenila desnog oka. Pregledom se ustanovi bilateralni negranulomatozni prednji uveitis, a anamnestički se saznaje za postojanje moguće bubrežne lezije. U suradnji s pedijatrom ustanovi se postojanje tipične bubreže lezije te se indirektno potvrdi TINU sindrom.

**Title:**

TINU syndrome - case report

**Authors:**

Slaven Franin

**Institution:**

Varaždin general hospital

**Aim:**

Case report

**Patients and methods:**

Patient, f., born 2009.

**Results:**

Report of TINU syndrome diagnosis in ophthalmological clinical practice and interdisciplinary patient management.

**Conclusion:**

In out emergency service a 12 year-old girl presented with redness of the right eye. Ophthalmological exam revealed a nongranulomatous bilateral anterior uveitis as well as a potential nephrological lesion with additional information provided. A pediatric workup was performed and a typical nephrological defect was found which indirectly confirmed the initial diagnosis of TINU syndrome.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA UVEA-u / Uvea section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Slaven

**Ime i prezime / First and Last Name:-Last**

Franin

**Ustanova / Institution:**

Opća bolnica Varaždin

## 87. Domagoj Vlašić

### **Naslov:**

Orbitalne manifestacije Hodgkinova limfoma: prikaz slučaja

### **Autori:**

Domagoj Vlašić dr.med., dr.sc. Sanja Perić, prof. dr. sc. Tomislav Jukić, prof.dr.sc. Nenad Vukojević

### **Ustanova:**

Klinika za očne bolesti KBC Zagreb

### **Cilj:**

prikazati rijetke inicijalne manifestacije Hodgkinovog limfoma

### **Bolesnici i metode:**

prikaz slučaja

### **Rezultati:**

Prikazat ćemo slučaj četverogodišnjeg dječaka koje se javlja zbog desnostrane ptoze i edema vjeda koji je inicijalno liječen antibiotskom terapijom, no bez adekvatnog odgovora. U anamnezi se nalaze podaci o recidivirajućim limfadenitisima te balanitisu. Laboratorijskom obradom nalazi se povišena vrijednost LDH. Radiološkom obradom opiše se limfadenitis i parafaringealni apsces lijevo na vratu uz ispunjeni desni maksilarni sinus sa širenjem u desnu orbitu te potkožno. Punkcijom limfnog čvora nađene brojne malingne stanice tipa Hodgkin i Reed-Sternberg. Po postavljenoj dijagnozi pristupi se daljnjoj hematološkoj obradi i kemoterapijskom liječenju.

### **Zaključak:**

Ptoza kao inicijalna manifestacija orbitalnog limfoma nije uobičajena. Orbitalni limfom se obično prezentira kao palpabilna masa s proptozom, dvoslikama i spojničnim ("salmon - pink") crvenilom. Neobičnom inicijalnom kliničkom prezentacijom bolest se često previdi što do vodi do odgode početka liječenja, time i lošijeg kliničkog ishoda. Iscrpnom anamnezom, detaljnom kliničkom i radiološkom obradom dolazimo do pravovremenog i pravovaljanog postavljanja dijagnoze.

**Title:**

Orbital Manifestation of Hodgkin lymphoma: a case report

**Authors:**

Domagoj Vlašić dr.med., dr.sc. Sanja Perić, prof. dr. sc. Tomislav Jukić, prof.dr.sc. Nenad Vukojević

**Institution:**

Department of Ophthalmology, University Hospital Centre Zagreb

**Aim:**

present rare initial manifestations of Hodgkin lymphoma

**Patients and methods:**

case report

**Results:**

We will report a case of a four-year-old boy who presents with right-sided ptosis and eyelid edema, which was initially treated with antibiotic therapy but without an adequate response. The patient's history contained data on recurrent lymphadenitis and balanitis. Laboratory treatment showed an elevated LDH value.

Radiological examination described lymphadenitis and parapharyngeal abscess on the left side of the neck.

Furthermore, the right maxillary sinus was filled with an expansive process into the right orbit and subcutaneously.

Numerous malignant cells of the Hodgkin and Reed-Sternberg type were found by lymph node puncture. After the diagnosis, further hematological treatment and chemotherapy are started.

**Conclusion:**

Ptosis as the initial manifestation of orbital lymphoma is not common. Orbital lymphoma usually presents as a palpable mass with proptosis, double vision, and conjunctival ("salmon-pink") redness. Unusual initial clinical presentation often leads to overlooking the disease, which results in delayed treatment initiation and thus poorer clinical outcomes. A detailed patient's history, clinical and radiological examinations lead to a timely and valid diagnosis.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Domagoj

**Ime i prezime / First and Last Name:-Last**

Vlašić

**Ustanova / Institution:**

Klinika za očne bolesti KBC Zagreb



## 88. Ana Srdoč

### Naslov:

Demijelinizacijski optički neuritis koji nije multipla skleroza

### Autori:

Ana Srdoč, Sara Tibauth, Tamara Mišljenović Vučerić

### Ustanova:

Klinički bolnički centar Rijeka, Klinika za oftalmologiju

### Cilj:

Optički neuritis je upala očnog živca. Upalom može biti zahvaćen intrabulbarni ili retrobulbarni dio vidnog živca kod koje je papila normalnog izgleda. Retrobulbarni optički neuritis često se po vezuje s multiplom sklerozom, te može biti prva manifestacije bolesti.

### Bolesnici i metode:

Pacijentica, starosti 22 godine, javlja se na Kliniku za očne bolesti KBC Rijeka radi pada vidne ošt rine i bolova u lijevom oku. Postavlja se sumnja na optički neuritis lijevog oka, te se pacijentica u pućuje na daljnu laboratorijsku i radiološku obradu.

### Rezultati:

MR mozga pokazao je lezije bijele tvari i lijevog optičkog živca koje su odgovarale demijelinizaciji te ispunjavale McDonaldove kriterije za multiplu sklerozu. S druge strane, učinjena lumbalna p unkcija bila je potpuno uredna, odnosno u cerebrospinalnom likvoru nije bilo elemenata koji bi ukazivali na multiplu sklerozu.

### Zaključak:

Najčešći uzrok demijelinizacijskih promjena na mozgu je multipla skleroza. Prilikom postavljanja dijagnoze treba misliti i na druge autoimune bolesti koje mogu uzrokovati demijelinizacijske lez ije mozga i kralježničke moždine, a mogu se prezentirati optičkim neuritisom.

### Title:

Demyelinating optic neuritis other than multiple sclerosis

**Authors:**

Ana Srdoč, Sara Tibauth, Tamara Mišljenović Vučerić

**Institution:**

Clinical Hospital Center Rijeka, Department of Ophthalmology

**Aim:**

Optic neuritis is an inflammation of the optic nerve. It can affect intrabulbar or retrobulbar part of the optic nerve with normal optic disc appearance. Retrobulbar optic neuritis is usually associated with multiple sclerosis and it can be the first manifestation of the disease.

**Patients and methods:**

22 year old patient came to Clinical Hospital Center Rijeka due to vision loss and pain in the left eye. Optic neuritis was suspected and the patient was referred for further laboratory and radiological treatment.

**Results:**

Magnetic resonance imaging of the brain showed demyelinating lesions of the white matter and left optic nerve which met McDonald's criteria for multiple sclerosis. On the other side, the performed lumbar puncture was completely normal and there were no elements in cerebrospinal fluid that would indicate multiple sclerosis.

**Conclusion:**

The most common cause of demyelinating changes of the brain is multiple sclerosis. Other autoimmune diseases, which sometimes lead to demyelinating lesions of the brain and spinal cord, may present with optic neuritis and should be considered when making the diagnosis.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ana

**Ime i prezime / First and Last Name:-Last**

Srdoč

**Ustanova / Institution:**

Klinički bolnički centar Rijeka/ Clinical Hospital Center Rijeka

## 89. Tamara Paravić

### Naslov:

Prikaz slučaja: Candida albicans korioretinis

### Autori:

Tamara Paravić, dr.med. specijalizant oftalmologije i optometrije; Vedran Markušić, dr.med. oftalmolog, subspec.stražnjeg segmenta oka

### Ustanova:

KBC Rijeka

### Cilj:

Prikaz slučaja korioretinisa uzrokovanog Candidom Albicans. Faktor rizika za nastanak korioretinisa specifično kod ovog slučaja su imunosupresija pacijenta kojem je u terapiju između ostale uveden prednizon tokom prethodne hospitalizacije na Klinici za Internu medicinu pod dijagnozom "Sepse uzrokovane E.Coli" uz apsces lijevog bubrega, leziju jetre i bilateralnu pneumoniju.

### Bolesnici i metode:

Pacijent 60 godina star se javlja na Kliniku za oftalmologiju radi pada vidne oštine i flotirajućih mutnina ispred desnog oka. Pri kliničkoj obradi pacijenta učinjen je opći oftalmološki pregled, korištena se optička koherentna tomografija i fundus kamera. Postavila se dijagnoza korioretinalne upale koja je pacijent u potpunosti obrađen.

### Rezultati:

Uz žarišne, infiltrativne lezije na fundusu desnog oka i vitreo-makularne trakcije dokazane OCT-om, mikrobiološkom analizom iz seruma dokazan je pozitivan nalaz na C. Albicans IgG > 3,025 te je postavljena dijagnoza korioretinalne upale uzrokovane Candidom. U terapiju je uveden flukonazol i.v. uz cefepim. Po primjeni terapije dolazi do poboljšanja kliničke slike i vidne oštine. Radi VMT u progresiji planira se operativno liječenje; fakovitrektomija +erm/ilm peel.

### Zaključak:

Kad se postavi dijagnoza korioretinalne upale kod imunokopromitiranih pacijenata uvijek treba diferencijalno dijagnostički posumnjati na Candidu albicans kao mogućeg uzročnika radi što ranijeg postavljanja dijagnoze te ciljanog liječenja, sprečavanja progresije bolesti, mogućih komplikacija i nepovratnog gubitka vida. Pacijenti s dijagnosticiranim C.albicans korioretinitisom se treb

aju redovito pratiti jer imaju povećan rizik za nastanak CNV-a, a samim time i rizik za posljedičnim padom vidne oštrine.

**Title:**

Case report: Candida albicans chorioretinitis

**Authors:**

Tamara Paravić, MD, resident of ophthalmology and optometry; Vedran Markušić, MD, ophthalmologist, retina specialist

**Institution:**

Clinical Hospital Center Rijeka

**Aim:**

A case report of chorioretinitis caused by Candida Albicans. Immunosuppression is a specific risk factor in the development of chorioretinitis for a patient who was previously treated with prednisone during his hospitalization at the Clinic of Internal Medicine under the diagnosis of "E. coli sepsis" with left kidney abscess, liver lesion and bilateral pneumonia.

**Patients and methods:**

A 60 years old patient is submitted at the Clinic of Ophthalmology at Clinical Hospital Center Rijeka due to decreased visual acuity and floaters in front of the right eye. General ophthalmic examination was performed during the clinical treatment of the patient as well as optical coherence tomography (OCT) and fundus camera. Patient was diagnosed with chorioretinal inflammation and was treated accordingly.

**Results:**

Microbiological analysis showed a positive medical report for C. Albicans IgG > 3,025 so a diagnosis of chorioretinal inflammation caused by Candida was established in addition to focal, infiltrative lesions on the fundus of the right eye and vitreomacular traction proven by OCT. Prescribed therapy: Fluconazole with cefepime i.v. Visual acuity and clinical picture improved after the application of the mentioned therapy. Due to a progressed stage VMT a surgical treatment is planned - Phacovitrectomy + ILM peel.

**Conclusion:**

Candida albicans should always be suspected in the differential diagnosis as a possible cause when diagnosed with chorioretinal inflammation in immunocompromised patients. This can prevent disease progression, possible complications and irreversible vision loss. Patients diagnosed

with *C. albicans* chorioretinitis should be monitored regularly as they have an increased risk of developing CNV, and thus a risk of consequent decrease in visual acuity.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Tamara

**Ime i prezime / First and Last Name:-Last**

Paravić

**Ustanova / Institution:**

KBC Rijeka

## 90. Sonja Jandroković

### Naslov:

Poboljšano zdravlje i tolerancija očne površine u pacijenata s glaukomom kod kojih je fiksna kombinacija prostaglandin-timolol s konzervansom zamijenjena fiksnom kombinacijom prostaglandin-timolol bez konzervansa: prospektivna studija

### Autori:

Sonja Jandroković, Sania Vidas Pauk, Dina Lešin Gaćina, Ivan Škegro, Martina Tomić

### Ustanova:

KBC Zagreb; KB Merkur

### Cilj:

Svrha ove studije bila je ispitati da li će pacijenti s primarnim glaukomom otvorenog kuta (PGOK) i očnom hipertenzijom (OH) koji pate od nuspojava bolesti površine oka uzrokovane dugotrajnim liječenjem fiksnom kombinacijom analoga prostaglandina + timolol (PGA-timolol FK), imati koristi od promjene terapije u latanoprost-timolol FK bez konzervansa [T2347 (Fixalpost®) Laboratories Théa, Clermont Ferrand, Francuska].

### Bolesnici i metode:

Prospektivno, longitudinalno, otvoreno istraživanje provedeno je u Centru za glaukom na Klinici za oftalmologiju KBC-a Zagreb. 36 pacijenata s PGOK i OH, prosječne dobi 67,14±7,78 godina, s već postojećom bolešću površine oka (eng.ocular surface disease OSD), nasumično je odabrano i uključeno u ovu studiju tijekom tri mjeseca u sklopu rutinskog kliničkog rada. Bolesnici su prebačeni s latanoprostom, travoprosta ili bimatoprosta s timololom FK s konzervansom na latanoprost-timolol FK bez konzervansa (PF-LT) tijekom početne posjete. Pregledani su 1. (V1), 30. (V2) i 90. (V3) dan, mjereno je intraokularno tlak (IOT), oštrina vida, učinjen je pregled procjepnom lampom na biomikroskopu, test vremena pucanja suznog filma (TBUT), procjena hiperemije spojnice (McMonnies-Chapman-Daviesova skala). Kvaliteta života pacijenata i simptomi suhog oka procijenjeni su upitnikom o indeksu bolesti površine oka (OSDI). Statistička analiza provedena je pomoću Statistica-e verzije 14.0.

**Rezultati:**

Značajna poboljšanja ustanovljena su kod većine OSD znakova [(srednja hiperemija spojnice (2 vs. 1 vs. 1,  $p < 0.001$ ), postotak pacijenata koji imaju hiperemiju vjeđa i periokularnu hiperemiju (6 vs. 1.1 vs. 12.5 vs. 2.8 %,  $p < 0.001$ )] i simptoma OSD-a [(median OSDI score (27.1 vs. 9.6 vs. 4.2,  $p < 0.001$ )] u 72 ispitivana oka od početne vrijednosti p o studijskim posjetama (po zadanom protokolu). Među simptomima OSD-a, najviše je opadanja opaženo u hiperemiji spojnice ( $\text{Chi}=95.082$ ,  $p < 0.001$ ), te vjeđa i periokularne hiperemije ( $\text{Chi}=72.333$ ,  $p < 0.001$ ).

**Zaključak:**

Prelazak s PG-timolola FK s konzervansom na latanoprost-timolol FK bez konzervansa (Fixalpost) poboljšao je zdravlje i podnošljivost očne površine pacijenata s glaukomom smanjenjem znakova i simptoma OSD-a. Poboljšana je podnošljivost lokalne primjene lijekova, a posljedično i kvaliteta života (QoL) uz učinkovito sniženje IOTa.

**Title:**

Improved ocular surface health and tolerance in glaucoma patients whose therapy was switched from preserved to preservative-free Prostaglandin-Timolol fixed combination: A prospective study

**Authors:**

Sonja Jandroković, Sania Vidas Pauk, Dina Lešin Gaćina, Ivan Škegro, Martina Tomić

**Institution:**

Department of Ophthalmology, Zagreb University Hospital Center, Zagreb, Croatia Department of Ophthalmology, Vuk Vrhovac University Clinic for Diabetes, Endocrinology and Metabolic Diseases, Merkur University Hospital, Zagreb, Croatia

**Aim:**

The purpose of this study was to investigate whether patients with primary open-angle glaucoma (POAG) and ocular hypertension (OH) suffering from ocular surface side-effects during long-term preserved prostaglandin analog + timolol FC (PGA-timolol FCs) treatment will benefit from switching to preservative-free latanoprost-timolol FC [T2347 (Fixalpost®) Laboratories Théa, Clermont Ferrand, France].



## Patients and methods:

A prospective, longitudinal, open-label study was conducted in the Glaucoma Center at the Department of Ophthalmology, Zagreb University Hospital Center. The 36 POAG and OH patients, mean age  $67.14 \pm 7.78$  years, with the pre-existing ocular surface disease (OSD), were randomly selected and enrolled in this study over three months during the routine clinical work. Patients were switched from preserved latanoprost, travoprost, or bimatoprost with timolol FCs to preservative-free latanoprost-timolol FC (PF-LT) on the baseline visit. They were examined on days 1 (V1), 30 (V2), and 90 (V3), assessing the intraocular pressure (IOP), visual acuity (VA), slit lamp examination, tear film breakup time test (TBUT), and the conjunctival hyperemia (the McMonnies-Chapman-Davies scale). Patients' quality of life and dry eye symptoms were evaluated with the Ocular Surface Disease Index (OSDI) questionnaire. Statistical analysis was performed using Statistica version 14.0. Study design: Longitudinal, prospective, interventional study of drug tolerability and efficacy - a real-life study. Registers: Primary ClinicalTrials.gov Identifier: NCT04891588, Secondary DRKS - German Clinical Trials Register, DRKS-ID: DRKS00024581.

