

**ZBORNIK SAŽETAKA**

**II  
KON  
GRES  
OFFTAL  
MOLOGA**

**BOSNE I HERCEGOVINE**

**S A M E Đ U N A R O D N I M U Č E Š Ć E M**

**B A N J A L U K A , 2 5 - 2 7 . M A J 2 0 1 2 .**

**2<sup>nd</sup> CONGRESS OF OPHTHALMOLOGISTS OF B&H with international participation**  
**Banja Luka, 25<sup>th</sup> to 27<sup>th</sup> of May 2012**

**Udruženje oftalmologa Republike Srpske  
Udruženje oftalmologa u FBiH  
[www.ofthalmolozirs.org](http://www.ofthalmolozirs.org)**





# **I K O N G R E S O F T A L M O L O G A B O S N E I H E R C E G O V I N E S A M E Đ U N A R O D N I M U Č E Š Ć E M B A N J A L U K A , 2 5 - 2 7 . M A J 2 0 1 2 .**

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**ZBORNIK SAŽETAK  
abstract book**



*Poštovane kolege, dragi gosti, dragi prijatelji,*

*Sa velikim zadovoljstvom Vas pozdravljam ispred Udruženja oftalmologa Republike Srpske i u svoje lično ime na Drugom kongresu oftalmologa Bosne i Hercegovine sa međunarodnim učešćem. Kongres se održava pod pokroviteljstvom Ministarstva nauke i tehnologije i Ministarstva zdravlja i socijalne zaštite Republike Srpske u zajedničkoj organizaciji Udruženja oftalmologa Republike Srpske i Udruženja oftalmologa Federacije Bosne i Hercegovine u maju, kada je Banjaluka najljepša.*

*Srećni smo zbog činjenice da su se u Banjaluci okupili oftalmolozi iz cijelog regiona, a ne samo iz naše sredine. Već poslije prvog ovavještenja Vaši radovi su stigli u neočekivano velikom broju na naš sajt [www.ofthalmolozirs.org](http://www.ofthalmolozirs.org) i to je Naučni odbor našeg kongresa stavilo pred težak i odgovoran zadatak da se prezentuju samo najbolji radovi. Prisustvo brojnih pozivnih predavača i učesnika iz zemlje i inostranstva, organizacija brojnih kurseva, satelitskih simpozijuma daće veliki doprinos u širenju novih dostignuća iz oftalmologije u regionu.*

*Radujemo se ovoj prilici za zajednički rad i druženje. Trudićemo se da budemo dobri domaćini ovoj velikoj oftalmološkoj porodici.*

*Dobrodošli u Banja Luku, grad koji Vas očekuje otvorenog srca. Nadam se da ćete iz njega otići obogaćeni novim znanjem i novim prijateljstvima.*

*Predsjednik Organizacionog odbora Kongresa  
Predsjednik Udruženja oftalmologa Republike Srpske  
Doc. Dr Milka Mavija*

*Dear colleagues, distinguished guests and friends,*

*On the behalf of the Association of ophthalmologists of Republic of Srpska and my own I would like to wish you a great welcome to the Second congress of ophthalmologists Bosnia and Herzegovina with international participation. The congress is hosted under auspices of the Ministry of science and technology and the Ministry of health and health care of Republic of Srpska and joint organisation of the Association of ophthalmologists of Republic of Srpska and the Association of ophthalmologists of Federation of Bosnia and Herzegovina, which is taking place in May, when Banja Luka is the most beautiful.*

*We are happy to have gathered ophthalmologists from the whole region, and just from our area. After the first announcement, your works started coming immediately to our website [www.ofthalmologizirs.org](http://www.ofthalmologizirs.org) in an unexpectedly big number which were put before our Science committee that had a difficult and responsible task to choose the best works to be presented. The presence of numerous speakers and participants from the country and abroad, organizing a big number of courses, satellite symposia will contribute greatly in spreading the latest accomplishments in ophthalmology in our region.*

*We are looking forward to this opportunity for working together and socialising. We will do our best to be good hosts to this big ophthalmology family. Welcome to Banja Luka, the city which greets you with open arms. I hope you leave it enriched with new knowledge and new friendships.*

*President of the Congress Organisational Committee  
President of Association of Ophthalmologists of Republic of Srpska  
Assistant Professor Milka Mavija, MD PhD*

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## O Banjaluci

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**Banjaluka** je moderan evropski grad u zapadnom dijelu Bosne i Hercegovine, smješten na rijeci Vrbas. Sa oko 250 000 stanovnika Banja Luka je najveći grad Republike Srpske i drugi grad po veličini u Bosni i Hercegovini, a mnogi ga smatraju jednim od njenih najljepših gradova. Ona prestavlja politički, administrativni, finansijski, univerzitetski i kulturni centar Republike Srpske.

Banja Luka je bezbjedna, humana i urbanu sredina zdravog života sa bogatim kulturnim i sportskim sadržajima, u kojoj se prepoznaju i valorizuju preduzetništvo, znanje i sposobnosti.

Smještena je u kotlini na 164 m nadmorske visine, na prelazu između Dinarskih planina na jugu i Panonskog bazena na sjeveru.

**Površina:** 1.239 km<sup>2</sup>

**Stanovništvo:** oko 250.000 (po popisu iz 1991 godine - 195.139)

**Koordinate:** 44°46' sjeverno 17°11' istočno

**Nadmorska visina:** 164 m

**Klima:** umjereno - kontinetalna (srednja godišnja temperatura – 10,7°C)

**Vremenska zona:** srednjoevropska (GMT+1)

**Telefonski kod:** +387 51

**Valuta:** Konvertibilna marka (KM)

**Poštanski broj:** 78 000

Klima u Banjoj Luci je umjereno kontinentalna, sa uticajima panonskog pojasa. Srednja godišnja temperatura je 10,7°C, srednja januarska 0,8°C, dok je srednja julска 21,3°C.

Banja Luku kao naseljeno mjesto pod ovim imenom prvi put pominje 1494. godine hrvatsko-ugarski kralj Vladislav. Samo ime znači "Banova livada", a potiče od riječi "ban" i "luka" (što je značilo područje blizu vode). Ne zna se o kojem se banu i livadi radi.

Zahvaljujući svojoj dugoj i vrijednoj istoriji, grad Banja Luka ima veoma bogato i raznoliko kulturno naslijeđe. U gradu se nalazi nekoliko muzeja, od kojih treba izdvojiti Muzej Republike Srpske, Etnografski muzej (osnovan 1930. godine), te Muzej savremene umjetnosti Republike Srpske.

Kulturnu ponudu u gradu čine i dvije pozorišne kuće sa vrijednom tradicijom: Narodno i Dječije pozorište, pozorište "Jazavac", kao i nekoliko kulturno-umjetničkih društava. Najistaknutiji folklorni ansamblji koji čine amatersku kulturnu scenu grada su CKUDM "Veselin Masleša" Banja Luka, RKUD "Pelagić" (1927), KUD "Čajavec" i KUD nacionalnih manjina.

U strogom centru grada, na obali rijeke Vrbas, nalazi se i banjalučki Kastel, dobro očuvano rimsко vojno utvrđenje (castra), unutar kojeg se i odvijao život rimskog vojnog naselja na gradskom području današnje Banje Luke.

Kastel je posebna gradska atrakcija Banja Luke, na kojem se tokom ljetnih mjeseci održavaju mnogobrojni koncerti, što gradu daje specifičan šarm. U Banjoj Luci se tokom godine održava veliki broj kulturnih i sportskih manifestacija. Tako je 2009. godine u Banjaluci održano Svjetsko prvenstvo u rafting. Najpoznatije tradicionalne manifestacije su "Ljeto na Vrbasu", "Kočićev zbor", "Banjalučko ljeto", "Neofest", "Kratkofil" i druge. Prva kafana otvorena je početkom XVII vijeka, znatno ranije nego u nekim velikim gradovima Evrope.

Simbol Banja Luke je rijeka Vrbas, koja kao mladi pastuv, jureći iz velikih planina Bosne, razmičući brda i poljubivši Banja Luku, svoj smiraj nalazi u Lijevču polju, sjedinivši se sa rijekom Savom.

Banja Luka je grad aleja lipa i kestenova (list kestena je zvaničan simbol grada) i kada ljeti vrućine zapeku, putnik namjernik može preći cijeli grad, a da ga sunce ne ogrije.

Banja Luka je nadalako poznata kao grad mladosti i sporta, a naročito po lijepim djevojkama.

Danas u Banja Luci aktivno rade 104 sportske organizacije u 19 granskih sportova, te 16 sportsko - rekreativnih društava i udruženja.

Veoma značajan resurs predstavljaju i termomineralne vode. U bližoj okolini Banja Luke se nalaze tri termomineralna izvora, čija su se ljekovita svojstva koristila još u antičkom periodu.

Zbog svojih specifičnosti Banja Luka je odavno je dobila naziv Krajiska ljetopisica.

Jedan banjalučki pjesnik u trenutku inspiracije napisao:

*"Ti si radost oka, moja topla luka*

*"Ti si san djetinjstva, moja Banja Luka"*

Dobro došli u Banja Luku, koja vas čeka otvorena srca.

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## About Banja Luka

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**Banja Luka** is a modern European city in the western part of Bosnia and Herzegovina, situated on the river Vrbas. It is the largest city in Republic of Srpska and the second largest in Bosnia and Herzegovina with the population of 250 000 people, and one of the most beautiful cities according to the majority. It is the political, administrative, financial, university and cultural centre of Republic of Srpska.

Banja Luka is safe, humane and urban area of healthy lifestyle with rich cultural and sports events, where business undertakings, knowledge and capability are recognized and valued.

It is located in the ravine at 164 m above the sea level, in the transition

belt between the Dinaric Alps in the south and the Pannonian basin in the north.

**Area:** 1.239 km<sup>2</sup>

**Population:** about 250.000 (according to the Population Register in 1991 - 195.139)

**Longitude:** 44°46' north 17°11' east

**Sea level:** 164 m

**Climate:** moderate continental (average temperature per year – 10.7°C)

**Time zone:** Central European Time (GMT+1)

**Telephone code:** +387 51

**Currency:** Convertible Marks (KM)

**Post code:** 78 000

The climate in Banja Luka is moderate continental, with the effects of the Pannonian basin. The average temperature per year is 10.7°C, in January 0.8°C, while in July the average is 21.3°C.

Banja Luka, as an inhabited place, was first mentioned under its name in 1494 by Vladislav, the King of Croatia and Hungary. The name means "Ban's meadow", and originates from the words "Ban" and "port" (which meant near water). It is not known whose Ban and meadow it is about.

Due to long and turmoil history, the city of Banja Luka has a very rich and diverse cultural heritage. There are several museums, among which the Museum of Republic of Srpska, the Ethnographic Museum (founded in 1930) and the Museum of Contemporary Art of Republic of Srpska.

Furthermore, the National Theatre and the Children's Theatre are the two theatres with a long tradition worth mentioning that make the culture flourish, and also the theatre "Jazavac", as well as a few Culture and Art Associations. The most prominent folklore ensembles, which make the amateur cultural scene of the city, are "Veselin Maslesa" Banja Luka, "Pelagic" (founded in 1927), "Cajavec" and the folklore ensemble of ethnic minorities.

There is a fortress in the city centre by the river Vrbas called Kastel, a well-preserved Roman military fortress (castra), where life of Roman military town used to be run on the present Banja Luka's city centre grounds. Kastel is a major city attraction, where lots of concerts are held in summer months, which give the city a special charm.

A large number of cultural and sports events have taken place in Banja Luka. Not to mention World championship in rafting that took place in Banja Luka in 2009. Banja Luka's well-known festivals are "Summer on the river Vrbas", "Kocic's gathering", "Banja Luka Summer Games", "Neofest", "International Short Film Festival" and others. The first coffee bar (kafana) was opened at the beginning of the 17th century, much earlier than in some of the European metropolitan cities.

The symbol of Banja Luka is the river Vrbas, like a young stud, rushing down the high mountains of Bosna, dividing hills and kissing Banja Luka, calming down in Lijevce valley, merging with the river Sava.

Banja Luka is a city of linden and chestnut tree avenues (chestnut leaf is an official symbol of the city) and even in the summer heat, a chance traveller can walk around the city without sun rays touching his shoulders.

Banja Luka is by far famous for its youth and sport, and above all beautiful girls.

There are 104 active sports organizations in 19 different sports, and 16 Sport and Recreation associations and organizations.

Thermal Mineral waters make a significant resource. There are three thermal mineral springs in the surroundings, whose healing effects have been used since the antique period.

Banja Luka has been given a nickname 'Krajina's beauty' because of its distinctiveness.

One of Banja Luka's poets wrote in the moment of inspiration:

*"You are joy to my eyes, my warm harbor*

*You are a dream of childhood, my Banja Luka"*

Welcome to Banja Luka, which awaits you with open arms.

# **FINALNI PROGRAM | Final Programme**

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**Petak, 25. Maj 2012. | Friday, May 25, 2012.**

10:00 – 18:00 Registracija učesnika | Registration of participants

## **Koncertna dvorana/ Concert hall**

**12:00 – 13:00 SVEĆANO OTVARANJE KONGRESA | Opening ceremony**

**13:00 – 14:00 UVODNA PREDAVANJA | Key lectures**

1. RETKE BOLESTI OČNOG DNA, BILO BI DOBRO ZNATI  
Prof. Dr Svetislav Milenković
2. CLINICAL PRESENTATIONS OF TEMPORAL ARTERITIS-HOW TO PREVENT BLINDNESS  
Prof. Dr Marko Hawlina
3. SILIKONSKO ULJE, NEŠTO ŠTO NISMOZNALI  
Prof. Dr Zoran Vatavuk

**14:00 – 15:30 KOKTEL DOBRODOŠLICE | Wellcome cocktail**

**15:30 – 18:00 KATARAKTA | Cataract Surgery**

**Moderatori:** Branislav Đurović, Suvad Karčić, Dragan Veselinović, Vahid Jusufović, Đoko Obućina

1. OČNA KLINIKA KC BANJALUKA: PROŠLOST, SADAŠNOST, BUDUĆNOST  
Dr Boško Amidžić
2. FAKOEMULZIFIKACIJA DANAS – IMA LI MESTA ZA FEMTOSEKOND?  
Prof. dr Branislav Đurović; pozivno predavanje
3. SPECIFIČNOSTI OPERACIJE DJEĆIJE KATARAKTE, PRIMARNA ILI SEKUNDARNA IMPLANTACIJA IOL  
Prof. dr Đoko Obućina; pozivno predavanje
4. ISTOVREMENA OPERACIJA KATARAKTE I GLAUKOMA  
Prof. dr Dragan Veselinović; pozivno predavanje
5. TRAUMATSKA KATARAKTA, PREDNOST FAKOEMULZIFIKACIJE  
Prim. Dr Verica Vukotić; pozivno predavanje
6. COMPLICATED CATARACT PHACOEMULSIFICATION – OUR EXPERIENCE  
Vladimir Draganić, Miroslav Vukosavljević, Petar Aleksić
7. LIFT AND CRACK PHACO TECHNIQUE FOR DENSE CATARACTS  
Anis Mededović, Vahid Jusufović, Jasmin Zvorničanin
8. SURGICAL MANAGEMENT OF THE CATARACT WITH ZONULAR WEAKNESS  
Zlatko Mušanović, Jasmin Zvorničanin
9. SURGICAL TREATMENT IN THE CASE OF BILATERAL ANIRIDIA WITH CONGENITAL CATARACT  
Suvad Karcic, Huda Hajjur Karcic, Sakovic-Racic
10. TREATMENT OF ANIRIDIA ASSOCIATED WITH INFANTILE CATARACT  
Allen Popović-Beganović, Meliha Halilbašić, Svjetlana Terzić, Edvina Spahić-Saračević
11. TORIC IOL – CASE REPORT OF DIFFICULT CALCULATION MODEL  
Jasmin Zvorničanin, Vahid Jusufović, Zlatko Mušanović
12. PATIENTS KNOWLEDGE ABOUT IOL  
Enesa Begović, Huda Hajjur Karčić, Suvad Karčić
13. SURGICAL PRINCIPLES IN TREATMENT OF UVEITIC CATARACT  
Meliha Halilbašić, Verica Vukotić