## Results:

Significant improvements were found in most OSD signs [(median conjunctival hyperemia (2 vs. 1 vs. 1,  $p < 0.001$ ), percent of patients having eyelids and periocular hyperemia (61.1 vs. 12.5 vs. 2.8 %,  $p < 0.001$ )] and OSD symptoms [(median OSDI score (27.1 vs. 9.6 vs. 4.2,  $p < 0.001$ )] from baseline by study visits (per-protocol set) in 72 study eyes. Among OSD signs, the most declines were observed in conjunctival hyperemia ( $\chi^2 = 95.082$ ,  $p < 0.001$ ), and eyelid and periocular hyperemia ( $\chi^2 = 72.333$ ,  $p < 0.001$ ).

## Conclusion:

Switching from preserved PG-timolol FC to PF latanoprost-timolol (Fixalpost) improved glaucoma patients' ocular surface health and tolerance by reducing OSD signs and symptoms, improving ocular drug use tolerability, and consequently the quality of life (QoL) with sufficient IOP lowering effect.

## Kongres / Congresse:

21. Kongres HOOD-a

## Abstract category / Sažetak prijavljujem u:

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Sonja

**Ime i prezime / First and Last Name:-Last**

Jandroković

**Ustanova / Institution:**

KBC Zagreb

## 91. Tjaša Krašovec

### Naslov:

Akutni nastup DRAM2-asocirane retinalne distrofije

### Autori:

Tjaša Krašovec<sup>1</sup>, Marija Volk<sup>3</sup>, Nataša Vidović Valentinčič<sup>1,2</sup>, Ana Fakin<sup>1,2</sup>

### Ustanova:

1. Očna klinika, Klinički bolnički centar Ljubljana, Slovenija 2. Medicinski fakultet Sveučilišta u Ljubljani, Slovenija 3. Klinički institut za medicinsku genetiku, Klinički bolnički centar Ljubljana, Slovenija

### Cilj:

Prezentirati klinički slučaj pacijentice sa akutnim nastupom retinalne distrofije povezane s novom patogenom varijantom gena za modulator autofagije povezanog s oštećenjem DNA (DNA Damage Regulated Autophagy Modulator 2 (DRAM2)).

### Bolesnici i metode:

Prikaz slučaja.

### Rezultati:

35-

godišnja pacijentica prezentirala se s brzo progresivnim gubitkom pericentralnog vida na oba oka (OU) s fotopsijom. Pri kliničkom pregledu, najbolja korigirana vidna oštrina (BCVA) je bila 1,0 OU i test za raspoznavanje boja je bio normalan (Ishihara 14/15), međutim, na statičnoj perimetriji je imala obostrano reduciranu makularnu osjetljivost. U staklastom tijelu je obostrano imala 1+ stanice uz odsutan refleks makule. Fundus autoflorescencija je pokazala slabo demarkirana područja hiperautoflorescencije u makuli, dok je optička koherentna tomografija (OCT) pokazala i zražen gubitak sloja fotoreceptora u parafovealnom području s relativno posteđenim područjem fovee OU. Elektroretinografija (ERG) je pokazala makularno i generalizirano oštećenje funkcije mrežnice s odsutnim odgovorom štapića i smanjenim odgovorom čunjića. Zbog akutnog početka sumnjalo se na paraneoplastičnu ili ne-paraneoplastičnu autoimunu retinopatiju. Provedene su opširne pretrage: neoplastični proces je bio isključen s MR-om glave, RTG-om prsišta i PET CT-om, dok je paraneoplastični panel otkrio pozitivna ZIC4 antitijela. Probir na uveitis je također bi

o učinjen, pri čemu su reumatološki parametri bili negativni i bez znakova trenutne ili prošle infekcije Borelliom Burgdoferi, Treponemom Pallidum, virusima HSV, HIV, HBV ili HCV. Primila je metilprednizolon in plazmaferezu te nastavila s mikofenolnom kiselinom (MA) 1000 mg 2x dnevno. Kroz 24 mjeseca pokazalo se kontinuirano pogoršanje BCVA (kod posljednjeg praćenja 0,9 OD; 0,8 OS), sa strukturnim pogoršanjem na OCT i pogoršanjem amplituda ERG. Provedena je genetska analiza kako bi se isključili genetski uzroci. Sekvenciranje cijelog egzoma je pokazalo heterozigotnu varijantu u RPE65 i CDHR1. Provedeno je sekvenciranje cijelog genoma kako bi se tražila druga varijanta i iznenađujuće je identificirana nova homozigotna varijanta u DRAM2 (c.3G>A). Pacijentica je navela subjektivno pogoršanje nakon prestanka terapije s MA.

### **Zaključak:**

Patogene varijante u DRAM2 su najvjerojatniji uzrok retinopatije kod ove pacijentice, no u usporedbi, slučajevi prijavljeni u literaturi pokazali su relativnu težu bolest. Budući da DRAM2 protein ima ulogu u procesu autofagije/apoptoze, moguće je da je imunosuprimirajuća terapija imala povoljan učinak, međutim, potrebna su daljnja istraživanja koja bi to potvrdila.

### **Title:**

Acute presentation of DRAM2-associated retinal dystrophy

### **Authors:**

Tjaša Krašovec<sup>1</sup>, Marija Volk<sup>3</sup>, Nataša Vidović Valentinčič<sup>1,2</sup>, Ana Fakin<sup>1,2</sup>

### **Institution:**

1. Eye Clinic, University Medical Center Ljubljana, Slovenia 2. Faculty of Medicine, University of Ljubljana, Slovenia 3. Clinical Institute for Medical Genetics, University Medical Center Ljubljana, Slovenia

### **Aim:**

To present a clinical case of patient with acute onset of retinal dystrophy associated with a novel pathogenic variant in DNA Damage Regulated Autophagy Modulator 2 (DRAM2) gene.

### **Patients and methods:**

Case report.

### **Results:**

35-year old female presented with one month of quickly worsening pericentral visual loss on both eyes (BE) with photopsia. At exam, her best corrected visual acuity (BCVA) was 1,0 on BE and no

normal color vision (Ishihara 14/15) however she had bilaterally reduced macular sensitivity on static perimetry. She had 1+ cells in the vitreous and absent foveal reflex bilaterally. Fundus autofluorescence showed poorly demarcated areas of hyperautofluorescence in the macula and optical coherence tomography (OCT) showed severe loss of photoreceptor layers in parafoveal region, with relative foveal sparing on BE. Electroretinography (ERG) revealed macular and generalized impairment of retinal function with absent rod responses and reduced cone responses. Due to an acute onset a paraneoplastic or non-paraneoplastic autoimmune retinopathy was suspected. Extensive workup was performed: neoplastic process was excluded with head MRI, chest RTG and PET-CT, while paraneoplastic panel revealed positive ZIC4 antibodies. Uveitis screening was also performed, with negative rheumatological testing and no detection of present or past infection for *Borrelia burgdorferi*, *Treponema pallidum*, HSV, HIV, HBV or HCV. She received methylprednisolone and plasmapheresis and continued with mycophenolic acid (MA) 1000 mg 2x daily. Over 24 months she showed slow continuous worsening of BCVA (at the last follow up 0,9 RE; 0,8 LE), with structural deterioration on OCT and worsening ERG amplitudes. Genetic analysis was performed to exclude genetic cause. Whole exome sequencing revealed heterozygous variant in RPE65 and CDHR1. Whole genome sequencing was performed to search for a second variant and surprisingly identified a novel homozygous variant in DRAM2 (c.3G>A). The patient reported subjective worsening when discontinuing treatment with MA.

### **Conclusion:**

Pathogenic variants in DRAM2 are the most likely cause of retinopathy in this patient, however on comparison, the cases reported in the literature exhibited a relatively more severe disease. Since DRAM2 protein has a role in autophagy/apoptosis process it is possible that immunosuppressive treatment had an ameliorative effect, however further studies are needed to confirm this.

### **Kongres / Congresses:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

### **Titula / Title:**

Dr.

Specijalizant / Resident

### **Ime i prezime / First and Last Name:-First**

Tjaša

**Ime i prezime / First and Last Name:-Last**

Krašovec

**Ustanova / Institution:**

Eye Clinic, University Medical Center Ljubljana, Slovenia

## 92. Tamara Mišljenović Vučerić

### Naslov:

Migrenska aurea ili makulopatija

### Autori:

Tamara Mišljenović Vučerić<sup>1</sup>, Ana Srdoč<sup>1</sup>, Tomislav Vidović<sup>2</sup>, Maja Novak-Stroligo<sup>1</sup>, Tea Čaljkušić-Mance<sup>1</sup>

### Ustanova:

1 Klinički bolnički centar Rijeka, Klinika za oftalmologiju 2 Klinički bolnički centar Zagreb, Klinika za očne bolesti, Referentni centar Ministarstva zdravlja za neurooftalmologiju

### Cilj:

Ovo je prikaz slučaja pacijentice koja od ranije boluje od migrene s aureom, a neposredno prije nego što je imala smetnje vida, započela se liječiti fremanezumabom, lijekom za prevenciju migrenoznih napada. Iako je migrena s aureom obično benigni poremećaj, u rijetkim slučajevima može biti uzrok ozbiljnih neuroloških komplikacija, kao na primjer migrenozni moždani udar. U sklopu sličnih ishemičnih incidenata povezanih s migrenom s aureom opisana je i parafoveolarna akutna središnje makulopatija (PAMM), kao podvarijanta akutne makularne neuroretinopatije (AMN). Koliko je nama poznato, ovo je prvi slučaj PAMM-a kao nuspojave fremanezumaba, premda je PAMM uočen kao nuspojava nekih drugih preventivnih antimigrenskih lijekova.

### Bolesnici i metode:

Pacijentica, 41 godinu, žalila se na perzistentnu aureu na desnom oku, u trajanju od nekoliko dana, bez glavobolje. Klinički oftalmološki pregled je bio uredan, no na vidnom polju (VP) nađen je mali paracentralni skotom. Neurološki status je bio uredan. Naknadno je učinjena i neuroradiološka obrada koja nije dokazala odstupanja.

### Rezultati:

Na OCT-u uočen je hiperreflektivni segment uglavnom u unutarnjem nuklearnom sloju (INL), parafoveolarno, što je objasnilo postojanje paracentralnog skotoma, odnosno PAMM kao uzrok navedenih smetnji.

**Zaključak:**

Ovim prikazom slučaja smo željeli naglasiti da bi se svaka aurea koja traje duže od sat vremena, morala ponovno evaluirati i potražiti neki drugi uzrok, a tehnološkim napretkom moguće dijagnostike, kao u ovom slučaju SD-OCT pruža nam dodatne mogućnosti dijagnoze prethodno nerazriješenih slučajeva.

**Title:**

Migraine aura or maculopathy

**Authors:**

Tamara Mišljenović Vučerić<sup>1</sup>, Ana Srdoč<sup>1</sup>, Tomislav Vidović<sup>2</sup>, Maja Novak-Strologo<sup>1</sup>, Tea Čaljkušić-Mance<sup>1</sup>

**Institution:**

1 Clinical Hospital Center Rijeka, Department of Ophthalmology 2 University Hospital Center Zagreb, Department of Ophthalmology, Reference center for neuro ophthalmology

**Aim:**

This is a case report of a patient who previously had migraines with aurea, recently before she experienced a visual impairment; she began treatment with fremanezumab, a drug used to prevent migraine attacks. Although migraine with aura is usually a benign disorder, in rare cases it can be the cause of serious neurological complications, such as migraine stroke. Related to similar ischemic incidents associated to migraine with aura, parafoveal acute middle maculopathy (PAMM) has been described as a sub variant of acute macular neuroretinopathy (AMN). To best of our knowledge, this is the first case of PAMM, as a possible side effect of fremanezumab, although PAMM has been observed as a side effect of some other preventive antimigraine drugs.

**Patients and methods:**

A female patient, 41 years old, presented with a persistent aura on her right eye for several days without a headache. Clinical ophthalmologic examination was normal, but a small paracentral scotoma was found on the visual field (VF). The neurological status was normal. Subsequently, the neuroradiological imaging was performed without a proven cause.

**Results:**

OCT revealed a hyperreflective segment mainly in the inner nuclear layer (INL), parafoveal, which explained the existence of paracentral scotoma on VF and PAMM as the cause of patient's symptoms.



**Conclusion:**

This case report emphasizes that any aura lasting more than an hour should be re-evaluated considering another cause. With technological advances in diagnostic procedures, like SD-OCT provides additional opportunities to diagnose previously unresolved cases.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA NEUROOFTALMOLOGIJU / Neuro-Ophthalmology section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Tamara

**Ime i prezime / First and Last Name:-Last**

Mišljenović Vučerić

**Ustanova / Institution:**

KBC Rijeka

### 93. Leon Marković

**Naslov:**

Kirurški izazovi fiksacije umjetne šarenice kod pacijenata s traumatskom aniridijom

**Autori:**

Leon Marković, Damir Bosnar, Borna Šarić, Ana Maria Varošaneć, Mladen Bušić

**Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilište J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

**Cilj:**

Prikazati kirurške izazove prilikom fiksacije umjetne šarenice kod pacijenata s traumatskom aniridijom.

**Bolesnici i metode:**

Na Klinici za očne bolesti Kliničke bolnice „Sveti Duh“ u razdoblju od rujna 2021. godine do prosinca 2021. godine liječena su tri pacijenta s traumatskom aniridijom upotrebom Reper umjetnih šarenica. Pacijenti su podvrgnuti operativnom liječenju sekundarne ugradnje umjetne šarenice.

**Rezultati:**

Tri pacijenta, srednje dobi 41 g., liječena su kirurškom tehnikom sekundarne ugradnje umjetne šarenice. Kod jednog pacijenta ugradnja umjetne šarenice kombinirana je s transplantacijom rožnice. Kirurške tehnike fiksacije uključivale su korneoskleralni (Hoffmanov) džep, 10-0 polipropilenski konac, 5-0 polipropilenski konac 25 Gauge troakare, skleralnu fiksaciju i skleralni tunel uz ostali kirurški i instrumentarij nužan za izvođenje sekundarnih implantacija intraokularnih leća. Sva tri operativna zahvata prošla su bez komplikacija te su pacijenti naručeni na redovne postoperativne kontrole.

**Zaključak:**

Umjetne šarenice proizvođača Reper sigurna su i učinkovita kombinacija protetike šarenice s int raokularnom lećom za pacijente s traumatskom aniridijom. Kirurška tehnika fiksacije je zahtjevn a te je potrebno višegodišnje iskustvo i vještina pri izvedbi ove metode liječenja traumatske anir idije.

**Title:**

Surgical challenges of iris prosthesis fixation in patients with traumatic aniridia

**Authors:**

Leon Marković, Damir Bosnar, Borna Šarić, Ana Maria Varošaneć, Mladen Bušić

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, F aculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek, Refere nce Centre of the Ministry of Health of the Republic of Croatia for Pediatric Ophthalmology and Strabismus

**Aim:**

To demonstrate the specifics of the surgical technique of the iris prosthesis fixation in patients with traumatic aniridia.

**Patients and methods:**

In the period from September 2021 to December 2021, three patients with traumatic aphakia a nd aniridia were treated at the University Eye Department of the University Hospital "Sveti Duh" using Reper artificial IOL complex. Patients underwent surgical treatment with secondary impla ntation of iris prosthesis.

**Results:**

Three patients, middle- aged 41 y., were treated with the surgical technique of secondary implantation of iris prosthesis . In one patient, iris prosthesis implantation was combined with perforative keratoplasty. Surgic al techniques of fixation included corneoscleral (Hoffman's) pocket, 10- 0 polypropylene suture, 5- 0 polypropylene suture, 25 Gauge trocars, scleral fixation and scleral tunnel along with other su rgical instruments required to perform secondary intraocular lens implantation. All three surger ies were without complications and patients were ordered for regular postoperative check-ups.

**Conclusion:**

Reper artificial IOL complex is a safe and effective combination of iris prosthesis with intraocular lens for patients with traumatic aniridia. The surgical technique of fixation is demanding and this method of treating traumatic aniridia requires many years of experience and a lot of skills to be performed.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Leon

**Ime i prezime / First and Last Name:-Last**

Marković

**Ustanova / Institution:**

Klinička bolnica "Sveti Duh", Zagreb

## 94. Kristina Lončarić

### **Naslov:**

Prikaz slučaja pareze abducensa uzrokovanog metastazom karcinoma gušterače u klivus sa širenjem u sfenoidni i kavernozi sinus koji se prvotno prezentirao kao mogući gigantocelularni artritis

### **Autori:**

Kristina Lončarić, Jasenka Markeljević, Tomislav Gregurić, Leo Pažanin, Marko Velimir Grgić, Arijana Lovrenčić-Huzjan, Maja Malenica Ravlić, Zoran Vataavuk

### **Ustanova:**

Klinički bolnički centar Sestre Milosrdnice

### **Cilj:**

Prezentirati prvi opisani slučaj pareze abducensa uzrokovanog metastazom karcinoma gušterače u klivus sa širenjem u kavernozi i sfenoidni sinus

### **Bolesnici i metode:**

Prikaz slučaja 69.godišnjeg muškarca koji se prezentirao s novonastalim dvoslikama, jednostranom glavoboljom, povišenom sedimentacijom i urednim opisom nalaza MR mozga učinjenog u privatnoj ustanovi. Opisat će se diferencijalno dijagnostičke dvojbe i multidisciplinarni pristup zbrinjavanja.

### **Rezultati:**

Pacijentu je ustanovljena pareza desnog abducensa posljedično metastazi slabo diferenciranog epitelnog karcinoma, karakteristika probavnog sustava, moguće gušterače, u klivus sa širenjem u desni kavernozi sinus.

### **Zaključak:**

Dvoslike mogu biti prvi znak metastatske bolesti. Pregledom literature do sada nije opisan slučaj metastaze karcinoma gušterače u klivus.

**Title:**

A case of abducens palsy – clival pancreatic cancer metastasis extending into sphenoid and cavernous sinus masquerading as giant cell arteritis

**Authors:**

Kristina Lončarić, Jasenka Markeljević, Tomislav Gregurić, Leo Pažanin, Marko Velimir Grgić, Arijana Lovrenčić-Huzjan, Maja Malenica Ravlić, Zoran Vatavuk

**Institution:**

University Hospital Centre Sestre Milosrdnice

**Aim:**

To report a first described case of pancreatic cancer metastasis in clivus with extension to cavernous and sphenoid sinus presenting as abducens palsy.