## **18:00 – 18:30 Alcon satelitski simpozijum | Alcon Satellite Symposium**

“Intraokularne leće napredne tehnologije”

1. Acrysof® IQ IOL – iskustva i postoperativni rezultati  
Mr sc. Dr med. Huda Hajir Karčić
2. Acrysof® IQ RESTOR® & Acrysof® IQ Toric – iskustva i postoperativni rezultati  
Prim. Dr Suvad Karčić
3. Acrysof® IQ TORIC – indikacije i primjena toričnih IOL u phaco hirurgiji  
Mr sc. Dr med. Zlatko Mušanović, Dr Jasmin Zvorničanin

## **19:00 KAFA | Coffee time**

### **Vijećnica/Hall**

## **15:30 – 16:30 NEUROOFTALMOLOGIJA | Neuroophthalmology**

*Moderatori:* Marko Hawlina, Branimir Cerovski, Antoaneta Adžić Zečević

1. DANAŠNJE GLEDIŠTE O OPTIČKOM NEURITISU  
Prof. dr Branimir Cerovski; pozivno predavanje
2. MULTIPLA SKLEROZA I VASKULITIS RETINE  
Doc. Dr Antoaneta Adžić Zečević; pozivno predavanje
3. OPTIC NEURITIS RELATED TO MULTIPLE SCLEROSIS  
Emina Alimanovic Halilovic, Enra Suljić, Ilda Alimanovic, Nabil Al Hassan, Orhan Cerić
4. KONGENITALNE ANOMALIJE OPTIČKOG DISKA  
Sonja Cekić, Zlatica Višnjić, Gordana Stanković Babić, Predrag Jovanović, Milena Vučanović
5. POSTTRAUMATIC BILATERAL CAROTID-CAVERNOUS FISTULAS-CASE REPORT  
Bojana Markić, Boško Amidžić, Milka Mavija, Dejan Vojčić, Željko Markić

## **16:30 – 18:00 OKULOPLASTIKA | Oculoplastic surgery**

*Moderatori:* Mirjana Janićijević Petrović, Petar Aleksić, Jasmina Alajbegović

1. LIČNO ISKUSTVO SA DEKOMPRESIJOM ORBITE – 39 SLUČAJEVA U JEDNOJ GODINI  
Doc. dr Miroslav Knežević; pozivno predavanje
2. ZNAČAJ I MOGUĆNOSTI SAVREMENE MEDICINSKE OČNE PROTETIKE I OKULOPLASTIČNE-REKONSTRUKTIVNE HIRURGIJE U REHABILITACIJI ANOFTALMIČNIH PACIJENATA  
Dr sc. Miroljub Bogdanović; pozivno predavanje
3. REKONSTRUKTIVNA HIRURGIJA ANOFTALMIČKE ORBITE  
Mr sc. Dr Zoran Žikić; pozivno predavanje
4. 118 ENUCLEATIONS, EVISCERATIONS AND ORBITAL EXENTERATIONS – A TWO-YEAR PERSONAL EXPERIENCE  
Dejan M. Rašić, Miroslav Knežević
5. ENDOSCOPIC ENDONASAL INSTRUMENTAL AND TRANSCANALICULAR LASER-ASSISTED DACRYOCYSTORHINOSTOMIES VS. CONVENTIONAL EXTERNAL APPROACH – A TWO-YEARS PERSONAL EXPERIENCE  
Miroslav Knežević, Gordana Vlajković, Dejan Rašić
6. OCULAR ADNEXAL SURGERY – TWO SURGEONS, TWO YEARS, SINGLE INSTITUTION  
Dejan M. Rašić, Miroslav Knežević
7. POST-EXCISIONAL RECONSTRUCTION IN TUMOUR SURGERY OF THE EYELIDS AND PERIOCULAR REGION  
Zoran Žikić, Miroljub Bogdanović

8. COMPLICATIONS OF POOR SURGICAL TECHNIQUE IN ENUCLEATION, EVISCERATION AND ORBITAL IMPLANTATION  
Miroslav Bogdanović, Zoran Žikić

**18:00 – 18:30 Gamma medicina satelitski simpozijum  
Gamma medicina Satellite Symposium**

Gamma Medicina/FCI-France Chirurgie Instrumentation: Medicinska sredstva za okuloplastičnu hirurgiju, vitreo-retinalnu i hirurgiju glaukoma  
Dr sc. med. Miroslav Bogdanović, Mr sc. Dr med Zoran Žikić

**18:30 – 19:00 Prezentacija monografija/ New book**

ATLAS OPTIČKE KOHERENTNE TOMOGRAFIJE  
Doc. Dr Sanja Sefić Kasumović, Doc. Dr Suzana Pavljašević Nikolić, Dr sc. Lala Čeklić

**Subota, 26. maj 2012. | Saturday, May 26, 2012.**

10:00 – 16:00 Registracija učesnika | Registration of participants

**Koncertna dvorana/Concert Hall**

**09:00 – 11:30 GLAUKOM | Glaucoma**

*Moderatori:* Paraskeva Hentova Senčanić, Vesna Dimovska, Zdravko Mandić, Petar Aleksić,  
Sanja Sefić Kasumović, Vujica Marković

1. PREPOZNAVANJE PROGRESIJE GLAUKOMA  
Prof. dr Paraskeva Hentova Senčanić; pozivno predavanje
2. STEREOBIOMIKROSKOPSKA EVALUACIJA OPTIČKOG NERVA I SLOJA RETINALNIH NERVNIIH VLAKANA  
Doc. Dr Sanja Sefić Kasumović; pozivno predavanje
3. KOMPLIKACIJE VEZANE ZA MORFOLOGIJU BLEB-A KOD HIRURGIJE GLAUKOMA  
Prof. dr Vesna Dimovska; pozivno predavanje
4. SINDROM CLEAVAGE PREDNJE KMORE I GLAUKOM  
Doc. Dr Vujica Marković; pozivno predavanje
5. SELEKTIVNA LASERTRABEKULOPLASTIKA U POREĐENJU SA ARGONLASER TRABEKULOPLASTIKOM KOD TERAPIJE GLAUKOMA OTVORENOG UGLA  
Prof. dr Petar Aleksić; pozivno predavanje
6. KONTROVERZE PREPERIMETRIJSKOG GLAUKOMA  
Prof. Dr Predrag Jovanović; pozivno predavanje
7. EARLY DETECTION OF GLAUCOMA: GLAUCOMA WORLD DAY-SCREENING  
Merita Lika-Pranjić, Sanida Ljajević, Emina Alimanović-Halilović,  
Harun Lepara, Emir Gorcević
8. GLAUCOMA SCREENING IN BANJA LUKA REGION  
Žaklina Unčanin, Milka Mavija
9. POSTOPERATIVNA EVALUACIJA KAPSULARNIH GLAUKOMA  
Mirjana Kisjan
10. THE RESULTS OF PRIMARY CLOSURE ANGLE GLAUCOMA MANAGEMENT ON INTRAOCULAR PRESSURE  
Sanida Ljajević, Merita Lika-Pranjić, Emina Alimanović-Halilović,  
Harun Lepara, Emir Gorcević

## **11: 30 – 11:45 Kafe pauza | Coffee break**

### **11:45 – 13:45 VITREORETINALNA HIRURGIJA Vitreoretinal surgery**

*Moderatori:* Ivan Stefanović, Miroslav Vukosavljević, Zoran Vatavuk, Vasilije Misita, Vahid Jusufović, Miroslav Stamenković