**Patients and methods:**

Case report of a 69-year old man who presented with new-onset diplopia, unilateral headache, elevated SE and a recent MRI of the brain done in a private clinic which was not explanatory of the symptoms. Differential diagnostic challenges and multidisciplinary approach are described.

**Results:**

The patient had a right abducens nerve palsy due to metastasis in clivus with expansion to the right cavernous sinus of a poorly differentiated epithelial carcinoma, possibly of a GI tract, more over of a pancreatic origin.

**Conclusion:**

Diplopia can be the first sign of metastatic disease. According to literature research, this is the first described case of presumed pancreatic cancer metastasis in clivus.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA NEUROOFTALMOLOGIJU / Neuro-Ophthalmology section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

KRISTINA

**Ime i prezime / First and Last Name:-Last**

LONČARIĆ

**Ustanova / Institution:**

Klinički bolnički centar Sestre Milosrdice

## 95. Sania Vidas Pauk

### **Naslov:**

Učinak standardnog i akceleriranog crosslinkinga rožnice na stabilnost rožnice i vidnu oštrinu

### **Autori:**

Sania Vidas Pauk, Sonja Jandroković, Dina Lešin Gaćina, Martina Tomić, Miro Kalauz, Ivan Škegro, Ana Pupić Bakrač

### **Ustanova:**

Klinika za očne bolesti, KBC Zagreb, Kišpatićeva 12, Zagreb

### **Cilj:**

Ispitati šestomjesečni učinak standardnog i akceleriranog crosslinkinga (CXL) rožnice na stabilnost rožnice i vidnu oštrinu

### **Bolesnici i metode:**

U ovu prospektivnu studiju bilo je uključeno 27 pacijenata. Svim pacijentima je učinjen CXL rožnice na jednom ili oba oka nakon što se utvrdili kriteriji progresije keratokonusa. Pacijenti su bili podijeljeni u dvije skupine ovisno o učinjenom protokolu CXL-  
a rožnice: skupina pacijenata je kojima je učinjen standardni (Dresdenski) protokol, te skupina pacijenata kojima je učinjen akcelerirani protokol. Nakon debridmana rožnice, kapanja otopine 0,1% riboflavina s 1,1% hidroksipropilmetilcelulozom svakih 2 minute u trajanju od 10 minuta te provjere ultrazvučne pahimetrije, pristupilo se standardnom protokolu UVA zračenja jačine 3mW/cm<sup>2</sup> u trajanju od 30 minuta ili akceleriranom protokolu UVA zračenja jačine 9 mW/cm<sup>2</sup> u trajanju od 10 minuta. Svim pacijentima je učinjen kompletni oftalmološki pregled i kornealna tomografija (Pentacam, Oculus Optikgeräte GmbH) na dan zahvata, potom 1 mjesec, 3 mjeseca i 6 mjeseci nakon zahvata.

### **Rezultati:**

Rezultati ove studije pokazali su učinak dvaju različitih CXL protokola na parametre stabilnosti rožnice dobivene tomografijom rožnice koristeći Pentacam (Oculus Optikgeräte GmbH) kao i učinak na vidnu oštrinu pacijenata.



**Zaključak:**

Ovo je prva studija koja je istražila i usporedila učinak dvaju različitih CXL postupaka na parametre stabilnosti rožnice ABCD klasifikacijskog sustava, koji uključuje parametre stražnje plohe rožnice. Većina dosadašnjih studija koje su uspoređivale učinke različitih CXL protokola koristile su s ustave koji nisu uključivali parametre stražnje površine rožnice te su njihova mjerenja bila bazirana na prednjoj plohi rožnice u njenom centralnom dijelu, pritom su zanemarivala stražnju plohu u rožnice te područje rožnice s najvećim ustrmljenjem i stanjivanjem u centru konusa. U budućnosti će se morati provesti više istraživanja, na više pacijenata s duljim praćenjem da bi se moglo razumjeti i razjasniti učinak različitih CXL protokola na stabilnost rožnice.

**Title:**

Short-term effect of conventional and accelerated corneal cross-linking protocol on corneal stability and visual acuity

**Authors:**

Sania Vidas Pauk, Sonja Jandroković, Dina Lešin Gaćina, Martina Tomić, Miro Kalauz, Ivan Škegro, Ana Pupić Bakrač

**Institution:**

Clinical Department of Ophthalmology, Zagreb University Hospital Center

**Aim:**

To investigate the 6-month effect of conventional and accelerated corneal cross-linking (CXL) on corneal stability parameters and visual acuity

**Patients and methods:**

This prospective study enrolled 27 patients with progressive keratoconus who underwent corneal CXL on one or both eyes. Patients were divided into two groups: those who underwent conventional (Dresden) protocol and those who underwent accelerated CXL protocol. After epithelial debridement, soaking the cornea with 0,1% riboflavin/1,1% hydroxypropyl methylcellulose solution for 10 minutes at two-minute intervals, and ultrasound pachymetry check, the surgeon decided to proceed with ultraviolet A (UV-A) light irradiance of 3mW/cm<sup>2</sup> for 30 minutes (Dresden protocol) or 9mw/cm<sup>2</sup> for 10 minutes (accelerated protocol). All the patients were examined on the day of the procedure and rechecked one, three, and six months after the surgery by performing Snellen visual acuity, the complete ophthalmologic examination, and corneal tomography using Pentacam (Oculus Optikgeräte GmbH).

**Results:**

The results of this study showed the short-term, six-month effects of two different CXL procedures on corneal parameters of the ABCD grading system, Ambrósio relational thickness maximum (ARTmax), maximal keratometry, mean front and back keratometry, pachymetry apex, topographic keratoconus classification (TKC), average pachymetry progression index, Belin/ Ambrósio enhanced ectasia total deviation value (BAD D), back and front elevation and the topometric indices, as well as visual acuity and the refractive error.

**Conclusion:**

This is the first study to investigate and compare the effects of two different CXL procedures on the ABCD grading system and corneal stability parameters, including the posterior corneal surface parameters. Most of the studies comparing the effects of various CXL protocols used simple systems that did not require modern imaging modalities, having severe limitations in ignoring the posterior corneal surface and their measurements were apically based, ignoring the actual thinnest point on the cornea, and as such was not centered on the cone. In the future, there will be a need for more research with more patients and longer follow-ups to understand and clarify how the various protocols may affect corneal stability.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJA ZA KONTAKTOLOGIJU / Contactology section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Sania

**Ime i prezime / First and Last Name:-Last**

Vidas Pauk

**Ustanova / Institution:**

KBC Zagreb

## 96. Kristof Vandekerckhove

### **Naslov:**

Clinical Outcomes of a New Non-diffractive Extended Depth-of-Focus IOL (Isopure®)

### **Autori:**

Kristof Vandekerckhove, Sina Elahi, Nikola Tomagova

### **Ustanova:**

Vista Alpina Eye Clinic

### **Cilj:**

To evaluate the clinical properties of a new non-diffractive EDOF lens (Isopure®) in a large cohort of cataract patients in terms of unaided visual acuity (distance, intermediate and near), binocular defocus curves, patients' visual satisfaction and reported photic phenomena.

### **Bolesnici i metode:**

**Patients & Methods** This study was designed as a single-center retrospective study including 124 eyes of 62 patients with  $\leq 1.5$  D regular corneal astigmatism, undergoing a routine bilateral phacoemulsification surgery with an implantation of the EDOF IOL Isopure® (PhysIOL) between the 11th March 2021 and the 30th November 2021. Mini-monovision (-0.5 diopters one eye) was used in all patients, and Opposite Clear Corneal Incisions (OCCI) were applied in all eyes with pre-existing corneal astigmatism from 0.6 D up to 1.5 D. Visual acuities were assessed and binocular defocus curves established one month postoperatively. Spectacle independence (modified PRISQ questionnaire) and subjective ratings of visual phenomena (modified NEI Quality of Vision questionnaire (RQL-42)) were assessed one month and four to six months after the surgery.

### **Rezultati:**

Monocular CDVA (corrected distance visual acuity) improved from 0.2 (SD 0.1) logMAR preoperatively to -0.04 (SD 0.07) measured at 4-6 weeks after operation. Binocularly, uncorrected postoperative distance visual acuity was -0.02 (SD 0.07) logMAR, uncorrected intermediate distance visual acuity was 0.13 (SD 0.11) logMAR, while uncorrected near visual acuity was 0.40 (SD 0.2) logMAR.

The binocular defocus curve showed a smooth slope. At the level of binocular CDVA of 0.2 logM AR (or better) the curve extended from -1.5 D to +1.0D, suggesting functional vision up to 66cm. According to the PRISQ questionnaire, 96.4% of patients felt comfortable seeing at far distance without glasses, 94.6% at intermediate distance, and 34.0 % at near 4-6 weeks after the surgery. Five percent of patients reported halos, 16% starburst, and 16% glare when confronted with images of these photic phenomena 4 to 6 weeks after surgery. Only 7% (n=4) of patients were disturbed by them in everyday life.

**Zaključak:**

In patients undergoing bilateral cataract surgery, Isopure® provided an extended range of vision, resulting in good uncorrected intermediate vision and excellent uncorrected distance visual acuities. Subjective patient satisfaction in terms of spectacle independence and photic phenomena were high.

**Title:**

Clinical Outcomes of a New Non-diffractive Extended Depth-of-Focus IOL (Isopure®)

**Authors:**

Kristof Vandekerckhove, Sina Elahi, Nikola Tomagova

**Institution:**

Vista Alpina Eye Clinic

**Aim:**

To evaluate the clinical properties of a new non-diffractive EDOF lens (Isopure®) in a large cohort of cataract patients in terms of unaided visual acuity (distance, intermediate and near), binocular defocus curves, patients' visual satisfaction and reported photic phenomena.

**Patients and methods:**

This study was designed as a single-center retrospective study including 124 eyes of 62 patients with  $\leq 1.5$  D regular corneal astigmatism, undergoing a routine bilateral phacoemulsification surgery with an implantation of the EDOF IOL Isopure® (PhysIOL) between the 11th March 2021 and the 30th November 2021. Mini-monovision (-0.5 diopters one eye) was used in all patients, and Opposite Clear Corneal Incisions (OCCI) were applied in all eyes with pre-

existing corneal astigmatism from 0.6 D up to 1.5 D. Visual acuities were assessed and binocular defocus curves established one month postoperatively. Spectacle independence (modified PRISQ questionnaire) and subjective ratings of visual phenomena (modified NEI Quality of Vision questionnaire (RQL-42)) were assessed one month and four to six months after the surgery.

### **Results:**

Monocular CDVA (corrected distance visual acuity) improved from 0.2 (SD 0.1) logMAR preoperatively to -0.04 (SD 0.07) measured at 4-6 weeks after operation. Binocularly, uncorrected postoperative distance visual acuity was - 0.02 (SD 0.07) logMAR, uncorrected intermediate distance visual acuity was 0.13 (SD 0.11) logMAR, while uncorrected near visual acuity was 0.40 (SD 0.2) logMAR.

The binocular defocus curve showed a smooth slope. At the level of binocular CDVA of 0.2 logMAR (or better) the curve extended from -1.5 D to +1.0D, suggesting functional vision up to 66cm. According to the PRISQ questionnaire, 96.4% of patients felt comfortable seeing at far distance without glasses, 94.6% at intermediate distance, and 34.0 % at near 4-6 weeks after the surgery. Five percent of patients reported halos, 16% starburst, and 16% glare when confronted with images of these photic phenomena 4 to 6 weeks after surgery. Only 7% (n=4) of patients were disturbed by them in everyday life.

### **Conclusion:**

In patients undergoing bilateral cataract surgery, Isopure® provided an extended range of vision, resulting in good uncorrected intermediate vision and excellent uncorrected distance visual acuities.

Subjective patient satisfaction in terms of spectacle independence and photic phenomena were high.

### **Kongres / Congresses:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

### **Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Kristof

**Ime i prezime / First and Last Name:-Last**

Vandekerckhove

**Ustanova / Institution:**

Vista Alpina Eye Clinic

## 97. Filip Rađa

### **Naslov:**

Probir dijabetičke retinopatije i njen utjecaj na otkrivanje drugih oftalmoloških stanja

### **Autori:**

Rađa F, Znaor Lj, Zibar Tomsic K, Kaštelan D, Vukojević N

### **Ustanova:**

Klinika za očne bolesti, KBC Split, Zavod za endokrinologiju, KBC Zagreb, Klinika za očne bolesti, KBC Zagreb

### **Cilj:**

Utvrđiti učinkovitost probira dijabetičke retinopatije na prevenciju kako težih oblika dijabetičke retinopatije tako i ostalih oftalmoloških bolesti i stanja

### **Bolesnici i metode:**

Uzorak za istraživanje su pacijenti koji dolaze na Zavod za endokrinologiju KBC-a Zagreb zbog liječenja i praćenja dijabetesa u periodu od 01.01.2022. do 01.04.2022. Istraživanje se provodi uz pomoć fotografija fundusa, koje smo pacijentima oboljelih od dijabetesa slikali koristeći specijaliziranu kameru marke Crystalvue, bez prethodne farmakološke midrijaze. Fotografije se pohranjuju u JPEG formatu, dimenzija 4096x3072, vertikalne i horizontalne razlučivosti 96 DPI. Podatci se spremaju u Excel tablici.

### **Rezultati:**

Podatci će biti analizirani kod svih pacijenata uključenih u probir dijabetičke retinopatije Zavoda za endokrinologiju KBC-a Zagreb u periodu od 01.01.2022. do 01.04.2022., s posebnim naglaskom na promjene vezane za dijabetičku retinopatiju i druga oftalmološka stanja i promjene. Podatci će biti statistički obrađeni i prikazani putem Excel tablice.

### **Zaključak:**

Dijabetes iziskuje striktni probir bolesnika s dijabetičkom retinopatijom zbog poznatih socioekonomskih utjecaja na društvo.

Stoga ovakav probir može biti od iznimne koristi i u ranijoj detekciji ostalih potencijalno manje ili više ozbiljnih patoloških oboljenja.

**Title:**

Screening of diabetic retinopathy and its influence on the detection of other ophthalmic conditions

**Authors:**

Radja F, Znaor Lj, Zibar Tomsic K, Kastelan D, Vukojevic N.

**Institution:**

Clinic for eye diseases, University Hospital Center Split, Department of Endocrinology, University Hospital Center Zagreb, Clinic for eye diseases, University Hospital Center Zagreb

**Aim:**

To determine the effectiveness of screening for diabetic retinopathy on the prevention of severe forms of diabetic retinopathy and other ophthalmic diseases and conditions.

**Patients and methods:**

The sample for the research are patients who come to the Department of Endocrinology of the University Hospital Center Zagreb for the treatment and monitoring of diabetes in the period from 01.01.2022. to 01.04.2022. The research is carried out with the help of fundus photographs, which we took from patients with diabetes using a specialized Crystalvue camera, without prior pharmacological mydriasis. Photographs are stored in JPEG format, dimensions 4096x3072, vertical and horizontal resolutions of 96 DPI. The data is saved in an Excel spreadsheet.

**Results:**

The data will be analyzed in all patients included in the screening of diabetic retinopathy of the Department of Endocrinology, University Hospital Center Zagreb in the period from 01.01.2022. to 01.04.2022, with special emphasis on changes related to diabetic retinopathy and other ophthalmic conditions and changes.

The data will be statistically processed and displayed via an Excel spreadsheet.

**Conclusion:**

Diabetes requires strict screening of patients with diabetic retinopathy due to known socioeconomic impacts on society.

Therefore, such screening can be extremely useful in the earlier detection of other potentially more or less serious pathological diseases.



**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Filip

**Ime i prezime / First and Last Name:-Last**

Rađa

**Ustanova / Institution:**

Klinika za očne bolesti, KBC Split

## 98. Barbara Dawidowsky

### **Naslov:**

Kontroverze u dijagnozi i terapiji ezotropije uzrokovane ekscosom konvergencij

### **Autori:**

Barbara Dawidowsky, Neda Striber, Dijana Franceschi, Tanja Voskresenski - Horvat

### **Ustanova:**

Klinika za dječje bolesti, Klaićeva 16, Zagreb

### **Cilj:**

postoje dva prisupa terapiji tog stanja, bifokalna terapija ili operacija; utvrditi radi li se o homogenoj grupi pacijenata, koji je cilj terapije, postoji li dogovorena strategija terapije, koje su komplikacije

### **Bolesnici i metode:**

prikazani su pacijenti iz kliničke oftalmološke prakse

### **Rezultati:**

prikazani su načini dijagnosticiranja ekscosa konvergencije, operativni rezultati i rezultati bifokalne terapije

### **Zaključak:**

glavni problem u postavljanju zajedničkih smjernica u dijagnozi i terapiji ezotropije uzrokovane ekscosom konvergencije je nedostatak konzistencije u definiciji tog stanja.

Ezotropija uzrokovana ekscosom divergencije je pojam kojeg koristimo u heterogene grupe pacijenata. Bifokalna terapija će biti uspješna samo kod ispravno odabranih pacijenata, dok će kirurška terapija biti uspješna kod veće grupe pacijenata ali istovremeno može izazvati sekundarne nuspojave u određenom broju slučajeva.

### **Title:**

Controversy in the diagnosis and management of convergence excess esotropia

### **Authors:**

Barbara Dawidowsky, Neda Striber, Dijana Franceschi, Tanja Voskresensky-Horvat

**Institution:**

Childrens clinic Zagreb, Klaićeva 16, Zagreb

**Aim:**

there are two treatment strategies, bifocal therapy or surgery; are we treating a homogenous group, what are the objectives of treatment, outcome, is one treatment strategy more effective than the other

**Patients and methods:**

heterogenous group of patients from our ophthalmology practice

**Results:**

diagnosis of convergence excess esotropia is presented, as well as choice and objectives of treatment.