1. Hirurško zbrinjavanje gigantskih ruptura retine  
Prof. Dr Ivan Stefanović; pozivno predavanje
2. Mikroinciziona bešavna zadnja vitrektomija, hirurgija 21 veka?  
Prof. dr Miroslav Vukosavljević; pozivno predavanje
3. Vitrektomije i operacije katarakte u jednom aktu – za i protiv  
Doc. Dr Vahid Jusufović; pozivno predavanje
4. Hirurgija intrabulbarnih stranih tijela nekad i danas  
Prof. dr Vasilije Misita; pozivno predavanje
5. Actual treatment of rhegmatogenous retinal detachment  
Prof. dr Slobodanka Latinović; pozivno predavanje
6. SINDROM UVEALNE EFUZIJE, NAČINI RJEŠAVANJA  
Prof. Dr Zoran Vatavuk
7. Decentracija i dislokacija intraokularnih sočiva  
Dr sc. Miroslav Stamenković; pozivno predavanje
8. EFFICACY OF PNEUMORETINOPEXY WITH SF6 IN PATIENTS WITH RHEGMATOGENOUS RETINAL DETACHMENT  
Suvad Karcic, Huda Hajjur Karcic
9. WHY WERE WE LATE?  
Vahid Jusufović, Zlatko Mušanović, Jasmin Zvorničanin
10. PPV AND ANTERIOR SEGMENT RECONSTRUCTION IN BLUNT OCULAR TRAUMA  
Faruk Nišić, Samir Turković, Emina Alimanović, Emir Gorčević

## **13:45 – 15:15 Pauza za ručak | Lunch time**

### **15:15 – 17:45 PREDNJI SEGMENT | Anterior segment**

*Moderatori:* Ljubiša Nikolić, Milenko Stojković, Emina Alimanović Halilović, Đoko Obućina, Marina Horvatić Obradović

1. IZBOR OPERATIVNOG METODA TRANSPLANTACIJE ROŽNJAČE  
Prof. dr Ljubiša Nikolić; pozivno predavanje
2. HIRURŠKA REŠENJA KOJA MOGU DA ODLOŽE ILI ZAMENE ALOGENU TRANSPLANTACIJU ROŽNJAČE  
Doc. Dr Milenko Stojković; pozivno predavanje
3. AKUTNI KONJUNKTIVITISI KROZ EPIDEMIJE  
Prof. dr Mirjana Janićijević Petrović; pozivno predavanje
4. SUVO OKO – DIJAGNOSTIČKE I TERAPIJSKE MOGUĆNOSTI  
Doc. Dr Gordana Stanković Babić; pozivno predavanje
5. SAVREMENA TERAPIJA I PROFILAKSA NEONATALNOG KONJUNKTIVITISA  
Prim. Dr Marina Horvatić Obradović; pozivno predavanje
6. A SUCCESSFUL TREATMENT OF CORNEAL ULCUS WITH PROPAGATION TO ENDOPHTHALMITIS IN A GIRL WEARING RIGID GAS PERMEABLE CONTACT LENSES  
Emina Alimanović Halilović, Nedžmija Nedžmija Pačuka Saračević, Mirsad Ibišević

7. AUTOLOGOUS FREE ORAL MUCOSAE GRAFT AS BY – PASS OF CONJUNCTIVAL FORNIX WITH NOSE  
Mirsad Ibišević, Emina Alimanović Halilović, Vesna Jurišić Friberg, Nabil Al-Hassan, Edita Dervišević, Azra Gutošić
8. EFFECT OF ACETAZOLAMIDE ON CENTRAL CORNEAL THICKNESS AFTER PHACOEMULSIFICATION IN SPECTRAL DOMAIN OPTICAL COHERENT TOMOGRAPHY  
Zihret Abazi, Lidija Magarašević, Miroslav Stamenković, Dušica Risović, Ranko Gvozdenović
9. THE ROLE OF HIGH RESOLUTION SPECTRAL DOMAIN OPTICAL COHERENCE TOMOGRAPHY IN CORNEAL DYSTROPHY AND DEGENERATION  
Zihret Abazi, Lidija Magarašević, Miroslav Stamenković, Dušica Risović, Ranko Gvozdenović
10. NECROTIZING FASCIITIS: CASE REPORT  
Tanja Petrović, Miroslav Radojcic
11. CONJUNCTIVAL AUTOGRAFTING WITH FIBRIN GLUE FOLLOWING PTERYGIUM EXCISION – OUR FIRST EXPERIENCE  
Darko Ler, Ibrahim Pačo, Baralić Jozica, Jasna Mušović-Bejtić

### **17:45 – 18:00 Kafe pauza | Coffee break**

### **18:00 – 18:45 TUMORI OKA | Ocular tumors**

*Moderatori:* Anica Bobić Radovanović, Miloš Jovanović, Miroslav Knežević

1. HIRURŠKO LEČENJE INTRAOKULARNIH MELANOMA NA KLINICI ZA OČNE BOLESTI U BEOGRADU  
Prof. dr Miloš Jovanović; pozivno predavanje
2. REĐI TUMORI KAPAKA  
Prof. dr Anica Bobić Radovanović; pozivno predavanje
3. CHEMOREDUCTION AND DEFINITIVE TREATMENT OF CONJUNCTIVAL AND CORNEO-CONJUNCTIVAL NEOPLASIA  
Mirsad Ibišević, Emina Alimanović-Halilović, Nedžmija Saračević, Faruk Nišić, Merita Pranić, Slavenka Marković, Vesna Jurišić Friberg

### **20:30              Svečana večera, Restoran Integra                           Gala dinner, Restaurant Integra**

### **Vijećnica/Hall**

### **09:00 – 11:30 MEDIKAL RETINA | Medical retina**

*Moderatori:* Svetislav Milenković, Natalija Kosanović-Jaković, Emina Alimanović Halilović, Milka Mavija, Vesna Jakšić

1. MEDIKAL RETINA U KC BANJALUKA DANAS  
Doc. Dr Milka Mavija; pozivno predavanje
2. TECHNIQUES OF CLINICAL APPLICATION OF PHOTOCOAGULATION AND PHOTODISRUPTORS IN OPHTHALMOLOGY  
Prof. dr Emina Alimanović Halilović; pozivno predavanje
3. ANTERIOR ISCHAEMIC OPTIC NEUROPATHY ASSOCIATED WITH METABOLIC SYNDROME  
Prof. dr Natalija Kosanović Jaković; pozivno predavanje
4. Nisu svi edemi makule isti – kako ih razlikovati  
Doc. Dr Vesna Jakšić; pozivno predavanje

5. DIJABETIČKA RETINOPATIJA – NOVI BIOMARKER RIZIKA  
Doc. Dr Milka Mavija; pozivno predavanje
6. DIJABETIČKA RETINOPATIJA I DIJABETIČKA POLINEUROPATIJA – POSTOJI LI VEZA ILI...  
Doc. Dr Suzana Pavljašević; pozivno predavanje
7. ANTI-VEGF THERAPY – LAST SOLUTION FOR RESIDUAL DIABETIC MACULAR EDEMA  
Vladislav Džinić, Miroslav Dzinić
8. NALAZ NA OČNOM DNU PRILIKOM POSTAVLJANJA DIJAGNOZE DIABETES MELLITUSA TIP 2  
Nada Avram
9. NON STEROIDAL ANTI -INFLAMMATORY DRUGS FOR PROPHYLAXIS OF CYSTOID MACULAR EDEMA IN HIGH RISK DIABETIC PATIENTS UNDERGOING CATARACT SURGERY  
Moataz El Sawy, Mohamed Mahmoud
10. NOVOSTI U LIJEČENJU DIJABETIČKOG MAKULARNOG EDEMA  
Ratimir Lazić, Ivan Boras, Marko Vlašić, Nataša Drača, Nikica Gabrić
11. PRIMJENA ANTI – VEGF TERAPIJE KOD CENTRALNE SEROZNE RETINOPATIJE (CSR)  
Nataša Drača, Ratimir Lazić, Ivan Boras, Marko Lukić, Nikica Gabrić
12. THE SIGNIFICANCE OF LUTEIN WITH ZEAKSANTIN IN TERTIARY PREVENTION OF DIABETIC COMPLICATIONS IN EYE AND THERAPY  
Azra Drino Čaušević, Admira Dizdarević

## **11: 30 – 11:45 Kafe pauza | Coffee break**

### **11:45 – 12:15 Novartis satelitski simpozijum Novartis satellite symposium**

Lucentis – revolucionaran u tretmanu eksudativne AMD

1. SENILNA MAKULARNA DEGENERACIJA – NEKAD I SAD  
Doc. Dr Milka Mavija
2. LUCENTIS U TERAPIJI SENILNE MAKULARNE DEGENERACIJE  
Assist. Dr Dijana Risimić – KCS Beograd, Srbija

### **12:15 – 13:15 kurs: INTRAVITREALNA TERAPIJA Intravitreal therapy**

1. INTRAVITREALNA PRIMENA STEROIDA U LEĆENJU RETINALNIH OBOLJENJA  
Doc. dr Nenad Petrović
2. INTRAVITREALNA PRIMENA ANTI VEGF U LEĆENJU RETINALNIH OBOLJENJA  
Assist. Dr Dijana Risimić
3. EVALUACIJA INTRAVITRELNO PRIMENJENJE TERAPIJE UZ POMOĆ OCT-A  
Doc. Dr Vesna Jakšić
4. INTRAVITREALNA PRIMENA ANTIINFLAMATORNIH LEKOVA U LEĆENJU OBOLJENJA ZADNJEG SEGMENTA OKA  
Assist. Dr Tatjana Šarenac “

### **13:15 – 13:45 Alcon satelitski simpozijum Alcon satellite symposium**

“SYSTANE® ULTRA kapi za ovlaživanje oka – Suho oko”

Doc. Dr Sanja Sefić-Kasumović

## **13:45 – 15:15 Pauza za ručak | Lunch time**

### **15:15 – 16:15 REFRAKTIVNA HIRURGIJA | Refractive surgery**

*Moderatori:* Mirko Jankov, Slobodanka Latinović, Gordana Suvajac

1. REFRAKTIVNA HIRURGIJA EGZAJMER LASEROM: LASIK ILI POVRSNE ABLACIJE – STA JE BOLJE ZA MOG PACIJENTA?  
Dr sc. Mirko Jankov; pozivno predavanje
2. POSSIBLE DISORDERS OF BINOCULAR VISION AFTER REFRACTIVE SURGERY – LASIK  
Mr sc. Dr Gordana Suvajac; pozivno predavanje
3. NEW SUPRACOR PRESBY – LASIK IN HYPEROPIC PATIENTS  
Slobodanka Latinović, Bojan Pajić, George Muller
4. TORIC MULTIFOCAL INTRAOCCULAR LENS FOR CORRECTION OF PRESBYOPIA AND ASTIGMATISM  
Ante Barišić, Nikica Gabrić, Iva Dekaris, Maja Bohač, Branka Jurić
5. RETINAL PERIPHERAL DEGENERATION AND LASIK  
Tamara Samardžić, Vladimir Suvajac, Vesna Novaković
6. LASIK OR PRK IN GLAUCOMA SUSPECTS?  
Željka Jojić, Kristina Savić, Jovana Suvajac
7. MODERN APPROACHES IN REFRACTIVE SURGERY  
Maja Bohač, Marija Antičić, Alma Biscevic, Nikica Gabric
8. POBOLJŠANJE VIDNE OŠTRINE NAKON LASIK-A KOD PACIJENATA SA ANIZOMETROPSKOM AMBLOPIJOM  
Melisa Ahmetbegović-Pjano, Bojan Kozomara, Maja Bohač, Amila Alikadić-Husović, Nikica Gabrić
9. KERATOKONUS I MOGUĆNOSTI LIJEČENJA  
Bojan Kozomara, Nikica Gabrić, Maja Bohač, Ernesta Potkonjak, Risto Kozomara,
10. REFRAKTIVNA HIRURGIJA U KLINICI SVJETLOST BANJA LUKA OD 2008-2012. GODINE  
Ernesta Potkonjak, Bojan Kozomara, Nebojša Đogatović, Maja Bohač, Nikica Gabrić

### **16:15 – 16:45 Pfizer satelitski simpozijum**

#### **Pfizer satellite symposium**

Izazovi i rješenja u liječenju glaukoma

1. PROSTAGLANDINI U LIJEČENJU GLAUKOMA  
dr Žaklina Unčanin
2. XALATAN ZLATNI STANDARD U LIJEČENJU GLAUKOMA  
Prim. dr Mirjana Kisijan

### **16:45 – 17:45 kurs: SVE O KERATOKONUSU | Keratoconus**

1. KLINIČKA SLIKA KERATOKONUSA  
Prim. dr Marina Horvatić Obradović
2. TOPOGRAFSKA SLIKA KERATOKONUSA  
Dr Katarina Janković Terzić
3. KOREKCIJA KERATOKONUSA KONTAKTNIM SOCIVIMA  
Dr Vesna Dzambasanović
4. CORNEAL CROSS LINKING  
Dr Sladjana Delević
5. HIRURSKO LECENJE KERATOKONUSA  
Prof.dr Slobodan Golubović

**17:45 – 18:00 Kafe pauza | Coffee break**

**18:00 – 18:30 Unimed satelitski simpozijum  
Unimed satellite symposium**

SUVREMENI PRISTUP MEDIKAMENTOZNOM LIJEČENJU GLAUCOMA  
Prof. dr Zdravko Mandić

**20:30 Svečana večera, Restoran Integra  
Gala dinner, Restaurant Integra**

**Nedelja, 27.maj 2012. | Sunday, May 27, 2012.**

**Koncertna dvorana/Concert Hall**

**10:00 – 11:45 STRABIZAM I AMBLIOPIJA  
Strabismus and Amblyopia**

**Moderatori:** Jasmina Alajbegović Halimić, Branislav Stanković, Vladimir Čanadanović

1. STRUKTURALNE PROMJENE NA EKSTRAOKULARnim MIŠIĆIMA  
Doc. Dr Jasmina Alajbegović Halimić; pozivno predavanje
2. DA LI SU PEDIG STUDIJE UTICALE NA MOJ PRISTUP LEČENJU AMBLIOPIJE?  
Doc. dr Branislav Stanković; pozivno predavanje
3. REFRAKCIjONE ANOMALIJE I SLABOVIDOST U DEČIJOJ DOBI  
Doc. Dr Vladimir Čanadanović; pozivno predavanje
4. SURGICAL APPROACH TO STRABISMUS TREATMENT  
Jasmina Alajbegović Halimić
5. ANISOHYPERMETROPIC AMBLYOPIA – DO WE TREAT AFTER TEN YEARS OF AGE?  
Ljutica Milorad, Branko Stankov, Đoko Obućina, Nebojša Nikitović,  
Miroslav Stamenkovic
6. ULOGA NASLJEDNOG FAKTORA U NASTANKU STRABIZMA  
Vinko Regoda, Branko Stankov, Miško Ljutica, Đoko Obućina
7. UNILATERAL SIXTH CRANIAL NERVE PALSY – THERAPEUTIC POSSIBILITIES AND  
DILEMMAS-CASE PRESENTATION  
Milorad Ljutica, Branko Stankov, Nebojša Nikitović
8. ZNAČAJ OPTIČKE KOREKCIJE I OKLUZIJE U LIJEČENJU UNILATERALNE MIOPIJE  
Vinko Regoda, Branko Stankov, Miško Ljutica, Đoko Obućina
9. APPLICATION CONTACT LENSES IN PREVENTION OF VISUAL IMPAIEMENT AND  
BLINDNESS  
Edvina Spahić- Saračević