**Conclusion:**

the major problem to establishing an evidence based management guidelines is lack of consistency of this definition. Convergence excess esotropia is a term applied to a heterogenous group of patients, where bifocal therapy will only be effective if applied to correct group of patients and surgery in other. Discussion exposes lack of our ability to assess children adequately which would allow us to be confident in selecting the appropriate management.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Barbara

**Ime i prezime / First and Last Name:-Last**

Dawidowsky

**Ustanova / Institution:**

Klinika za dječje bolesti, Klaićeva 16

## 99. Gordana Đipalo

### **Naslov:**

Utjecaj COVID-19 pandemije na programe eksplantacija i transplantacija rožnica tijekom prve dvije pandemijske godine

### **Autori:**

Gordana Đipalo, Dean Šarić, Mladen Bušić

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilište J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### **Cilj:**

Istražiti utjecaj COVID-19 pandemije na programe eksplantacija i transplantacija rožnica u različitim zemljama u svijetu tijekom prve dvije pandemijske godine.

### **Bolesnici i metode:**

Pregled dostupe recentne literature pretraživanjem baze podataka PubMed i relevantnih radova u bazi podataka američkog oftalmološkog društva upotrebom ključnih riječi : COVID-19, transplantacija rožnice, donacija rožnice, očne banke. Pretraga je rezultirala sa 20 radova objavljenih u razdoblju od 2020. - 2022.

### **Rezultati:**

Probir, očuvanje, skladištenje rožnice i prevencija prijenosa Covid-19 virusa sa donora na primatelja bili su ključni u oblikovanju politike FDA i očnih banaka diljem svijeta. Očne banke diljem svijeta razvile su različite smjernice i kriterije za procjenu održivosti donorskih rožnica. Covid-19 posebno je utjecao na transplantaciju rožnice zbog moguće, ali do sada još uvijek nedovoljno istražene ekspresije virusa u tkivima rožnice i konjunktive. Do sada nije prijavljen ni jedan slučaj prijenosa Covid-19 virusa transplantacijom tkiva rožnice.

**Zaključak:**

COVID-

19 pandemija značajno je utjecala na očno bankarstvo i transplantaciju rožnice posebno u prvih mjesecima pandemije. Potrebna su dodatna istraživanja kako bi dobili uvid u pravo globalno stanje i trajne posljedice koje je za sobom ostavila COVID-19 pandemija na području transplantacije rožnice.

**Title:**

COVID-

19 pandemic impact on corneal explantation and transplantation programs during the first two pandemic years

**Authors:**

Gordana Đipalo, Dean Šarić, Mladen Bušić

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb; Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek; Reference Centre of the Ministry of Health of the Republic of Croatia for Pediatric Ophthalmology and Strabismus

**Aim:**

To investigate the impact of the COVID-19 pandemic on corneal explantation and transplantation policies in different countries around the world during the first two pandemic years.

**Patients and methods:**

Review access to recent literature by searching the PubMed database and relevant work at database of the American Academy of Ophthalmology using the keywords: COVID-19, corneal transplantation, corneal donation, eye bank. The search resulted in 20 published papers in the period 2020-2022.

**Results:**

Corneal screening, conservation, corneal storage, and prevention of donor to recipient Covid-19 virus transmission have been crucial in shaping FDA and eye bank policies worldwide. Eye banks globally have developed varying guidelines and criteria for evaluating the viability of donor corneas. Covid-

19 has particularly affected corneal transplantation due to the possible but still insufficiently investigated expression of the virus in corneal and conjunctival tissues. To date, no cases of transmission of Covid-19 virus by corneal tissue transplantation have been reported.

**Conclusion:**

The COVID-19 pandemic significantly affected eye banking and corneal transplantation especially in the first months of the pandemic. Further research is needed to gain insight into the true global state and the lasting consequences of the COVID-19 corneal transplant pandemic.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Gordana

**Ime i prezime / First and Last Name:-Last**

Đipalo

**Ustanova / Institution:**

Klinička bolnica "Sveti Duh"

## 100. Dubravka Biuk

### **Naslov:**

Može li se fakoemulzifikacija smatrati glaukomsom operacijom?

### **Autori:**

Dubravka Biuk, Roberta Šokac, Josip Barać, Andrijana Kopic, Maja Vinković, Marija Jelić Vuković

### **Ustanova:**

Klinika za očne bolesti, KBCO

### **Cilj:**

Utvrđiti da li fakoemulzifikacija može biti metoda izbora u liječenju primarnog glaukoma zatvorenog kuta

### **Bolesnici i metode:**

U studiju su bili uključeni pacijenti s glaukomom zatvorenog kuta i nereguliranim intraokularnim tlakom Klinike za očne bolesti, KBCO.

### **Rezultati:**

Većini pacijenta na našoj Klinici, fakoemulzifikacijom se postiglo zadovoljavajuće sniženje intraokularnog tlaka, uz zadržavanje lokalne medikamentozne terapije. Kod manjeg broja pacijenta je bilo potrebno učiniti filtracijsku operaciju glaukoma.

### **Zaključak:**

Fakoemulzifikacija se može smatrati metodom izbora u liječenju pacijenata s glaukomom zatvorenog kuta. No, svakako je potreban individualni pristup.

### **Title:**

Can phacoemulsification be considered glaucoma surgery?

### **Authors:**

Dubravka Biuk, Roberta Šokac, Josip Barać, Andrijana Kopic, Maja Vinković, Marija Jelić Vuković



**Institution:**

Clinic of Ophthalmology, Clinical Hospital Center Osijek

**Aim:**

To determine whether phacoemulsification may be the method of choice in the treatment of primary angle-closure glaucoma

**Patients and methods:**

Patients with angle-closure glaucoma and unregulated intraocular pressure of the Clinic of Ophthalmology, KBCO were included in the study.

**Results:**

For most patients at our Clinic, phacoemulsification achieved a satisfactory reduction in intraocular pressure, while maintaining local drug therapy. Glaucoma filtration surgery was required in a small number of patients.

**Conclusion:**

Phacoemulsification can be considered the method of choice in the treatment of patients with angle-closure glaucoma. But an individual approach is definitely needed.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Doc.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Dubravka

**Ime i prezime / First and Last Name:-Last**

Biuk

**Ustanova / Institution:**

Klinika za očne bolesi, KBCO

## 101. Ivana Radman

### Naslov:

Razlike u mapiranju debljine epitela i parametrima rožnice u bolesnika s bolešću suhog oka sa i bez Sjögrenovog sindroma

### Autori:

Ivana Radman, Iva Krolo, Aida Kasumović, Maria Radman, Ivan Sabol, Ines Doko Vajdić, Josipa Pačić, Maja Malenica Ravlić, Marin Belak, Zoran Vataavuk

### Ustanova:

Klinički bolnički centar „Sestre milosrdnice“, Vinogradska 29, Zagreb, Croatia

### Cilj:

Odgovoriti na pitanje da li mape debljine epitela dostupne na optičkoj koherentnoj tomografiji prednjeg segmenta oka (prednji OCT) mogu biti objektivna metoda za dijagnosticiranje bolesti s uhog oka, te usporediti konzistentnost parametara rožnice između očiju sa suhoćom i zdravih očiju.

### Bolesnici i metode:

U našoj presječnoj studiji analizirali smo 36 očiju sa suhoćom i 36 zdravih kontrolnih očiju. Studija je uključivala žene između 40 i 65 godina bez patologije prednjeg i stražnjeg segmenta oka, a njihova operacija oka, slabovidnosti, prethodnog nošenja kontaktnih leća i redovitog kapanja umjetnih suza. Svi pacijenti su ispunili upitnik površinske bolesti oka, te prošli dijagnostičke analize: test neinvazivnog pucanja suznog filma, Schirmer test s anestetikom, prednji OCT (Optovue, CA), topografsko snimanje rožnice (Pentacam, OCULUS) i IOLMaster 700 (Carl Zeiss Meditec AG, Jena, Njemačka). Bolest suhog oka dodatno smo potvrdili bojanjem rožnice fluoresceinom i lizaminom. Parametri epitela su analizirani u zoni od 5-mm i 7-mm te su se ispitivale vrijednosti centralne epitelne debljine, prosječne debljine u gornjem i donjem dijelu, njihova razlika, maksimalna i minimalna vrijednost epitela, njihova razlika te varijabilnost mjerenja. Uspoređivali smo i indekse progresije rožnice, ravnu i strmu keratometrijsku vrijednost, astigmatizam i strmu os između IOLMaster-700, topografije rožnice i ekvivalentnih K vrijednosti (EKR) sa detaljnog Holladay nalaza s ciljem utvrđivanja raznolikosti rezultata između dvije grupe.

## Rezultati:

Statistička analiza pokazala je općenito niže vrijednosti svih parametara debljine epitela u grupi suhog oka, ali je minimalna vrijednost debljine epitela pokazala statističku značajnost, kako na

mapi od 5-mm ( $p = 0,0369$ ) tako i na mapi od 7-mm ( $p = 0,0431$ ). Na mapi od 5-mm najtanja točka

epitela iznosila je  $47,15 \pm 4,97 \mu\text{m}$  u grupi suhog oka, dok je u kontrolnoj grupi iznosila  $50,15 \pm 4,19 \mu\text{m}$ .

Na mapi od 7-

mm najtanja točka rožnice iznosila je  $45,0 \pm 5,77 \mu\text{m}$ , a u kontrolnoj grupi  $47,6 \pm 4,74 \mu\text{m}$ .

Debljina epitela donje polovice rožnice na mapi od 7-

mm pokazala je značajno niže vrijednosti u grupi

suhog oka, te je iznosila  $51,95 \pm 3,46 \mu\text{m}$  ( $p = 0,0199$ ), u usporedbi s kontrolnom skupinom

( $55,12 \pm 3,83 \mu\text{m}$ ). Najdeblja točka epitela u obje skupine najčešće se nalazila inferiorno i

paracentralno. Pri uspoređivanju varijabli s EKR nalaza i topografije rožnice, nađene su statistički

značajne razlike između vrijednosti strme keratometrije i astigmatizma u obje grupe ( $p < 0,001$  za obje

varijable).

## Zaključak:

Mape debljine epitela u ovoj studiji su pokazale da su parametri epitela rožnice bili tanji u grupi suhog oka, posebno u donjoj polovici rožnice. Mapiranje debljine epitela pomoću prednjeg OCT-a može biti vrlo koristan alat za otkrivanje i praćenje pacijenata sa suhim okom.

## Title:

Differences in Epithelial Mapping and Corneal Parameters in Dry Eye Disease Patients With and Without Sjögren Syndrome

## Authors:

Ivana Radman, Iva Krolo, Aida Kasumović, Maria Radman, Ivan Sabol, Ines Doko Vajdić, Josipa Pačić, Maja Malenica Ravlić, Marin Belak, Zoran Vatavuk

## Institution:

University Hospital Center „Sestre milosrdnice“, Vinogradska 29, Zagreb, Croatia

**Aim:**

To investigate the difference of corneal parameters in patients with dry eye disease (DED) who suffer from Sjogren disease compared with patients with other autoimmune diseases.

**Patients and methods:**

This cross sectional study included 50 eyes with the dry eye disease (DED), 26 in patients with Sjögren disease±other autoimmune disorders and 24 in patients with various types of autoimmune diseases ( thyroid disease, rheumatoid arthritis, immune bowel disease, xerostomy) without Sjögren syndrome (Control group). Study included female patients aged 40 to 78 years (median 60 y) , with no anterior and posterior segment pathology, previous ocular surgery, amblyopia, prior contact lens wear or regular artificial tears usage. All patients underwent the ocular surface disease index questionnaire (OSDI), non-invasive tear breakup time test (NITBUT), Schirmer test with anesthetic , AS OCT (Optovue, CA), corneal topography (Pentacam, OCULUS) and IOLMaster 700 (Carl Zeiss Meditec AG, Jena, Germany). The dry eye disease was additionally confirmed with corneal fluorescein and lysamine staining. We analysed epithelial parameters within the 5-mm and 7- mm zone and investigated the central, superior, inferior, superior-inferior, maximal, minimal, minimal-maximal epithelial values and topographic epithelial thickness variability. We also compared corneal indexes of progression, as well as a flat and steep keratometry, astigmatism and steep axis on IOLMaster 700, corneal topography and equivalent K-reading (EKR) Holladay detailed report, with an aim of determining the diversity of results.

**Results:**

In Sjögren group there were more patients with thyroid disorders compared with non-Sjögren group ( $p=0.002$ ). Statistical analysis showed generally higher values of almost all epithelial thickness parameters in Sjogren group, with statistical significance of minimal and maximal epithelial thickness . Min in 5-mm zone in SD group was  $45,92\pm 5,1\mu\text{m}$ ; and in control group  $47,65\pm 4,1\mu\text{m}$ . Max in 5-mm zone in SD group was  $56,53 \pm 3,76\mu\text{m}$ ; and in control group  $55,22\pm 3,04\mu\text{m}$ . Min in 7-mm zone in SD group was  $42,17\pm 6,69\mu\text{m}$ , and in control group  $43,17\pm 6,19\mu\text{m}$ . Max in 7-mm zone in SD group was  $58,54\pm 5,85\mu\text{m}$ ; and in control group  $56,49\pm 2,97\mu\text{m}$ . Max Difference in superior and inferior epithelial thickness on 5-mm map showed significantly lower values in control group, measuring  $-1,89 \pm 1,82$  in comparison with control group (-

3,68± 3,7)(P = 0,0346). Maximal epithelial thickness spot was most commonly located centrally in both groups. When comparing EKR with corneal topography K2 values and astigmatism significant differences were found in both groups (p<0,001 for both variables) but more prominent in Sjogren group (p<0,0001).

**Conclusion:**

Epithelial thickness mapping in this study demonstrated that the corneal epithelium parameters were thicker in Sjogren group, especially in the inferior region. AS OCT epithelial mapping could be a very useful tool for detecting and following patients with dry eye disease.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJA ZA KONTAKTOLOGIJU / Contactology section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ivana

**Ime i prezime / First and Last Name:-Last**

Radman

**Ustanova / Institution:**

KBC "Sestre milosrdnice", Zagreb

## 102. Eva Radetić

### Naslov:

Perzistentna hijaloidna arterija – prijeteća sljepoća?

### Autori:

Eva Radetić, Mirjana Bjeloš, Mladen Bušić, Biljana Kuzmanović Elabjer, Ana Ćurić

### Ustanova:

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### Cilj:

Upozoriti na moguće devastirajuće komplikacije perzistirajuće hijaloidne arterije (PHA) i predložiti postupnik zbrinjavanja bolesnika.

### Bolesnici i metode:

Dječak u dobi od šest godina upućen je oftalmologu zbog prekomjernog suženja desnog oka, konjunktivalne injekcije i boli. Na pregledu je vidna oštrina desnog oka bila percepcija svjetlosti uz intraokularni tlak 36 mmHg.

### Rezultati:

Testiranje crvenog refleksa iz očnog dna otkrilo je potpuno proširenu, nereaktivnu desnu zjenicu u i tubularni ostatak hijaloidne arterije koji je slobodno rotirao u prednjem staklastom tijelu. Dijagnoza neovaskularnog glaukoma, okluzija centralne retinalne vene i okluzija centralne retinalne arterije potvrđena je fluoresceinskom angiografijom (FA).

### Zaključak:

PHA je posljedica neuspjeha apoptoze tijekom sedmog mjeseca gestacije. Tekuće staklasto tijelo pojavljuje se već u dobi od 4 godine i omogućava veću pokretljivost PHA. Pretpostavljamo da slobodno flotiranje PHA dovodi do torzije i ishemije središnje arterije retine te posljedične kompresije na središnju retinalnu venu uz razvoj hemoragije i kasnije neovaskularnog glaukoma. Stoga u slučaju PHA koja se lako može uočiti tijekom probira crvenog refleksa kod novorođenčadi, p

reporučamo učiniti FA te ako se dokaže povezanost sa središnjom arterijom retine, roditelje treba upozoriti na moguće devastirajuće komplikacije prijeteće za vid i ponuditi kirurško liječenje.

**Title:**

Persistent hyaloid artery – threatening blindness?

**Authors:**

Eva Radetić, Mirjana Bjeloš, Mladen Bušić, Biljana Kuzmanović Elabjer, Ana Ćurić

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To alert for possible devastating complications of a persistent hyaloid artery (PHA) and propose a patient care procedure.

**Patients and methods:**

The six-year-old boy manifested right eye (RE) excessive tearing, conjunctival injection and pain. On examination, RE visual acuity was light perception, and intraocular pressure measured 36 mmHg.

**Results:**

Red reflex testing revealed a fully dilated, non-reactive RE pupil, and a tubular remnant of HA freely rotating in the anterior vitreous. The diagnosis of neovascular glaucoma, central retinal vein and central retinal artery were confirmed with fluorescein angiography (FFA).

**Conclusion:**

PHA results from failure of apoptosis during the seventh month of gestation. Liquid vitreous appears as early as 4 years of age and allows PHA to whirl more freely. We postulate that PHA twisting leads to torsion and ischemia of the central retinal artery and consequential compression of the central retinal vein and hemorrhage with the development of neovascular glaucoma. Thus, in the case of PHA, which can easily be observed during the red reflex screening at neonatal wards, we advocate FFA to be performed and if a connection with retinal artery is proved, parents



should be advised of possible devastating complications threatening vision and offered surgical treatment.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Eva

**Ime i prezime / First and Last Name:-Last**

Radetić

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb

### 103. Maja Novak-Stroligo

**Naslov:**

Epiblefaron – prikaz slučaja djevojčice

**Autori:**

Maja Novak-Stroligo, Tamara Mišljenović-Vučerić, Tea Čaljkušić-Mance

**Ustanova:**

Klinički bolnički centar Rijeka, Klinika za oftalmologiju

**Cilj:**

Cilj ovog rada je analizirati epiblefaron kao rijetko stanje, ali u nekim slučajevima ugrožavajuće za prednji segment, te mogućnosti liječenja ovog poremećaja. Epiblefaron je stanje u kojem orbikularni mišić i koža tvore horizontalni nabor tkiva, koji postavlja trepavice u vertikalni položaj. Može se javiti na gornjoj ili donjoj vjeđi, ali češće zahvaća donju vjeđu.