**11:45 – 12:00 Kafe pauza | Coffee break**

**12:00 – 12:45 Skupština Udruženja oftalmologa Republike Srpske  
i Udruženja oftalmologa u Federaciji BiH  
Assembly of Association of Ophthalmologists RS & BiH**

**12:45 Zatvaranje kongresa | Closing ceremony**

## *Vijećnica/Hall*

### **10:00 - 11:00 DJEČIJA OFTALMOLOGIJA | Pediatric Ophthalmology**

*Moderatori: Đoko Obućina, Ana Oros; Suzana Pavljašević*

1. SAVREMENA TERAPIJA RETINOPATIJE PREMATURITETA  
Prof. dr Ana Oros; pozivno predavanje
2. AGGRESSIVE POSTERIOR RETINOPATHY OF PREMATURITY  
Jelica Pantelić, Ana Oros, Aleksandra Radosavljević, Jasna Rebić
3. TEN YEARS OF EXPERIENCE IN THE TREATMENT OF ROP IN MONTENEGRO  
Sanja Borović, Ana Oros, Lidija Banjac
4. NEONATALNI APSCES ORBITE (PRIKAZ SLUČAJA)  
Ljilja Solomun, Jelica Predojević-Samardžić, Dragica Jojić, Dejan Đurđević, Milka Mavija

### **11:00 - 11:45 SESTRINSKA SESIJA | Nursing session**

*Moderatori: Daliborka Kuzmanović, Naza Mujkić, Mirsada Hodžić*

1. ORGANIZACIJA RADA NA KLINICI ZA OCNE BOLESTI BANJA LUKA  
Daliborka Kuzmanovic
2. ORGANIZACIJA RADA NA KLINICI ZA OČNE BOLESTI  
Dizdarević, Amela
3. CLASSIFICATION OF HOSPITALIZED PATIENTS  
Naza Mujkić, Biljana Sekulić, Fejzić Dijana
4. VAŽNOST KOMUNIKACIJE U RADU MEDICINSKIH SESTARA-TEHNIČARA  
Mirsada Hodžić, Klinika za očne bolesti, BiH (Federacija BiH)
5. COMMUNICATION WITH BLIND PERSONS  
Azra Kuduzović, Naza Mujkić, Biljana Sekulić
6. DAY-SURGERY BENEFIT  
Zumra Brkić, Naza Mujkić, BiH, Biljana Sekulić
7. ULOGA MEDICINSKE SESTRE PRI APLIKACIJI LIJEKA  
Azra Imamovic
8. NEURITIS,ATROPHY OF THE PAPILLAE NERVI OPTICS,TUMORS  
Sanelia Pašalić
9. OCT U DIJAGNOSTICI GLAUKOMA  
Amer Smajić

### **11:45 - 12:00 Kafe pauza, preuzimanje sertifikata**

**Coffee break, Certification**



## **USMENE PREZENTACIJE**

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# KATARAKTA

## TRAUMATSKA KATARAKTA, PREDNOST FAKOEMULZIFIKACIJE

*Predavanje po pozivu*

**Verica Vukotić**, UKC Tuzla, BiH (Federacija BiH)

### Apstrakt

Traumatska katarakta je česta dijagnoza na Očnoj klinici u Tuzli. U periodu od 2010-2011. godine od ukupnog broja operisanih katarakti, na traumatsku otpada preko 3% i nazalost procenat je iz godine u godinu sve veći. Od ukupnog broja operisanih trećinu čine traumatske katarakte koje su anamnestički imale uzrok traumu sa ili bez subluksacije leće, a ostali dio su katarakte nastale kao posljedica kontuzije ili penetracije bulbusa, zbrinute kao hitna stanja. Za vitreoretinalnim tretmanom uz operaciju katarakte fakoemulzifikacijom, imalo je potrebu skoro polovina pacijenata. Kao što je način povredjivanja oka raznolik tako je i sam pristup zbrinjavanja traumatske katarakte različit od slučaja do slučaja i zahtjeva vještog hirurga i savremene tehnike oftalmohirurgije. Pravilo u rješavanju traumatskih katarakte je da - nema pravila, svakom pacijentu se pristupa individualno u odnosu na kompleksnost povrede. Posebna paznja se mora obratiti na dobru anamnezu, adekvatnu i potpunu dijagnostiku te je neophodno prije samog hirurškog zbrinjavanja upoznati pacijenta o tezini povrede i rezultatima koji se očekuju. Sama operacija i nespecifičnost u njenom rješavanju je svakako i veliki izazov za hirurga i zahtjeva prije svega dobro osmišljeni plan operacije, a iznenadjenja koja su česta u toku operativnog zahvata, zahtjevaju iskusnog hirurga ili hirurški tim. Na našu kliniku često dolaze pacijenti sa svjezom traumom oka, traumatskom kataraktom i perforativnim povredama, primarno zbrinuti u drugim oftalmološkim kućama. U video prikazu takve jedne operacije, htjeli smo još jedanput podsjetiti koliko je bitna dobra primarna hirurška obrada perforativne rane bulbusa, propaćena potpunom oftalmološkom dokumentacijom i bar osnovnom dostupnom dijagnostikom, a metoda fakoemulzifikacije u zbrinjavanju traumatske katarakte pokazuje ogromnu prednost u odnosu na ekstrakapsularnu ekstrakciju leće.

# **COMPLICATED CATARACT PHACOEMULSIFICATION – OUR EXPERIENCE**

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**Vladimir Draganić**, Klinika za očne bolesti VMA, Srbija  
**Miroslav Vukosavljević**, Klinika za očne bolesti VMA, Srbija  
**Petar Aleksić**, Klinika za očne bolesti VMA, Srbija

## **Apstrakt**

**Aim:** To present surgical techniques for managing most difficult cases in cataract surgery.

**Materials and Methods:** We present results of 225 consecutive patients (i.e. eyes) that underwent phacoemulsification for complicated cataract in year 2011. Exfoliation syndrome was found in the vast majority of these patients (187 eyes), with different degree of zonular loss and lens instability. Phacoemulsification for uveitic cataract was performed in 29 eyes, and for traumatic cataract in 9 eyes.

**Results:** Postoperative visual acuity results were ranging from 0.2 to 1.0 in exfoliation syndrome complicated cataract subgroup. Capsular tension ring was implanted in 22 of these eyes, and no major intraoperative complications occurred. Low postoperative visual acuity was found in eyes with non-cataract related pathology, e.g. age related macular degeneration, advanced glaucoma etc. In uveitic cataract subgroup postoperative visual acuity results were ranging from counting fingers to 1.0, again depending on coexisting pathology (chronic macular edema, secondary glaucoma, etc.).

**Conclusions:** Though postoperative visual acuity is not always satisfactory due to coexisting pathology in patients with complicated cataract, most of these eyes nowadays can be managed very successfully. High technology, novel ophthalmic materials and adequate surgical technique, make even complicated cataract surgery safe, with zero or very low complication rate.

**Ključne riječi:** complicated cataract; phacoemulsification; exfoliation syndrome; uveitic cataract

## LIFT AND CRACK PHACO TECHNIQUE FOR DENSE CATARACTS

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**Anis Međedović**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

**Vahid Jusufović**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

**Jasmin Zvorničanin**, Klinika za očne bolesti UKC Tuzla

### **Apstrakt**

**Purpose:** To present new phacoemulsification technique "Lift and Crack".

**Methods:** "Lift and Crack" technique is modified "Chop" phaco technique which is intended for dense cataracts and risky cases. In this technique phaco tip is used for nucleus elevation in pupil plane with vacuum and no ultrasound use. In further part of operation chopper is used to segment the nucleus centripetally, without applying stress to the capsular bag or zonules. We operated 50 cases of dense cataracts grade 3, 4 and 4+. There were no cases with other ocular or systemic diseases included. Average visual acuity before the operation was 0,08. All operations were made in Eye Clinic UCC Tuzla.