**Bolesnici i metode:**

Prikaz slučaja djevojčice s kongenitalnim epiblefaronom, od rođenja do pete godine života, njezini simptomi, konzervativno i operativno liječenje i rezultati istog.

**Rezultati:**

Raspraviti ćemo konzervativne i operativne mogućnosti liječenja koje smo primijenili u slučaju naše pacijentice, prema razvoju simptoma, te rezultate liječenja, usporedno s drugim autorima.

**Zaključak:**

Epiblefaron je stanje koje se u velikom broju slučajeva povuče spontano, obično oko druge godine života. Simptomatsko, konzervativno liječenje je u takvim slučajevima dostatno. Perzistirajući epiblefaron sa simptomatologijom na prednjem segmentu i keratopatijom je indikacija za operativni zahvat.

**Title:**

Epiblepharon – a case report of a girl

**Authors:**

Maja Novak-Stroligo, Tamara Mišljenović-Vučerić, Tea Čaljkušić-Mance

**Institution:**

Klinički bolnički centar Rijeka, Klinika za oftalmologiju

**Aim:**

The study aims to evaluate epiblepharon as a rare condition, but also in some cases disturbing and damaging for the anterior segment, and its treatment possibilities. Epiblepharon is a condition in which the eyelid pretarsal muscle and skin ride above the eyelid margin to form a horizontal fold of tissue that causes the cilia to assume a vertical position. It can involve either the upper or lower eyelid but is most commonly seen as involving the lower eyelid.

**Patients and methods:**

A case report of a girl with congenital epiblepharon, from birth to age of five, her symptoms, conservative and operative treatment, and results.

**Results:**

We will discuss conservative and operative treatment of our patient, according to her symptoms and results of our treatment, comparing to other authors.

**Conclusion:**

Congenital epiblepharon is self-limited in most cases, at around 2 years of age. Symptomatic conservative treatment is sufficient in such a case. Persistent epiblepharon with symptoms at anterior segment and keratopathy is an indication for surgical intervention.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Maja

**Ime i prezime / First and Last Name:-Last**

Novak-Stroligo

**Ustanova / Institution:**

Klinički bolnički centar Rijeka; Klinka za oftalmologiju

## 104. Dunja Bajtl

### Naslov:

Analiza biometrijskih podataka dobivenih optičkom biometrijom u zdrave četverogodišnje djece

### Autori:

Dunja Bajtl, dr.med1, izv.prof.dr.sc. Mirjana Bjeloš, dr.med2,3,4 prof.dr.sc. Mladen Bušić, prim.dr.med2,3,4 Leon Marković, dr.med3,4 Ana Ćurić, dr.med3,4 prof.dr.sc. Biljana Kuzmanović Elabjer, prim.dr.med2,3,4, prof.dr.sc. Josip Barać, dr.med1,2

### Ustanova:

1Klinika za očne bolesti, Klinički bolnički centar Osijek, Osijek 2Medicinski fakultet, Sveučilište Josipa Jurja Strossmayera, Osijek 3Klinika za očne bolesti, Klinička bolnica "Sveti Duh", Zagreb 4 Fakultet dentalne medicine i zdravstva Osijek, Sveučilište Josipa Jurja Strossmayera, Osijek

### Cilj:

Cilj ovog presječnog istraživanja koje je uključilo zdravu četverogodišnju emetropnu djecu je izraditi normativnu bazu odrednica biometrijskih podataka dobivenih optičkom biometrijom.

### Bolesnici i metode:

Jedno oko svakog ispitanika mjereno je optičkom biometrijom. Zabilježena je aksijalna duljina oka (AL, mm), dubina prednje sobice (ACD, mm), centralna debljina rožnice (CCT,  $\mu\text{m}$ ), zakrivljenost prednje plohe rožnice (položeni radijus zakrivljenosti rožnice K1 i najstrmiji radijus zakrivljenosti rožnice K2, D), horizontalni promjer rožnice (WTW, mm) te jačina intraokularne leće SN60WF (D) (Alcon laboratories Inc.) prema SRK-T formuli.

### Rezultati:

Izmjereni su parametri na 62 oka 62 djeteta prosječne dobi  $50,4 \pm 3,8$  mjeseca. U dobi od 4 godine, AL i snaga rožnice su unutar asimptotske faze rasta. Medijan AL u našem istraživanju bila je  $22,17 \pm 0,53$  mm, što je u skladu s ranijim izvješćima. Prema našim rezultatima, medijan CCT  $539,21 \pm 30,15$   $\mu\text{m}$ , je usporediv s ranijim studijama sličnih dobnih skupina, međutim, ranije objavljeni podaci nisu unutar emetropskog raspona. Prosječne vrijednosti ACD i LT u našem istraživanju bile su  $3,42 \pm 0,27$  mm, odnosno  $3,69 \pm 0,19$  mm. Za ovu dobnu skupinu nismo mogli pronaći odgovarajuće vrijednosti dobivene optičkom biometrijom u objavljenoj literaturi. S obzirom na naše rezultate u dobi od četiri godine, oko ima snagu od  $25,76 \pm 1,25$  D.

**Zaključak:**

Ovo istraživanje utvrdilo je normativnu bazu biometrijskih podataka u najmlađoj rasno ujednačenoj skupini emetropne četverogodišnje djece.

**Title:**

Biometric data analysis obtained with optical biometry in healthy four-year-old children

**Authors:**

Dunja Bajtl, MD<sup>1</sup>, Mirjana Bjeloš, MD, PhD<sup>2,3,4</sup> Mladen Bušić, MD, PhD<sup>2,3,4</sup> Leon Marković, MD<sup>3,4</sup> Ana Ćurić, MD<sup>3,4</sup> Biljana Kuzmanović Elabjer, MD, PhD<sup>2,3,4</sup>, Josip Barać, MD, PhD<sup>1,2</sup>

**Institution:**

1 University Eye Department, University Hospital Centre Osijek, Osijek, Croatia 2 Faculty of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia 3 University Eye Department, University Hospital "Sveti Duh", Zagreb, Croatia 4 Faculty of Dental Medicine and Health Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

**Aim:**

The purpose of this cross-sectional study involving healthy emmetropic four-year-old Caucasian children was to provide biometric normative database acquired with optical biometry.

**Patients and methods:**

One eye of each examinee underwent optical biometry imaging. The following parameters were analyzed: axial length (AL, mm), anterior chamber depth (ACD, mm), central corneal thickness (CCT,  $\mu\text{m}$ ), anterior corneal curvature (flat meridian K1 and steep meridian K2, D), horizontal corneal diameter (white-to-white, WTW, mm) and intraocular lens SN60WF (D) (Alcon laboratories Inc.) calculated using SRK-T formula.

**Results:**

62 eyes of 62 children of average age  $50.4 \pm 3.8$  months were examined. At the age of 4, ocular components AL and corneal power are within the asymptotic phase of growth. The mean axial length in our study was  $22.17 \pm 0.53$  mm, consistent with earlier reports. Our results, measuring CCT  $539.21 \pm 30.15$   $\mu\text{m}$  compare favorably with earlier studies of similar age groups, however, these published data are not within the emmetropic refractive range. Mean ACD and LT in our study were  $3.42 \pm 0.27$  mm and  $3.69 \pm 0.19$  mm, respectively. For this age group, we could not find

d corresponding values obtained with optical biometry in published literature. Given our results at the age of four, the eye has a power of  $25.76 \pm 1.25$  D.

**Conclusion:**

The study provided a detailed normative database of biometric ocular data in the youngest cohort of emmetropic four-year-old children of uniform ethnic group.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Dunja

**Ime i prezime / First and Last Name:-Last**

Bajtl

**Ustanova / Institution:**

Klinički bolnički centar Osijek/University Hospital Centre Osijek

## 105. Ana Maria Varošaneć

### Naslov:

Još jedna nejasna anomalija optičkog diska?

### Autori:

Ana Maria Varošaneć, Vlatka Brzović Šarić, Borna Šarić, Leon Marković, Mladen Bušić

### Ustanova:

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb

### Cilj:

Prikaz pacijentice s anomalijom optičkog diska, prikrivene glaukomsom bolesti oka.

### Bolesnici i metode:

Pacijentica u dobi od 64 godine s naglim padom vida na desno oko, upućena je na Kliniku za očne bolesti s dijagnozom glaukomske bolesti oka praćene eksudativnom makulopatijom desnog oka, refrakternom na intravitrealnu anti-VEGF terapiju. Nakon kompletnog oftalmološkog pregleda, postavi se sumnja na komunikacijsku anomaliju optičkog diska te se pacijentica naručuje na hospitalnu obradu.

### Rezultati:

Tijekom hospitalizacije, učini se kompletna dijagnostička obrada koja uključuje OCT makule, OCT PNO-a, VP Goldman, FAG, VEP neurološki i ERG. Dijagnostičkim pretragama fluoresceinske angiografije i optičke koherentne tomografije verificirana je subretinalna akumulacija tekućine sa suspektom komunikacijom subretinalnog i subarahnoidalnog prostora. Zbog daljnje diferencijalne dijagnostičke obrade anomalije optičkog diska, pacijentici se učini i neuroradiološka obrada kojom se nađe aneurizma desne unutarnje karotidne arterije te se pacijentica premješta na Kliniku za neurokirurgiju zbog hitnog kirurškog zbrinjavanja.

### Zaključak:

Kod pacijentice sa ekskavacijom optičkog diska i seroznom ablacijom mrežnice unutar arkada, refrakternom na terapiju, a temeljem učinjene obrade, zaključuje se kako je riječ o netipičnoj ko-



munikacijskoj anomaliji diska dijagnosticiranoj u fazi otvorene komunikacije s efektima na mrežnicu.

**Title:**

Another obscure optical disc anomaly?

**Authors:**

Ana Maria Varošaneć, Vlatka Brzović Šarić, Borna Šarić, Leon Marković, Mladen Bušić

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb

**Aim:**

A case report of a patient with an optic disc anomaly, covered as glaucoma eye disease.

**Patients and methods:**

A 64-year-old female patient with a sudden decrease in vision in the right eye was referred to the eye department with a diagnosis of glaucoma eye disease accompanied by exudative maculopathy of the right eye, refractory to intravitreal anti-VEGF therapy. After a complete ophthalmological examination, a communication anomaly of the optic disc is suspected and the patient is referred for hospital evaluation.

**Results:**

During hospitalization, complete diagnostic processing is done that includes macula OCT, optic disc OCT, VF Goldman, FAG, VEP neurological and ERG. Diagnostic examinations of fluorescein angiography and optical coherence tomography verified subretinal fluid accumulation with suspicious communication in between the subretinal and subarachnoid space. Due to further differential diagnosis of the optic disc anomaly, the patient underwent neuroradiological diagnostics, and an aneurysm of the right internal carotid artery was verified, and the patient was transferred to the neurosurgical department for emergency surgical care.

**Conclusion:**

Based on diagnostic procedure conducted in a patient with optic disc excavation and serous retinal detachment within the arcades, refractory to therapy, and based on diagnostic processing, it was concluded that this is an atypical communication anomaly of the disc diagnosed in the phase of open communication with retinal consequences.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ana Maria

**Ime i prezime / First and Last Name:-Last**

Varošanec

**Ustanova / Institution:**

Klinička bolnica „Sveti Duh“, Zagreb

## 106. Ivan Pavlović

### **Naslov:**

Izračun intraokularne leće u pacijenta s ektazijom rožnice nakon laserskog refraktivnog zahvata: prikaz slučaja i pregled literature

### **Autori:**

Pavlović I, Šarić D, Kuzmanović Elabjer B, Bušić M

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb; Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta Josipa Jurja Strossmayera u Osijeku; Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

### **Cilj:**

Prikaz metoda preoperativne obrade i rezultata operacije katarakte u pacijenta s ektazijom rožnice nakon laserskog refraktivnog zahvata.

### **Bolesnici i metode:**

Muškarac u dobi od 69 godina s anamnezom arterijske hipertenzije i fibrilacije atriya upućen je na obradu prije operacije katarakte. U oftalmološkoj anamnezi značajna je operacija oba oka metodom laser in-situ keratomileusis (LASIK) 7 godina ranije. Najbolja korigirana vidna oštrina na desnom oku iznosi 0,5, a na lijevom 0,3 [Snellen, dec]. Kliničkim pregledom i tomografijom rožnice postavljena je sumnja na post-LASIK ektaziju rožnice oba oka, što je kasnije potvrđeno uvidom u medicinsku dokumentaciju. U potrebu optičke biometrije, tomografije rožnice i specijaliziranih formula učinjen je izračun jakosti intraokularne leće (IOL) s ciljem postoperativnog oslobođenja potrebe za nošenjem korektivne.

### **Rezultati:**

Operacija katarakte oba oka i postoperativni tijek bili su bez komplikacija. Na zadnjem kontrolnom pregledu nekorigirana binokularna vidna oštrina na daleko bila je 0,9, a na blizu 1,0, te je pacijent subjektivno zadovoljan postoperativnim rezultatom.

**Zaključak:**

Ektazija rožnice je rijetka komplikacija laserske refraktivne kirurgije s potencijalno katastrofalnim posljedicama za vid. Kod tih pacijenata klasične metode izračuna jakosti IOL-a često postižu nezadovoljavajuće refraktivne rezultate. Upotrebom moderne tehnologije u preoperativnoj obradi i specijaliziranih IOL formula moguće je precizno predviđanje potrebne jakosti IOL-a, te visoke razine zadovoljstva pacijenata nakon operacije katarakte.

**Title:**

Intraocular lens calculation in a patient with corneal ectasia after laser refractive surgery: a case report and review of literature

**Authors:**

Pavlović I, Šarić D, Kuzmanović Elabjer B, Bušić M

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb; Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek; Reference Centre of the Ministry of Health of the Republic of Croatia for Pediatric Ophthalmology and Strabismus

**Aim:**

To present the methods of preoperative workup and results of cataract surgery in a patient with post-refractive ectasia.

**Patients and methods:**

A 69-year-old male with a history of hypertension and atrial fibrillation was scheduled for workup before cataract surgery. He underwent bilateral laser in-situ keratomileusis (LASIK) 7 years earlier. Best-corrected visual acuity (BCVA) was 0.5 for the right eye, and 0.3 for the left eye [Snellen, dec]. Clinical examination and corneal tomography were suspicious for bilateral post-LASIK ectasia, which was afterwards confirmed with medical documentation analysis. Intraocular lens (IOL) calculations were performed with optical biometry, corneal tomography and specialized IOL formulae, with a goal of postoperative spectacle independence.

**Results:**

There were no intraoperative or postoperative complications of cataract surgery in both eyes. Binocular uncorrected distance and near visual acuity were 0.9 and 1.0, respectively. The patient reported high satisfaction with postoperative results.

**Conclusion:**

Corneal ectasia is a rare complication of laser refractive surgery with potentially detrimental visual consequences. The classic methods of IOL calculations often provide unsatisfactory refractive results. Modern technology in the preoperative workup and specialized IOL formulae can provide accurate IOL prediction and high patient satisfaction after cataract surgery.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Ivan

**Ime i prezime / First and Last Name:-Last**

Pavlović

**Ustanova / Institution:**

Klinička bolnica "Sveti Duh"

## 107. Marko Lukić

### Naslov:

Difuzni unilateralni subakutni neuroretinitis (DUSN) - prikaz slucaja

### Autori:

Dr Marko Lukic, PhD FEBO Mr Mark Westcott, FRCOphth

### Ustanova:

Moorfields Eye Hospital NHS Trust

### Cilj:

Prezentirati klinicku sliku i liječenje kod pacijenata sa DUSN

### Bolesnici i metode:

Pacijent, muskarac, star 26 godina javlja se u kliniku sa simptomima musica. Prethodno je boravio na Barbadosu, gdje mu je dijagnosticiaran intermedijarni uveitis te je zapoceo topicku terapiju u kortikosteroidima. U nasoj klinici pacijent je obavio opseznu dijagnostiku te je zapoceto liječenje prema protokolu za DUSN.

### Rezultati:

Invazivne angiografske metode potvrdile su prisustvo koroidalnih lezija. Laboratorijski testovi su bili uredni.

Narucen je magnet mozga i retrobulbarnog prostora koji su bili uredni. Primjecena je pojava subretinalne tekucine na OCT-u. Zapoceto je liječenje kortikosteroidima i albendazolom. Pacijent je pozitivno odgovorio na liječenje danom terapijom.

### Zaključak:

Usmjerena dijagnostika, prepoznavanje klinicke slike i pravodobno liječenje dovode do rezolucije klinicke slike difuznog unilateralnog subakutnog neuroretinitisa.

### Title:

Diffuse Unilateral Subacute Neuroretinitis (DUSN) - Case report

**Authors:**

Dr Marko Lukic, FEBO Mr Mark Westcott, FRCOphth

**Institution:**

Moorfields Eye Hospital NHS Trust

**Aim:**

To present clinical finding and treatment in a patient with DUSN.

**Patients and methods:**

A 26-year old male attended the uveitis clinic with symptoms of floaters. The patient had been on Barbados where he had been diagnosed with intermediate uveitis and started treatment with topical steroids. The patient underwent a full diagnostic workup and initiated treatment for DUSN, as per protocol.

**Results:**

The invasive angiography methods revealed the presence of choroidal lesions. The laboratory test and the MR of the brain and retrobulbar space were within normal limits. A new subretinal fluid was noticed on OCT scans. Treatment including oral steroids and albendazole was commenced. The patient responded on the given treatment and the clinical findings have been resolved.

**Conclusion:**

The proper diagnostic methods, recognition of clinical picture and early treatment result in resolution of clinical picture of diffuse unilateral subacute neuroretinitis.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA UVEA-u / Uvea section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Marko

**Ime i prezime / First and Last Name:-Last**

Lukic

**Ustanova / Institution:**

Moorfields Eye Hospital NHS Trust



## 108. Marko Lukić

### **Naslov:**

Real-life rezultati kod pacijenata sa dijabetičkim makularnim edemom koji ne odgovaraju na standardnu anti-VEGF terapiju

### **Autori:**

Dr Marko Lukic, Dr Laurence Cox, Dr Yanda Li, Mr Mr Ian Yeung, Mr Robin D. Hamilton, Mr Ranjan Rajendram

### **Ustanova:**

Moorfields Eye Hospital NHS Trust

### **Cilj:**

Istraziti rezultate vidne ostrine i anatomskih karakteristika kod pacijenata koji nisu odgovorili na terapiju anti-VEGF injekcijama, a tretirani su intravitrealnim injekcijama fluocinolon acetonidom

### **Bolesnici i metode:**

Identificirali smo 23 ociju kod pacijenata koji nisu odgovorili na primarni treatment anti-VEGF terapije, a primili su intravitrealnu terapiju fluocinolon acetonida u periodu između 2014 i 2019. Unutar grupe pacijenata uključenih u ovu analizu izdvojili smo one koji su primili i one koji nisu primili intravitrealni implantat deksametazona prije treatmenta dugo djelujućih kortikosteroida. Izračunali smo vidnu ostrinu i anatomske karakteristike kod obje podgrupe i usporedili ih 12 mjeseci nakon implantata fluocinolon acetonida. Početak pracenja je bila prva intravitrealna anti-VEGF injekcija. Sedamnaest ociju je zadovoljilo kriterije i uslo u analizu. Koristili smo One-ANOVA statističku analizu da bi izračunali p vrijednost i statistički značajnu razliku.

### **Rezultati:**

Srednji broj primljenih anti-VEGF injekcija u kohorti je bio 8.2.

Dvanaest ociju je tretirano implantatom fluocinolon acetonida nakon anti-VEGF terapije (anti-VEGF/FA grupa) dok je 5 ociju primilo intravitrealni implantat deksametazona prije implantacije FA implantata (anti-

VEGF/deksametazon/FA grupa). Prosječni broj injekcija deksametazona je bio 1.75 [1-3].

U anti-

VEGF/FA grupi srednja vidna ostrina (SD) na pocetku lijecenja je bila  $52.27 \pm 15.6$  ETDRS slova dok je srednja vidna ostrina (SD) 12 mjeseci poslije implantacije FA implantata bila  $59.33 \pm 15.2$  ETDRS slova ( $p > 0.05$ ). Centralna fovealna debljina (SD) na pocetku lijecenja je bila  $540 \pm 197 \mu\text{m}$  dok je srednja CFD 12 mjeseci poslije implantacije FA implantata bila  $368 \pm 114 \mu\text{m}$  ( $p = .033$ ).

U anti-

VEGF/deksametazon/FA grupi srednja vidna ostrina (SD) na pocetku lijecenja je bila  $45.2 \pm 15.6$  ETDRS slova dok je srednja vidna ostrina (SD) 12 mjeseci poslije FA implantata bila  $52.4 \pm 16.7$  ETDRS slova ( $p > 0.05$ ). Centralna fovealna debljina (SD) na pocetku lijecenja je bila  $641 \pm 161 \mu\text{m}$  dok je CFD 12 mjeseci nakon implantata FA bila  $329 \pm 51 \mu\text{m}$  ( $p = .02$ ).

### **Zaključak:**

Implantat deksametazona je doveo do dodatnog benefita u redukciji centralne fovealne debljine kod pacijenata sa kronicnim dijabetickim makularnim edemom, koji ne odgovara na terapiju anti-VEGF-a, dan prije tretmana dugodjelujucih kortikosteroida. U istoj situaciji nije doslo do poboljsanja vidne ostrine.

### **Title:**

The Real-life Outcomes in Patients with Diabetic Macular Oedema Reluctant to Anti-VEG Treatment

### **Authors:**

Dr Marko Lukic, Dr Laurence Cox, Dr Yanda Li, Mr Mr Ian Yeung, Mr Robin D. Hamilton, Mr Ranjan Rajendram

### **Institution:**

Moorfields Eye Hospital NHS Trust

### **Aim:**

To assess patients' structural and functional outcomes of diabetic macular oedema non-responsive to anti-VEGF intravitreal injections treated with intravitreal fluocinolone acetonide (FA).

### **Patients and methods:**

We identified 23 eyes non-responsive to intravitreal anti-VEGF injections treated for DMO who had intravitreal long-lasting steroid implant between 2014 and 2019. Among the eyes included, we stratified those tr

eated with and those not treated with intravitreal dexamethasone implant prior to the treatment with intravitreal fluocinolone acetonide. We calculated visual acuity and anatomical outcomes for both subgroups and analysed the difference in overall results 12 months post-Iluvien implantation. The baseline for both subgroups was initiation with intravitreal anti-VEGF injections. Seventeen eyes met the criteria for this statistical analysis. We used ANOVA One-way analysis to calculate the p-value to compare the outcomes in each subgroup.

### **Results:**

The mean number of anti-VEGF injections received in all included patients was 8.2. Twelve eyes were switched from anti-VEGF to FA implant (anti-VEGF/FA subgroup) whilst 5 eyes were treated with dexamethasone prior to receiving an FA implant (anti-VEGF/Dexamethasone/FA subgroup). The average number [range] of dexamethasone implants was 1.75 [1-3].

In anti-VEGF/FA subgroup, the mean VA(SD) at baseline was  $52.27 \pm 15.6$  ETDRS letters whilst the mean VA(SD) 12 months post-Iluvien was  $59.33 \pm 15.2$  ETDRS letters ( $p > 0.05$ ). The CFT(SD) at baseline was  $540 \pm 197 \mu\text{m}$  whilst the mean CFT 12 months post-Iluvien was  $368 \pm 114 \mu\text{m}$  ( $p = .033$ ).

In anti-VEGF/Dexamethasone/FA subgroup, the mean VA(SD) at baseline was  $45.2 \pm 15.6$  ETDRS letters whilst the mean VA(SD) 12 months post-Iluvien was  $52.4 \pm 16.7$  ETDRS letters ( $p > 0.05$ ). The CFT(SD) at baseline was  $641 \pm 161 \mu\text{m}$  whilst the mean CFT 12 months post-Iluvien was  $329 \pm 51 \mu\text{m}$  ( $p = .02$ ).

### **Conclusion:**

The dexamethasone implant brought additional benefit in CFT reduction in patients with chronic, anti-VEGF non-responsive diabetic macular oedema prior treatment with long-lasting Iluvien implant, whilst there was no statistically significant improvement in visual acuity gain.

### **Kongres / Congresses:**

21. Kongres HOOD-a

### **Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Marko

**Ime i prezime / First and Last Name:-Last**

Lukic

**Ustanova / Institution:**

Moorfields Eye Hospital NHS Trust

## 109. Zdenko Bujger

### **Naslov:**

Upis učenika s nasljednim poremećajima kolornog vida u srednju školu

### **Autori:**

Zdenko Bujger(1), Martina Elez(2)

### **Ustanova:**

(1) Poliklinika AVIVA, (2) PRIMANOVA

### **Cilj:**

Ukloniti nepreciznosti u pravilniku

### **Bolesnici i metode:**

Oko 1650 učenika s nasljednim poremećajima kolornog vida koji svake godine upisuju srednju školu

### **Rezultati:**

Svake godine u Hrvatskoj približno 40 000 učenika napušta osnovnoškolsko te se usmjerava ka srednjoškolskom obrazovanju, a među njima bude približno 1600 dječaka te 100 djevojčica s poremećajima kolornog vida. Trenutno u Hrvatskoj postoji 256 programa u strukovnim i umjetničkim školama. Sukladno Jedinstvenom popisu zdravstvenih zahtjeva srednjoškolskih obrazovnih programa, poremećaji kolornog vida apsolutna su kontraindikacija za upis za čak 140 od 256 programa, a relativna kontraindikacija za njih 28. Relativna kontraindikacija je izražena definicijom: "Raspoznavanje osnovnih boja - raspoznavanje crvene, zelene i plave boje", no, osim tablica po Ishihari, ne spominju se nikakvi drugi dijagnostički instrumenti. Tako navedena formulacija je znatno zastarjela, nezadovoljavajuća i zbunjujuća te može eliminirati neke anomalne trikromate koji se ne mogu Ishiharinim tablicama odvojiti od dikromata. Stoga predlažemo da se formulacija zamijeni sljedećom: "Upis moguć i uz anomalnu trikromaziju: protanomaliju, deuteranomaliju i tritanomaliju", dijagnosticirane anomaloskopijom.

**Zaključak:**

Takva reformulacija bi doprinijela boljoj dijagnostičkoj preciznosti, ali i većoj uključenosti učenika koji su dosadašnjim dijagnostičkim kriterijem nepotrebno isključeni iz željenih edukacijskih programa iako zadovoljavaju upisne uvjete.

**Title:**

Secondary school admissions of pupils with inherited color vision deficiencies

**Authors:**

Zdenko Bujger (1), Martina Elez (2)

**Institution:**

Poliklinika AVIVA (1), PRIMANOVA (2)

**Aim:**

To eliminate inaccuracies in policy

**Patients and methods:**

Approximately 1650 pupils with inherited color vision deficiencies who each year try to be admitted to the secondary schools

**Results:**

Close to 40 000 pupils finish elementary school and plan to apply for secondary school programs every year in Croatia. Among them there are around 1600 boys and 100 girls with color vision deficiencies. In Croatia there are 256 secondary school programs of technical and vocational and art education. Out of these programs, concerning color vision deficiency, 140 programs have an absolute and 28 a relative admission contraindication according to the state passed Unique List of health requirements for the admission to the secondary school educational programs. This relative admission contraindication is expressed by the definition: "Ability to distinguish the primary colors, distinguishing the red, the green and the blue color.". Except Ishihara PIP, no other diagnostic tools are mentioned or used.

The above-mentioned definition is scientifically outdated, inadequate and confusing. It can disqualify some anomalous trichromats who cannot be clearly separated from the dichromats by just using the Ishihara plates.

Thus we suggest to replace it with the following definition: "Admission is possible with anomalous trichromasia: protanomaly, deuteranomaly and tritanomaly", diagnosed using the anomaloscope.

**Conclusion:**

Besides enhancing diagnostic precision, such reformulation would contribute to greater inclusion of students who would otherwise be unnecessarily excluded from their chosen secondary school programs.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Zdenko

**Ime i prezime / First and Last Name:-Last**

Bujger

**Ustanova / Institution:**

Poliklinika AVIVA

## 110. Ćurić Ana

### **Naslov:**

Protutijela protiv tireoidne peroksidaze uzrokuju demijelinizaciju i okulomotornu neuromiotonij u bez distireoidne orbitopatije

### **Autori:**

Ćurić Ana, Bjeloš Mirjana

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb; Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta Josipa Jurja Strossmayera u Osijeku; Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

### **Cilj:**

Predstaviti prvi slučaj okulomotorne neuromiotonije (ONM) kod djeteta, izazvane protutijelima protiv tireodine peroksidaze (anti-TPO), bez znakova distireoidne orbitopatije.

### **Bolesnici i metode:**

14-

godišnja djevojka žalila se na paroksizme treperenja i ptozu gornje vjeđe lijevoga oka izazvane hiperventilacijom ili pogledom u lijevu stranu. Pri kontinuiranom pogledu u lijevo, uslijedila je retrakcija gornje vjeđe desnoga oka, te treperenje gornje vjeđe lijevoga oka praćeno ptozom.

### **Rezultati:**

Dijagnostička obrada otkrila je izrazito povišen anti-TPO (> 600 IU/ml) titar, bez znakova distireoidne orbitopatije. Pretpostavljamo da su anti-TPO protutijela izravno inducirala demijelinizaciju i uzrokovala ONM desno s efaptičkim prijenosom signala između neurona koji opskrbljuju desni medijalni ravni mišić i levator gornje vjeđe.

### **Zaključak:**

Mnoštvo teorija pokušava dešifrirati ONM. Okulomotorna neuromiotonija povezana s distireoidnom orbitopatijom dosada nije zabilježena u djece, ali je drugi najčešći uzrok ONM-a u odraslih, kod kojih se smatra da je kompresivnog podrijetla. S druge strane, ovaj prikaz sluč



a govori u prilog cross talk hipotezi. Od iznimne je važnosti na kliničkom pregledu testirati sve ekstraokularne mišiće kako bi se odredio onaj koji izaziva ONM. Zbog odličnog odgovora na karbamazepin, dijagnoza ONM-a ne smije se previdjeti.

**Title:**

Thyroid peroxidase antibodies induce demyelination and oculomotor neuromyotonia in the absence of thyroid eye disease

**Authors:**

Ćurić Ana, Bjeloš Mirjana

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb; Faculty of Medicine Osijek, Faculty of Dental Medicine and Health Osijek, University Josip Juraj Strossmayer in Osijek; Reference Center of the Ministry of Health of the Republic of Croatia for Pediatric Ophthalmology and Strabismus

**Aim:**

To report the first case of oculomotor neuromyotonia (ONM) in a child induced by thyroid peroxidase antibodies (anti-TPO) in the absence of thyroid eye disease (TED).

**Patients and methods:**

14-year-old girl complained of left eye paroxysmal upper lid fluttering and ptosis precipitated by hyperventilation or sustained left gaze. On sustained left gaze, right eye upper lid retraction and left eye upper lid fluttering with ptosis ensued.

**Results:**

Diagnostic work-up revealed markedly elevated anti-TPO (> 600 IU/ml) and no TED. We hypothesized that anti-TPO directly induced demyelination and set the ground for right ONM with ephaptic transmission between neurons supplying right medial rectus and levator muscle.

**Conclusion:**

Plethora of theories try to decode the ONM. TED associated ONM is not reported in children, but it is the second most common cause of ONM in adults, advocated to be of compressive origin. Conversely, this case holds true for cross talk hypothesis. It is extremely important to test all extr

ocular muscles on clinical examination in order to determine the triggering one. ONM should not be overlooked due to its positive response to carbamazepine.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA PEDIJATRIJSKU OFTALMOLOGIJU I STRABIZAM / Pediatric Ophthalmology and Strabismus section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ana

**Ime i prezime / First and Last Name:-Last**

Ćurić

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb; Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta Josipa Jurja Strossmayera u Osijeku; Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

## 111. Turković Dino

### Naslov:

Topički mitomicin C kao uzrok limbalne insuficijencije

### Autori:

Turković Dino, Kuzmanović Elabjer Biljana, Miletić Daliborka, Bušić Mladen

### Ustanova:

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku  
Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### Cilj:

Ukazati na moguće ozbiljne komplikacije topičke primjene mitomicina C kao što je limbalna insuficijencija i posljedična keratopatija.

### Bolesnici i metode:

65-godišnji pacijent s incizijskom biopsijom dokazanim planocelularnim karcinomom spojnice i rožnice na jedinom oku, zbog ekstenzivnosti lezije, liječen je s 4 ciklusa topičkog 0,04% mitomicina C kao monoterapijom.

### Rezultati:

Topička primjena mitomicina C dovela je do potpune regresije tumora. Kao rana komplikacija uočena je limbalna insuficijencija gornje 2/3 cirkumferencije rožnice s razvojem keratopatije koja zahvaća središte i gornju polovinu rožnice i značajno reducira vidnu oštrinu.

### Zaključak:

Topička primjena mitomicina C učinkovita je u liječenju planocelularnog karcinoma spojnice i rožnice, bilo kao monoterapija ili u slučaju recidiva. Međutim, treba imati na umu moguće komplikacije kao što je limbalna insuficijencija.

### Title:

Topical mitomycin-C as a cause of limbal insufficiency

**Authors:**

Turkovic Dino, Kuzmanovic Elabjer Biljana, Miletic Daliborka, Basic Mladen

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To indicate possible serious complications of topical use of mitomycin C such as limbal insufficiency and consequent keratopathy.

**Patients and methods:**

A 65-year-old patient with incisional biopsy proven squamous cell carcinoma of the conjunctiva and cornea in his only eye, due to an extensive lesion, was treated with 4 cycles of topical 0.04% mitomycin-C as monotherapy.

**Results:**

Topical use of mitomycin C led to complete tumor regression. As an early complication, limbal insufficiency of the upper 2/3 corneal circumference was observed with the development of keratopathy affecting the center and upper half of the cornea and significantly reducing visual acuity.

**Conclusion:**

Topical use of mitomycin C is effective in the treatment of squamous cell carcinoma of the conjunctiva and cornea, either as monotherapy or in case of recurrence. However, one should keep in mind possible complications such as limbal insufficiency.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Dino

**Ime i prezime / First and Last Name:-Last**

Turković

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku  
Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

## 112. Valentina Cigić

### **Naslov:**

Kako spriječiti i liječiti posttraumatski endoftalmitis u 2022. godini?

### **Autori:**

Cigić V, Bušić I, Kuzmanović Elabjer B, Bjeloš M, Bosnar D, Miletić D, Bušić M

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### **Cilj:**

Odrediti smjernicu za prevenciju, dijagnostiku i liječenje posttraumatskog endoftalmitisa na Klinici za očne bolesti „Sveti Duh“

### **Bolesnici i metode:**

Posttraumatski endoftalmitis (PTE) bakterijska je ili gljivična infekcija prednjeg i stražnjeg segmenta oka nastala nakon otvorene ozljede oka. Najčešći uzrok bakterijskog PTE-a je *Bacillus cereus*, a gljivičnog su plijesni i kvasci. Posttraumatski endoftalmitis predstavlja dijagnostičko - terapijski problem zbog moguće brze progresije i potencijalno fatalnog ishoda. U nedostatku smjernica, ne samo u Republici Hrvatskoj nego i na svjetskoj razini, Klinika za očne bolesti Kliničke bolnice „Sveti Duh“ definirala je smjernicu za prevenciju, dijagnostiku i liječenje posttraumatskog endoftalmitisa.

### **Rezultati:**

Nakon što je proučena sva dostupna literatura, konzultirani su klinički farmakolog i klinički mikrobiolog, te oftalmolozi različitih užih specijalnosti. Prije usvajanja, ista je ocijenjena od strane Stručnog vijeća Klinike.