**Results:** There were no cases of capsule rupture, only 1 case of zonular dehiscence. Postoperative visual acuity at third control (4 weeks after the operation) improved to 0,8. Postoperative corneal edema and keratitis were persistent in 1 case and solved in the following 2 weeks.

**Conclusion:** "Lift and Crack" phaco technique is safe and efficient method for operation of dense cataracts.

**Ključne riječi:** Lift and Crack; phacoemulsification technique; dense cataract

## SURGICAL MANAGEMENT OF THE CATARACT WITH ZONULAR WEAKNESS

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**Zlatko Mušanović**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

**Vahid Jusufović**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

**Jasmin Zvorničanin**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

### **Apstrakt:**

**Objective:** The study objective is to review the management (cataract phaco surgery and intraocular lens implantation of displaced lens) caused by zonular weakness.

**Purpose:** Traumatic lens displacements and pseudoexfoliation syndrome are the most common causes of zonular weakness. Inherited causes for zonular weakness and hence lens instability, includes Marfan's syndrome,

homocystinuria, Weill-Marchesani syndrome, microspherophakia, retinitis pigmentosa and lens coloboma. A hypermature cataract, post- vitrectomized eye and intraocular neoplasms are other causes of zonular weakness. Phacoemulsification is usually the procedure of choice for patients with zonular dehiscence.

**Method:** It is a case of a patient who has suffered head injury in childhood in temple area, patient did not have any subjective visual difficulties until 5 months ago, when she noticed a decline in vision acuity. Preoperatively eye status was cataract with zonular weakness, iridodonesis and iridodysis. Videos case with catarctous subluxated lenses and zonular loss are presented.

**Conclusions:** The capsular tension ring was implanted successfully patient eye. After several follow-ups we did not notice signs of intraocular lens decentration or extrusion of the ring through the bag. Capsular tension rings reduce the risk of intraoperative and postoperative complications and improve patient outcomes.

**Ključne riječi:** capsular tension ring; zonular weakness; cataract surgery

## **SURGICAL TREATMENT IN THE CASE OF BILATERAL ANIRIDIA WITH CONGENITAL CATARACT**

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**Suvad Karcic**, Eye Clinic Sarajevo, BiH (Federacija BiH)

**Huda Hajjur Karcic**, Eye Clinic Sarajevo, BiH (Federacija BiH)

**Adisa Sakovic-Racic**, Eye Clinic Sarajevo, BiH (Federacija BiH)

### **Apstrakt**

**Aim:** To show our approach to the surgical treatment in the case of bilateral aniridia with congenital cataract.

**Methods:** Phacoemulsification with multifocal intraocular lens implantation was performed, and then artificial Iris was implanted trough the same incision without suture.

**Results:** Ten days after the surgery visual acuity of both eyes was 0,20 and intra-ocular pressure 16 mm Hg. Three months after visual acuity was 0,30 and intra-ocular pressure 17 mm Hg

**Conclusion:** Our approach to the surgical treatment in the case of bilateral aniridia with congenital cataract was successful.

**Ključne riječi:** aniridia; congenital; cataract

# TREATMENT OF ANIRIDIA ASSOCIATED WITH INFANTILE CATARACT

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Allen Popović-Beganović, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

Meliha Halilbašić, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

Svetlana Terzić, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

Edvina Spahić-Saračević, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

## Apstrakt

**Purpose:** To present possible treatment options for congenital aniridia with special emphasis on literature review on current therapeutic possibilities, assessment of safety and efficacy primary black diaphragm aniridia intraocular lens (IOL) implantation. Special attention was given to IOL power calculation dependent on axial length.

**Methods:** Case report. 5 year old boy was presented at eye clinic University clinical center Tuzla with aniridia in both eyes, developed eye vision (VOD:0,2 and VOS:0,5), no nystagmus or strabismus, associated with infantile cataract in right eye. It is a case of familiar aniridia, mother and grandmother are affected. Patient underwent eye examination in general anesthesia were aniridia associated with infantile developmental cataract and incipient keratopathy were found.

**Results:** Cataract extraction with a foldable acrylic diaphragm IOL implantation is successfully used to correct aniridia in patients with congenital aniridia and infantile cataract. IOL calculation is dependent on age and axial length. Special attention should be given to posterior capsule opacification prevention with posterior capsulorexis and possible anterior vitrectomy.

**Conclusions:** Cataract extraction with diaphragm IOL implantation can be used to correct aniridia with significant visual functioning improvement. Amblyopia can be prevented with appropriate cataract extraction timing and correct IOL calculation. Esthetic results are satisfactory and photophobia is reduced to minimum.

**Ključne riječi:** aniridia; infantile cataract; black diaphragm IOL

# **TORIC IOL – CASE REPORT OF DIFFICULT CALCULATION MODEL**

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**Jasmin Zvorničanin**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

**Vahid Jusufović**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

**Zlatko Mušanović**, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

## **Apstrakt**

**Purpose:** To present a case of difficult toric-IOL calculation and present possible solutions for solving high irregular corneal astigmatism in keratoconus. Upon adapted IOL calculation cataract extraction with a foldable acrylic toric-IOL implantation was used in order to correct irregular corneal astigmatism in patient with keratoconus and cataract.

**Methods:** CASE REPORT AND VIDEO PRESENTATION. 46-year-old man with cataract and keratoconus in the both eyes presented to Eye clinic University clinical center Tuzla. Patient underwent phacoemulsification with a toric-IOL (Acrysof SN60T9; cylinder power: 6.0D) implantation. Postoperative follow-up was 3 months.

**Result:** Uncorrected visual acuity (UCVA) improved from 0,01 to 0,8. The refractive cylinder decreased from -7,3 to -1.0 D.

**Conclusions:** Cataract extraction with toric-IOL implantation can be used to correct irregular astigmatism and can significantly improve visual functioning in patients with mild to moderate amounts of stable keratoconus and cataract.

**Ključne riječi:** astigmatism; phacoemulsification; toric-IOL

## **PATIENTS KNOWLEDGE ABOUT IOL**

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**Enesa Begović**, Poliklinika, BiH (Federacija BiH)

**Suvad Karčić**, Poliklinika, BiH (Federacija BiH)

**Huda Hajir Karčić**, Poliklinika, BiH (Federacija BiH)

## **Apstrakt**

**Introduction:** After ophthalmological examination, ophthalmologist and the patient, choose IOL for intraocular implantation during cataract surgery, taking in consideration patient's daily routine.

**Aim:** Determine patient's knowledge about IOL that were implanted during cataract surgery.

**Patients and method:** Patients that underwent cataract surgery in Poly-clinic „Oko“ dr Karcic since its' opening until present time. Method of obtaining data: survey.

**Results and conclusion:** Patients inform themselves about cataract surgery:

- with ophthalmologists (97, 14%)
- with a friend or an acquaintance that underwent cataract surgery (48, 57%)
- with a member of personnel in ophthalmological practice – a nurse, a secretary, etc. (8, 57%)
- through mass media (5, 71%)
- specialists other than ophthalmologists (2, 85%).

The key role in informing the patient was played by ophthalmologists (57,15%) and former patients that underwent cataract surgery (31, 43%). Patients are mostly aware about the price (57, 14%), optical characteristics (42, 85%) and the manufacturer of the lens (25, 71%). 42, 85% of patients were not aware of a single property of an IOL. 65, 72% of patients considered the possibility that they would be glasses-free after their cataract surgery. 91, 42% of patients are content with their visual acuity after their cataract surgery.

Amongst patients that wear eye glasses, 96, 77% of them are not dissatisfied that they have to wear eye glasses after undergoing cataract surgery. Patients are not informed enough about different types of IOLs.

Although they are mostly satisfied with their postoperative condition, it is necessary to provide them with written information, to improve personnel knowledge in ophthalmological practices, in family health centers, and use media as a mean of speaking to patients towards their better knowledge about IOLs.