**Zaključak:**

Posttraumatski endoftalmitis kao potencijalno životno ugrožavajuće stanje i ozbiljan oftalmološki entitet, zbog neusklađenih ili nepostojećih smjernica na svjetskoj razini, zahtijeva donošenje smjernica na nivou Republike Hrvatske.

**Title:**

How to prevent and treat posttraumatic endophthalmitis in 2022 ?

**Authors:**

Cigić V, Bušić I, Kuzmanović Elabjer B, Bjeloš M, Bosnar D, Miletić D, Bušić M

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To determine the guidelines for the prevention, diagnosis and treatment of posttraumatic endophthalmitis at the University Eye Department of University Hospital „Sveti Duh“

**Patients and methods:**

Posttraumatic endophthalmitis (PTE) is a bacterial or fungal infection of the anterior and posterior segment of the eye that occurs after an open eye injury. The most common cause of bacterial PTE is *Bacillus cereus*, and fungal are molds and yeasts. Posttraumatic endophthalmitis is a diagnostic and therapeutic problem due to the possible rapid progression and potentially fatal outcome. In the absence of guidelines, not only in the Republic of Croatia but also worldwide, the University Eye Department of University Hospital „Sveti Duh“ has defined guidelines for the prevention, diagnosis and treatment of posttraumatic endophthalmitis.

**Results:**

After studying all available literature, a clinical pharmacologist and clinical microbiologist were consulted, as well as ophthalmologists of various narrow specialties. Prior to adoption, it was evaluated by the Expert Council of the Department.

**Conclusion:**

Post-traumatic endophthalmitis as a potentially life-threatening condition and a serious ophthalmological entity, due to inconsistent or non-existent guidelines at the global level, requires the adoption of guidelines at the level of the Republic of Croatia.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Valentina

**Ime i prezime / First and Last Name:-Last**

Cigić

**Ustanova / Institution:**

Klinička bolnica "Sveti Duh"



## 113. Nina Krobot Čutura

### Naslov:

Utjecaj različitih izometričkih vježbi na intraokularni tlak

### Autori:

Krobot Čutura N., Car Z., Petric Vicković I., Vataavuk Z.

### Ustanova:

KBC Sestre Milosrdnice

### Cilj:

Cilj ovog istraživanja je ispitati promjene intraokularnog tlaka tokom i nakon izvođenja triju izometričkih vježbi bez vanjskog opterećenja, kako bi se utvrdile smjernice za osobe pod rizikom za nastanak glaukoma te za već oboljele kojima bi izvođenje takvih vježbi dugoročno moglo utjecati na progresiju bolesti.

### Bolesnici i metode:

12 tjelesno aktivnih ispitanika muškog spola izvodilo je 3 različite izometričke vježbe bez dodatnog vanjskog opterećenja: izdržaj u čučnju uz zid, izdržaj na ispruženim rukama (tzv. "plank") i izdržaj u visu. Vježbe su izvođene u trajanju od 1 minute uz normalan obrazac disanja. Intraokularni tlak mjereno je lcare prijenosnim tonometrom prije, tokom i 30 sekundi nakon izvođenja vježbe.

### Rezultati:

Utvrđeno je statistički značajan porast intraokularnog tlaka tokom izvođenja izdržaja na ispruženim rukama ( $F(2,22)=3,78$ ,  $p=0,039$ ) i izdržaja u visu ( $F(2,22)=4,10$ ,  $p=0,03$ ). Za vrijeme izdržaja u čučnju uz zid također je utvrđeno porast intraokularnog tlaka, no on nije statistički značajan ( $F(2,22)=1,60$ ,  $p=0,224$ ). Kod izdržaja na ispruženim rukama i izdržaja u visu, statistički značajne razlike utvrđene su između intraokularnog tlaka prije izvođenja vježbi u odnosu na intraokularni tlak tijekom izvođenja vježbi. Nakon 30 sekundi odmora, vrijednosti intraokularnog tlaka bile su statistički značajno niže u odnosu na vrijednosti tokom izvođenja vježbi, odnosno vratile su se na početne vrijednosti u mirovanju. Među vrijednostima intraokularnog tlaka u mirovanju i nakon 30 sekundi odmora nije utvrđena statistički značajna razlika. Nije utvrđena niti povezanost vrste vježbe sa porastom intraokularnog tlaka ( $F(2,22)=0,64$ ,  $p=0,534$ ).

**Zaključak:**

Ovim istraživanjem dokazano je da dvije od triju ispitivanih izometričkih vježbi kratkotrajno dižu intraokularni tlak, bez obzira što nije upotrijebljeno dodatno vanjsko opterećenje. Na temelju ovih rezultata nije moguće zaključiti pridonosi li izvođenje ovih vrsta vježbi nastanku glaukoma kod osoba pod rizikom ili progresiji bolesti kod već oboljelih. S obzirom da je povišen intraokularni tlak glavni faktor rizika za nastanak glaukoma, preporuča ih se izbjegavati ili izvoditi s oprezom kod predisponiranih osoba.

**Title:**

Effects of different isometric exercises on intraocular pressure

**Authors:**

Krobot Čutura N., Car Z., Petric Vicković I., Vatauvuk Z.

**Institution:**

Sestre milosrdnice University Hospital Center

**Aim:**

The aim of this study was to determine changes in intraocular pressure during and after performing three different isometric exercises without external load. The purpose was to establish exercise guidelines for glaucoma patients who could be affected by such exercises.

**Patients and methods:**

12 physically active male subjects performed 3 different isometric exercises: wall sit, "plank" and "dead hang" hold, without additional external load. The exercises were performed for 1 minute with a normal breathing pattern. Intraocular pressure was measured with Icare rebound tonometer before, during and 30 seconds after exercise.

**Results:**

A statistically significant increase in intraocular pressure was found during "plank" hold ( $F(2,22)=3,78$ ,  $p = 0.039$ ) and "dead hang" hold ( $F(2,22)=4,10$ ,  $p = 0.03$ ). An increase in intraocular pressure was also found during wall sit hold, but it was not statistically significant ( $F(2,22)=1,60$ ,  $p = 0.224$ ). When performing "plank" and "dead hang" hold, statistically significant differences were found between the intraocular pressure before and during exercises. After 30 seconds of rest, the intraocular pressure was significantly lower than during those exercises and had returned to the baseline values. No statistically significant difference between intraocular pressure before and

after exercises was found. The effect of exercise type on the increase in intraocular pressure has not been found ( $F(2,22)=0,64$ ,  $p=0,534$ ).

**Conclusion:**

This study has proven that 2 out of 3 types of performed isometric exercises raise intraocular pressure for a short period of time, even without additional external load. Based on these results, it is not possible to conclude whether performing these types of exercise contributes to disease progression in glaucoma patients. Since elevated intraocular pressure is a major risk factor for glaucoma, those exercises should be avoided or performed with caution in predisposed individuals.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU MLADI U OFTALMOLOGIJI / Young Ophthalmologist Section

**Titula / Title:**

Dr.

Specijalizant / Resident

**Ime i prezime / First and Last Name:-First**

Nina

**Ime i prezime / First and Last Name:-Last**

Krobot Čutura

**Ustanova / Institution:**

KBC Sestre Milosrdnice

## 114. Biljana Kuzmanović Elabjer

### **Naslov:**

Ultrazvuk u diferencijalnoj dijagnozi tumora vjeđa

### **Autori:**

Biljana Kuzmanović Elabjer, Daliborka Miletić, Andrej Pleše, Mladen Bušić, Mirjana Bjeloš

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

### **Cilj:**

Prikazati ulogu ultrazvuka u diferencijalnoj dijagnozi tumora vjeđa

### **Bolesnici i metode:**

Ultrazvučna dijagnostika s 10, 20 i 50 MHz sondom te standardizirana ehografija učinjene su kod sedam pacijenata s tumorom vjeđe u prijeoperativnoj pripremi.

### **Rezultati:**

Ultrazvukom se učinila jasna distinkcija između solidnih i cističnih tumora vjeđe, odredila njihova omeđenost, te standardiziranom ehografijom dobila diferencijacija tkiva. Sukladno nalazu, prilagođen je operativni pristup.

### **Zaključak:**

Ultrazvučna dijagnostika pomaže u diferencijalnoj dijagnozi tumora vjeđa te izboru adekvatnog liječenja.

### **Title:**

Ultrasound in the differential diagnosis of eyelid tumors

### **Authors:**

Biljana Kuzmanović Elabjer, Daliborka Miletić, Andrej Pleše, Mladen Bušić, Mirjana Bjeloš

**Institution:**

University Eye Department, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek, Reference center of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

To present the role of ultrasound in the differential diagnosis of eyelid tumors

**Patients and methods:**

Ultrasound diagnostics with 10, 20, and 50 MHz probes and standardized echography were performed in seven patients with eyelid tumors in preoperative evaluation.

**Results:**

Ultrasound made a clear distinction between solid and cystic eyelid tumors, determined their delineation while standardized echography enabled tissue differentiation. Accordingly, the surgical approach was adjusted.

**Conclusion:**

Ultrasound diagnostics help in the differential diagnosis of eyelid tumors and the choice of adequate treatment.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA ULTRAZVUK / Ultrasound section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Biljana

**Ime i prezime / First and Last Name:-Last**

Kuzmanović Elabjer

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku, Referentni centar Ministarstva zdravstva Republike Hrvatske za dječju oftalmologiju i strabizam

## 115. Andrej Pleše

### **Naslov:**

Operacija katarakte u rukama početnika pod budnim okom mentora, kad sve nadzire „velika se stra“

### **Autori:**

Pleše Andrej, Miletić Daliborka, Kuzmanović Elabjer Biljana, Bušić Mladen

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku  
Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

### **Cilj:**

Ukazati na izazove u edukaciji mladih kirurga katarakte

### **Bolesnici i metode:**

Kroz prezentaciju bit će prikazane kritične točke u operaciji katarakte koje zamjećuje kirurg početnik, neposredni mentor te voditelj Odjela prednjeg segmenta oka.

### **Rezultati:**

Rezultat ove prezentacije je potaknuti kolege koji započinju s edukacijom operacije katarakte i njihove mentore na diskusiju o problemima i izazovima s kojima se susreću kod operacije katarakte i razmjenu iskustava kako bi krivulja učenja tj. svladavanja operacije katarakte bila što strmija.

### **Zaključak:**

Zajednička diskusija trebala bi unaprijediti edukaciju kirurga za operaciju katarakte.

### **Title:**

Cataract surgery for young surgeons with the vigilant eye of a mentor, when everything is supervised by a "big sister"

**Authors:**

Pleše Andrej, Miletić Daliborka, Kuzmanović Elabjer Biljana, Bušić Mladen

**Institution:**

University Eye Clinic, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek  
Reference Centre of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

Indicate the challenges of education of young cataract surgeons

**Patients and methods:**

Through the presentation, critical points in cataract surgery will be presented, noticed by a young surgeon, mentor, and head of the Department of the anterior segment of the eye.

**Results:**

The result of this presentation is to encourage colleagues who start educating cataract surgery and their mentors to discuss the problems they face in cataract surgery and exchange experiences to make the learning curve, ie mastering cataract surgery as steep as possible.

**Conclusion:**

The joint discussion should improve the education of surgeons for cataract surgery.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Andrej



**Ime i prezime / First and Last Name:-Last**

Pleše

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku  
Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

## 116. Pleše Andrej

### **Naslov:**

Kutana sarkoidoza - veliki imitator

### **Autori:**

Pleše Andrej, Kuzmanović Elabjer Biljana, Miletić Daliborka, Bušić Mladen

### **Ustanova:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku  
Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

### **Cilj:**

Ukazati na važnost patohistološke analize tumorskih promjena

### **Bolesnici i metode:**

Prikaz slučaja 52- godišnje pacijentice koja se javila na Kliniku zbog tumorske tvorbe koju je imala zadnja dva mjeseca u području desne obrve. Ranije je zbog znakova upale navedene promjene uzimala Klavocin bid te topički primjenjivala Maxitrol mast. Pred 50 godina na istom mjestu imala lacerokontuznu ranu kože. Pacijentica liječi hipotireozu te druge sisteme bolesti i tegobe negira.

### **Rezultati:**

Učini se ekstripacija tumorske promijene te patohistološka analiza dokazuje granulomsku upalu, najvjerojatnije sarkoidozu te se pacijentica upućuje na daljnu obradu koja je potvrdila dijagnozu u vanplućne manifestacije sarkoidoze te je pacijentici uvedena kortikosteroidna terapija.

### **Zaključak:**

Prva manifestacija granulomatotskih upala, kao što je sarkoidoza, može biti u smislu tumorskih potkožnih promjena te je važno pravovremena ekstripacija i patohistološka analiza.

### **Title:**

Cutaneous sarcoidosis - a great imitator

**Authors:**

Pleše Andrej, Kuzmanović Elabjer Biljana, Miletić Daliborka, Bušić Mladen

**Institution:**

University Eye Clinic, University Hospital "Sveti Duh", Zagreb, Faculty of Medicine Osijek, Faculty of dental medicine and health care Osijek, University Josip Juraj Strossmayer in Osijek  
Reference Centre of the Ministry of Health of the Republic of Croatia for pediatric ophthalmology and strabismus

**Aim:**

Point out the importance of pathohistological analysis of tumor lesions

**Patients and methods:**

A case report of a 52-year-old patient who came to the Clinic due to a tumor lesion she had in the last two months in the area of her right eyebrow. Earlier, due to the signs of inflammation, she took Klavocin bid and topically applied Maxitrol ointment. She had a contused-lacerated skin wound in the same place 50 years ago. The patient treats hypothyroidism and denies other health problems.

**Results:**

Excision of the tumor lesion is performed and pathohistological analysis proves granulomatous inflammation, most likely sarcoidosis, and the patient is referred for further treatment that confirmed the diagnosis of extrapulmonary sarcoidosis, and corticosteroid therapy was introduced.

**Conclusion:**

The first manifestation of granulomatous inflammation, such as sarcoidosis, may be in form of subcutaneous tumor lesions, and timely excision and pathohistological analysis are important.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA ORBITU / Orbit section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Andrej

**Ime i prezime / First and Last Name:-Last**

Pleše

**Ustanova / Institution:**

Klinika za očne bolesti, Klinička bolnica „Sveti Duh“, Zagreb, Medicinski fakultet Osijek, Fakultet za dentalnu medicinu i zdravstvo Osijek, Sveučilišta J.J. Strossmayera u Osijeku  
Referentni centar Ministarstva zdravstva za dječju oftalmologiju i strabizam

## 117. Maja Vinković

### Naslov:

Šivanje iridodijalize tehnikom „šivaće mašine“ i sekundarna ugradnja akreos IOL nakon tupe traume oka

### Autori:

Vinković M., Benašić T., Kopic A., Barać J.

### Ustanova:

Klinika za očne bolesti KBC Osijek, Medicinski fakultet Osijek

### Cilj:

Prikaz slučaja pacijenta i operativne tehnike šivanja iridodijalize metodom „šivaće mašine“ i sekundarne ugradnje Akreos IOL i skleralne fiksacije uz pomoć gore-tex šavi.

### Bolesnici i metode:

Pacijent u dobi 78 godina, javlja se u retinološku ambulantu Klinike za očne bolesti KBC Osijek nakon tupe traume lijevoga oka. Prije oko 6 mjeseci zadobio udarac drvetom u područje lijevoga oka. Negira sustavne bolesti, stalnu terapiju ne uzima. Vidna oštrina na desnome oku je 0.6, a na lijevome prisutan osjet svjetla uz očuvanu projekciju. Vrijednosti intraokularnog tlaka su 15/23 mmHg. Biomikroskopskim pregledom lijevoga oka utvrđeno postojanje traumatske mature mrene, fakodoneza, prolaps staklovine u prednju očnu sobicu, iridodijaliza u gornjoj polovici uz otvoreni sfinkter šarenice. Dublji dijelovi nedostupni analizi. Pregledom na desnome oku utvrđeno postojanje kortikonuklearne mrene. Nalaz na očnoj pozadini desnoga oka uredan. U lokalnu tk uvedeno timolol 0.5% sol. 2x za lijevo oko. UZV (B scan) lijevoga oka: vitrealni prostor bez patoloških eho odjeka, retina prileži. Pacijentu se preporuča operativno liječenje u općoj anesteziji.

### Rezultati:

Operativno liječenje je izvedeno u 2 operacijska postupka. Tijekom prvog zahvata u općoj anesteziji učinjena je PHACO lensektomija, PPV, endolaser i šivanje defekta šarenice metodom „šivaće mašine“. Tijekom drugog operativnog zahvata ugrađena je Akreos savitljiva IOL i uz pomoć gore-tex šavi fiksirana za skleru. Nakon 4 mjeseca praćenja vidna oštrina na lijevome oku je cIOL 0.2. Retinalni status uredan.

**Zaključak:**

Kod trauma oka, ponekad su potrebni višestruki operativni postupci koji za cilj imaju uspostavljanje anatomskog i funkcionalnog oftalmološkog oporavka. Akreos IOL fiksacija uz pomoć gore-tex šavi predstavlja alternativni postupak ugradnje posteriorne IOL kod nepostojanja kapsularne potpore. Tehnika je relativno jednostavna za učenje, omogućuje 4 točke fiksacije što osigurava stabilnost položaja IOL. Također smještaj šavi 3 mm od limbusa omogućuje „in the bag“ izračun IOL i smanjuje mogućnost kontakta sa šarenicom.

**Title:**

Iridodysis repair by „sewing machine“ technique and Gore-Tex sutured Akreos IOL implantation after blunt ocular trauma

**Authors:**

Vinković M., Benašić T., Kopic A., Barac J.

**Institution:**

University Clinical Hospital Osijek, Faculty of Medicine Osijek

**Aim:**

Case report of a patient after blunt ocular trauma and presentation of surgical techniques of iridodysis repair with „sewing machine“ technique and Gore-Tex sutured Akreos IOL implantation.

**Patients and methods:**

A 78-year old male patient presented at the Retina Department of the Clinical Hospital Centre Osijek after blunt ocular trauma which occurred 6 months ago. The patient's previous ophthalmological and medical history was unremarkable. He was not taking any medications and had no known drug allergies. Entering visual acuities were 0.6 Snellen equivalent RE and light perception LE. Ocular motilities were full. Applanation tonometry was 15/23 mmHg. The slit lamp exam revealed a mature cataract of the left eye, phakodonesis, iridodysis in the upper half with deformed pupil, non reactive to light and vitreous prolaps in the upper parts of the AC. Posterior segment of the left eye could not be analysed. US (B scan) of the left eye revealed attached retina. The right eye had cataract, pupil reacted normal to light and posterior segment was unremarkable. The patient was advised surgical treatment under general anesthesia.

**Results:**

The treatment encompassed two surgeries. During the first operating procedure a lensectomy, pars plana vitrectomy, endolaser and iridodialis repair was performed under general anesthesia. The second surgical procedure consisted of Akreos IOL implantation and scleral fixation with CV-8 Gore-Tex sutures. After 4 months of follow-up, visual acuity of the LE is 0.2 with normal posterior segment of the eye.

**Conclusion:**

Treatment of the ocular trauma often requires multiple surgical procedures in order to restore anatomical and functional ophthalmic recovery.

Gore-

Tex sutured intraocular lens implants offer alternative for posterior chamber placement of an IOL when there is inadequate capsular support. This technique is fairly straightforward to perform and provides a stable 4-point fixation of the lens, which minimizes tilt. Furthermore, placing the sutures 3 mm posterior to the limbus allows for an „in-the-bag“ calculation for the IOL power and lowers the risk of iris chafe.

**Kongres / Congresse:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Doc.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Maja

**Ime i prezime / First and Last Name:-Last**

Vinkovic

**Ustanova / Institution:**

Klinika za očne bolesti KBC Osijek, Medicinski fakultet Osijek

## 118. Karla Randelović

### **Naslov:**

Promjene prednje hijaloidne membrane u oku odrasle osobe analizirane intraoperativnim OCT-om

### **Autori:**

Karla Randelović, Luc Van Os, Marie-Jose Tassignon, Zoran Vataavuk

### **Ustanova:**

KBC Sestre milosrdnice (Zagreb, Hrvatska) i UZA - Antwerp University, University Hospital Edegem (Belgija)

### **Cilj:**

Cilj rada je proučiti intraoperativnu incidenciju djelomične ili totalne, kapsularne ili zonularne prednje hijaloidne ablacije nakon primarne posteriorne kontinuirajuće kurvilinearne kapsuloreksije (PPCCC).

### **Bolesnici i metode:**

Intraoperativni OCT 15 odraslih pacijenata (16 očiju), prosječne dobi 67,5 godina, uglavnom žena, operiranih zbog katarakte, uključeno je u ovu studiju tražeći varijacije pričvršćivanja, odnosno odvajanja Wiegerovog ligamenta na stražnju kapsulu leće. Posebno smo se usredotočili na segment snimljen nakon pražnjenja kapsularne vreće od lećnog sadržaja i punjenje OVD-om. Zatim je izveden PPCCC. Tehnika se sastoji od izrade kirurški kontrolirane rupe u stražnjoj kapsuli kroz koju se retrokapsularno područje napuhuje OVD-om. Prisutnost ili odsutnost AVD-a zabilježena je i uspoređena sa sljedećim parametrima pacijenta: keratometrija, dubina prednje očne sobice, aksijalne duljine oka, dob i spol.

### **Rezultati:**

Svih šesnaest očiju imalo je određeni stupanj djelomičnog ili potpunog odvajanja prednje hijaloidne membrane. 10 od 16 očiju imalo je totalno (kapsularno i zonularno) odvajanje prednje hijaloidne (AVD) sa srednjom aksijalnom duljinom 23,73 mm, keratometrijom 43,58D i dubinom prednje očne sobice 3,36 mm.



**Zaključak:**

U ispitivanoj dobnoj skupini, prvi čimbenik rizika za odvajanje prednje hijaloideje je starosna doba, nakon čega slijede aksijalna duljina i dubina prednje očne sobice. Niti jedan drugi parametar nije pokazao korelaciju s AVD-om. Nismo ocjenjivali PVD i kao rezultat toga ne možemo dati nikakve informacije o tome kako je AVD povezan s PVD-om u ovoj određenoj dobnoj skupini. Međutim, možemo zaključiti da je AVD dobna manifestacija.

**Title:**

Variations of anterior interface in the adult eye using intraoperative OCT

**Authors:**

Karla Randelović, Luc Van Os, Marie-Jose Tassignon, Zoran Vataavuk

**Institution:**

KBC Sestre milosrdnice (Zagreb, Hrvatska) i UZA - Antwerp University, University Hospital Edegem (Belgija)

**Aim:**

Our aim of this paper is to study the intraoperative incidence of partial or total, capsular or zonular anterior hyaloid detachment (AVD) after PPCCC.

**Patients and methods:**

The intraoperative OCT of 16 eyes of 15 adult patients (mean age 67,5 years, mostly female) operated for cataract were included in this observational study looking for variations of the attachment/detachment of Wieger's ligament to the posterior lens capsule. We specifically focus on the segment recorded after emptying the capsule bag from its lens content and filling the anterior chamber with OVD. PPCCC was then performed. The technique consists of making a surgically controlled hole in the posterior capsule through which the retro-capsular area is inflated with OVD. Presence or absence of AVD was recorded and correlated with the following patient's parameters: keratometry – axial length anterior chamber depth, age, sex.

**Results:**

All sixteen eyes presented a certain degree of partial or total anterior hyaloid detachment. 10 eyes out of the 16 had total (capsular and zonular) anterior hyaloid detachment with mean axial length 23,73mm, keratometrics 43,58D and anterior chamber depth 3,36mm.

**Conclusion:**

In the studied age group, the first risk factor for anterior hyaloid detachment is age followed by axial length and anterior chamber depth. No other parameters showed correlation with AVD. We did not evaluate PVD and as a result cannot give any information how AVD is correlated to PVD in this particular age group. However, we can conclude that AVD is an age-related manifestation.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Karla

**Ime i prezime / First and Last Name:-Last**

Ranđelović

**Ustanova / Institution:**

KBC Sestre milosrdnice, Zagreb, Hrvatska

## 119. Ivana Valković Antić

### **Naslov:**

Dekompresijska retinopatija nakon trabekulektomije

### **Autori:**

Ivana Valković Antić 1 , Katia Novak-Lauš 2, Mia Zorić Geber 2

### **Ustanova:**

KBC Rijeka 1, KBC Sestre Milosrdnice 2

### **Cilj:**

Prikazati slučaj dekompresijske retinopatije nakon trabekulektomije

### **Bolesnici i metode:**

Slučaj 56-

ogodišnje žene koja je došla sa IOP iznad 50 mmHg nakon nekoliko mjeseci nelagode i bolnosti u desnom oku. Vidna oštrina je bila 0.8 cc desno, 0.1 cc lijevo oko. Bila je ambliop na lijevo oko, b olovala od arterijske hipertoniije i reumatoidnog artritisa. Nakon topičke antiglaukomske terapij e i Acetazolamida tri puta dnevno, IOT je bio još dosta visok, 40 mmHg. Podvrgnuta je trabekule ktomiji. Postoperativno aplikacija lokalne topičke terapije je bila ograničena radi alergije na anti biotike i kortikosteroide. Dva tjedna nakon filtracijske operacije dolazi na kontrolu sa keratopatij om, bez znakova upale. IOT u desnom oku je bio 12 mmHg. Žalila se na bol u oku i smanjenu vi dnu oštrinu. Vidna oštrina je pala na 0.01 sc desno. Pregled očne pozadine nije bio moguć radi z amućene rožnice.

### **Rezultati:**

Nakon Medrola po, rožnica se razbistrila, te je omogućen pregled očne pozadine, OCT. Nalaz oč ne pozadine pokazao je parcijalno resorbirano krvarenje u žutoj pjegi. Nakon tri mjeseca dolazi do restitucije vidne oštrine, bez znakova krvarenja u žutoj pjegi, sa fluktuacijama tlaka 20- 25 mmHg.

**Zaključak:**

Dekompresijska retinopatija je isključna dijagnoza. Neadekvatna autoregulacija retinalnih krvnih žila gdje naglo spuštanje IOT povećava protok kapilarnom mrežom i dovodi do mnogostrukih žarišnih propuštanja koje se pokazuju kao mrljaste hemoragije. Valsava manevar, tranzitorna hipertenzija i mehanički faktori mogu igrati ulogu, u kombinaciji ili individualno u patogenezi ovog stanja. Dekompresijska retinopatija ima benigni karakter sa restitucijom vidne oštine na preoperativne vrijednosti bez liječenja.

**Title:**

Decompression retinopathy after glaucoma filtering surgery

**Authors:**

Ivana Valković Antić 1, Katia Novak-Lauš 2, Mia Zorić Geber 2

**Institution:**

KBC Rijeka 1, KBC Sestre Milosrdnice 2

**Aim:**

To present a case of decompression retinopathy after a glaucoma filtering surgery.

**Patients and methods:**

A case of 56-year old woman who presented with increased intraocular pressure (IOP) over 50 mmHg after several months of discomfort and pain in her right eye. Visual acuity was 0.8 cc right and 0.1 cc left eye. She had ambliopia of left eye, arterial hypertension and rheumatoid arthritis. After administering topical glaucoma medications and acetazolamide three times daily her IOP in right eye was still very high, 40 mmHg. She underwent filtration surgery. Administration of postoperative medications was limited because of her allergy to antibiotics and corticosteroids. Two weeks after filtration surgery she presented with keratopathy with no sign of ocular inflammation. Her IOP in right eye was 12 mmHg. She started complaining of ocular pain and low vision acuity. Her vision dropped at 0.01 sc. Fundoscopic examination could not be completed because of blurred cornea.

**Results:**

After administering Medrol orally, corneal restitution allowed fundoscopic examination, OCT. Fundus examination showed macular haemorrhage, partially absorbed. After three months visual acuity restituted with no signs of macular haemorrhage IOP fluctuated between 20-25 mmHg.

**Conclusion:**

Decompression retinopathy is an exclusion diagnosis. Impaired autoregulation of the retinal vasculature, in which acute lowering of the IOP increases blood flow through the retinal capillary bed, leads to multiple focal leaks presenting as blot hemorrhages. Valsalva maneuver, transitory hypotony, and mechanical factors may play a role, either in combination or individually, in the pathogenesis of this condition.

Decompression retinopathy tends to have a benign course with visual acuity returning to preoperative levels without any treatment.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA GLAUKOM / Glaucoma section

**Titula / Title:**

Dr.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Ivana

**Ime i prezime / First and Last Name:-Last**

Vaković Antić

**Ustanova / Institution:**

KBC Rijeka

## 120. Benašić Tvrтка

### **Naslov:**

Vitrektomija, odstranjenje potonule leće, implantacija IOL sa skleralnom fiksacijom i suture irisa nakon kontuzije oka

### **Autori:**

Benašić Tvrтка, Vinković Maja, Kopic Andrijana, Matić Suzana, Bajtl Dunja, Bradvica Mario

### **Ustanova:**

Klinika za očne bolesti, KBC Osijek, Medicinski fakultet Osijek, Sveučilište J. J. Strossmayera

### **Cilj:**

Prikaz operacije nakon teške traume oka

### **Bolesnici i metode:**

Pacijent stradao pri udarcu vijka iz pneumatskog čekića u desno oko, pri čemu je nastala subluk sacija prirodne leće u vitreus, lezija polovine sfinktera pupile, spojnice, sklere, retinalne rupture.

### **Rezultati:**

Prikaz operacije i postoperativnog stanja pacijenta.

### **Zaključak:**

Kod teških trauma oka potrebno je sanirati različita oštećenja oka.

### **Title:**

Vitrectomy, dislocated lens removal, scleral fixated IOL implantation, and iris sutures after eye trauma

### **Authors:**

Benašić Tvrтка, Vinković Maja, Kopic Andrijana, Matić Suzana, Bajtl Dunja, Bradvica Mario

### **Institution:**

Eye clinic, University hospital Osijek, Medical faculty Osijek, J.J. Strossmayer University

**Aim:**

Case report of an eye surgery after severe trauma

**Patients and methods:**

Male patient had severe eye trauma with pneumatic hammer - lens subluxation, lesion of pupillary sphincter, sclera, and retinal holes.

**Results:**

Eye surgery and postoperative status is demonstrated.

**Conclusion:**

There is a need for multiple tissue operation in severe eye trauma.

**Kongres / Congresses:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA MREŽNICU / Retina section

**Titula / Title:**

Dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Tvrtka

**Ime i prezime / First and Last Name:-Last**

Benašić

**Ustanova / Institution:**

Klinika za očne bolesti, KBC Osijek

## 121. Tomislav Kuzman

### Naslov:

Kombinirana operacija katarakte i stražnja lamelarna keratoplastika (triple DSAEK) bez upotrebe viskoelastika: serija slučajeva

### Autori:

Tomislav Kuzman 1, Ana Pupić-Bakrač 2\*, Ana Meter 3, Ivana Gabrić 1, Dina Lešin Gaćina 1, Sania Vidas Pauk 1

### Ustanova:

1 KBC Zagreb, Klinika za očne bolesti Medicinskog fakulteta u Zagrebu 2 Zavod za oftalmologiju, OB Zadar 3 Zavod za oftalmologiju, Klinička bolnica Dubrava, Zagreb

### Cilj:

Najčešće komplikacije nakon kombinirane operacije katarakte i stražnje lamelarne keratoplastike (triple DSAEK: cataract phacoemulsification, intraocular lens implantation and Descemet's stripping automated endothelial keratoplasty) su odvajanje i decentracija donorske lamele. Jedan od razloga navedenih komplikacija je zaostali viskoelastik koji se koristi tijekom operacije. Cilj ove studije je opisati kombiniranu operaciju katarakte i stražnje lamelarne keratoplastike bez upotrebe viskoelastika, te ukazati na njene prednosti.

### Bolesnici i metode:

Retrospektivno su obrađeni podaci bolesnika s Fuchsovom distrofijom i kataraktom koji su operirani kombiniranom operacijom triple DSAEK bez upotrebe viskoelastika od siječnja 2019 do prosinca 2020. Opisan je operativni zahvat, te je praćen postoperativni tijek bolesnika.

### Rezultati:

Serija je uključivala 10 slučajeva. Težina izvođenja kapsulorekse bez viskoelastika kod bolesnika u općoj anesteziji (N=5) i lokalno potenciranoj anesteziji (N=5) nije se statistički značajno razlikovala ( $P > 0,05$ ). Implantacija intraokularne leće kod bolesnika u općoj anesteziji (N =5) nije pokazivala veću težinu u usporedbi s bolesnicima u lokalno potenciranoj anesteziji (N = 5) ( $P > 0,05$ ). Postoperativno nije bilo odvajanja i decentracije donorske lamale niti kod jednog bolesnika. Također nisu zabilježene niti ostale komplikacije koje mogu biti posljedica zaostalog viskoelastika kao što je posteoperativno povišenje intraokularnog tlaka.



**Zaključak:**

Iako upotreba viskoelastika tijekom kombinirane operacije katarakte i stražnje lamelarne kerato plastike može olakšati određene dijelove operativnog zahvata kao što su kapsuloreksa, implantacija IOLa ili Descemetoreksa, možemo zaključiti da se operacija može sigurno izvesti i bez upotrebe viskoelastika. Na taj način možemo izbjeći potencijalne vrlo česte komplikacije kao što su odvajanje i decentracija donorske lamele ili postoperativno povišenje intraokularnog tlaka.

**Title:**

Triple DSAEK procedure without usage of viscosurgical devices: a case series

**Authors:**

Tomislav Kuzman 1, Ana Pupić-Bakrač 2\*, Ana Meter 3, Ivana Gabrić 1, Dina Lešin Gaćina 1, Sania Vidas Pauk 1

**Institution:**

1 Department of Ophthalmology, University Hospital Center Zagreb, School of Medicine, University of Zagreb, Kišpatićeva 12, 10000 Zagreb, Croatia 2 Department of Ophthalmology, General Hospital Zadar, Bože Peričića 5, 23 000 Zadar, Croatia 3 Department of Ophthalmology, University Hospital Dubrava, Zagreb, Croatia

**Aim:**

Most common complication after performing triple DSAEK (cataract phacoemulsification, intraocular lens implantation and Descemet's stripping automated endothelial keratoplasty) is detachment or decentration of donor lamella. One of the reasons for that is retained viscoelastic used during surgery. The purpose of our study was to describe triple DSAEK without viscoelastic and to discuss potential benefits on surgical outcome.

**Patients and methods:**

Surgical procedure and outcomes from patients with Fuchs dystrophy and lens opacification that underwent triple procedure January 2019 to December 2020 were retrospectively reviewed. Surgical procedure was described, and postoperative complications were studied.

**Results:**

The study included ten eyes of ten patients. The complexity rate of capsulorexis performed under general (N=5) and locally potentiated anesthesia (N=5) did not significantly differ ( $P > 0,05$ ). IOL implantation in patients operated under general anesthesia (N =5) did not show improved complexity compared to patients operated under locally potentiated anesthesia (N = 5) ( $P > 0,05$ )

. Successful attachment of donor lamella was observed in all 10 patients. None of the patients had postoperative complications.

**Conclusion:**

Although viscoelastic can facilitate certain parts of the triple DSAEK procedure, we can conclude that this procedure can be performed completely without its use. If performed by a trained surgeon, the procedure can be performed without complications such as donor lamella detachment, decentration or other.

**Kongres / Congress:**

21. Kongres HOOD-a

**Abstract category / Sažetak prijavljujem u:**

SEKCIJU ZA KATARAKTU I REFRAKTIVNU KIRURGIJU / Cataract and Refractive surgery section

**Titula / Title:**

Prof.dr.sc.

Specijalist / Specialist

**Ime i prezime / First and Last Name:-First**

Tomislav

**Ime i prezime / First and Last Name:-Last**

Kuzman

**Ustanova / Institution:**

KBC Zagreb