**Ključne riječi:** knowledge; IOL; cataract surgery;

## **SURGICAL PRINCIPLES IN TREATMENT OF UVEITIC CATARACT**

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Meliha Halilbašić, JZU UKC Tuzla,Klinika za očne bolesti, BiH (Federacija BiH)  
Verica Vukotić, JZU UKC Tuzla,Klinika za očne bolesti, BiH (Federacija BiH)

### **Apstrakt**

Cataract surgery in uveitic eyes is often challenging and can result in intraoperative and postoperative complications. Most uveitic patients enjoy good vision despite potentially sight-threatening complications, including cataract development. Optimal treatment of cataract in the setting of uveitis requires optimal management of uveitis, including appropriate diagnostic workup and scrupulous attention to preoperative preparation,

intraoperative technique, and postoperative management. With improved understanding of the disease processes, pre- and perioperative control of inflammation, modern surgical techniques, availability of biocompatible intraocular lens material and design, surgical experience in performing complicated cataract surgeries, and efficient management of postoperative complications have led to much better outcome. In this work we will present video of phacoemulsification of uveitic cataract surgery. We will discuss surgical goals and how we achieved them. In conclusion, management of the uveitic cataract requires careful case selection, proper timing of surgery, meticulous surgery and close monitoring with appropriate handling of the postoperative complications that may occur. These eyes can achieve good outcomes with proper management.

**Ključne riječi:** uveitic cataract;phacoemulsification

## CLINICAL PRESENTATIONS OF GIANT CELL ARTERITIS (TEMPORAL ARTERITS)

*Predavanje po pozivu*

**Marko Hawlina**, University Eye Hospital, University Medical Centre Ljubljana,  
Slovenija

**Ana Fakin**, University Eye Hospital, University Medical Centre Ljubljana, Slovenija

**Viktorija Kerin**, University Eye Hospital, University Medical Centre Ljubljana,  
Slovenija

### Apstrakt

Abstract Background Giant cell arteritis (GCA, temporal arteritis) is the most common primary vasculitis of adulthood. Incidence among people older than 50 years is estimated at 30/100.000 per year. Clinical symptoms are caused by end-organ ischaemia and systemic inflammation and include headache, jaw claudication, visual loss, rheumatic polymyalgia and systemic signs such as fever, fatigue and weight loss. Ocular symptoms present in 30-75% of patients and include visual loss, amaurosis fugax, ophthalmoplegia, diplopia and ocular pain. Approximately 15-50 % of patients suffer from permanent visual loss. Temporal artery biopsy and corticosteroid treatment is essential for diagnosis and preservation of vision. Methodology Review and retrospective study of 50 eyes (36 patients) with giant cell arteritis. There were 67% female and 33% male patients with average age of 79 years, range 62-92 years, with typical clinical picture and/or positive biopsy (78%, 18/23 performed). Visual fields charted by Goldmann perimeter were first categorized as peripheral defects or scotomas and further into specific categories. Results Loss of vision was unilateral (65%) or bilateral (35%). The most common ischaemic lesions were anterior ischaemic optic neuropathy (AION; 16 unilateral, 4 bilateral) and posterior ischaemic optic neuropathy (PION; 5 unilateral, 5 bilateral). Other lesions included central retinal artery occlusion and internuclear ophthalmoplegia. More than half of patients (53%) had visual acuity of counting fingers or less in affected eye. We observed 11/22 types of visual field defects according to published classification. In AION various peripheral defects, which almost universally showed respect for horizontal meridian (except where only small residual islands remained), were observed. Nasal and inferior halves of visual fields were most often affected. PION most often presented with scotomas with or without peripheral defect. Conclusions Severe loss of vision is present in affected eye in most patients. Bilateral loss of vision can occur if the diagnosis is not es-

tablished early and corticosteroids given. Most common visual field defect in AION was peripheral defect with respect for horizontal meridian. PION was most often associated with central scotomas with or without peripheral defect. Very few affected eyes recover to small extent. It is essential to recognise this disease even in absence of typical signs and symptoms. In elderly, all the patients to report amaurosis fugax, sudden loss of vision or diplopia should be suspected to have temporal arteritis until proven otherwise.

## OPTIC NEURITIS RELATED TO MULTIPLE SCLEROSIS

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### Apstrakt

**Aim:** The aim of the study was to determine the frequency of optic neuritis as one of the intial sings of the multiple sclerosis.

**Patients and methods:** The study was carried out at the Eye and Neurological Clinics of the KCUS and covered 89 patients with confirmed multiple sclerosis. We monitored all neurological parameters relevant to the verification of the diagnosis of multiple sclerosis, and ophthalmogycal parameters as well as the condition of visual acuity (VA), visual field (VF), finding in the optic nerve by the OCT NFL analysis.

**Results:** Of a total of 89 patiens diagnosed with multiple sclerosis, 10 (11%) patients had optic neuritis diagnosed, it is statistically significant (Fisher-test 0,036 for the probability level  $p < 0,05$ ). All of the patients with optic neuritis have the nerve fibre defects on the optic nerve by the OCT NFL analysis and it confirms the existence of the positive correlation between the observed parameters.

**Conclusion:** Optic neuritis is one of the intial signs of multiple sclerosis. All of the patients we had the nerve fibre defects on the optic nerve by the OCT NFL analysis.

# KONGENITALNE ANOMALIJE OPTIČKOG DISKA

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## Apstrakt

**Cilj:** našeg rada je prikaz različitih kongenitalnih anomalija optičkog diska, njihov uticaj na vidnu oštrinu, evolucija anomalija, i diferencijalno dijagnostika.

**Materijal i metode:** U periodu od 2006 godine do 2012 godine na Očnoj klinici u Nišu pregledano je i dijagnostikovano 41 pacijent sa različitim kongenitalnim anomalijama optičkog diska. Pregled pacijenta obuhvatao je subjektivno određivanje vidne oštirine, pregled biomikroskopom prednjeg segmenta, indirektnu oftalmoskopiju, aplanacionu tonometriju, keratorefraktometriju, fotodokumentaciju, fluoresceinsku angiografiju, ultrazvučni pregled oka, A i B-skan, CT i MR.

**Rezultati:** Dijagnoza strukturne anomalije optičkog diska postavljena je u 41 pacijenta, 21 muškog pola i 20 ženskog pola. Uzrast pacijenata u trenutku dijagnoze bila je od 3 do 58 godina. Vidna oštirina, na zahvaćenom oku, bila je od normalne do brojanje prsta na 1 m. Hipermetropija je bila češći nalaz u pacijenata sa fibrama medulares. Tokom evolucije strukturne anomalije mogu uzrokovati pad vidne oštirine. Komplikacije, kao što su serozna ablacija retine u pacijenata sa jamicom na optičkom disku i subretinalna neovaskularizacija u pacijenata sa druyama bile su dijagnostikovane. MR i CT kao dopunske dijagnostičke metode primenjene su radi dijagnostike sa druza i anomalija centralnog nervnog sistema.

**Zaključak:** Kongenitalne anomalije optičkog diska ne predstavljaju retkost. Vidna oštirina može biti normalna ili jako slaba. One mogu biti prisutne na jednom ili oba oka. Tokom evolucije mogu dovesti do smanjenja vidne oštirine. Fluoresceinska angiografija i ultrazvuk su metode koje mogu biti od krucijalnog značaja u dijagnostici. Anomalije optičkog diska mogu biti udružene sa anomalijama ostalih struktura oka i anomalijama centralnog nervnog sistema.

**Ključne riječi:** optički disk; kongenitalne anomalije; dijagnoza

# **POSTTRAUMATIC BILATERAL CAROTID - CAVERNOUS FISTULAS - CASE REPORT**

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## **Apstrakt**

**Aim:** Recognize the occurrence of posttraumatic carotid-cavernous fistulas (CCF) on the basis of ophthalmologic symptoms.

**Case study:** 50 years old man suffered a head injury. Native CT head revealed multiple fractures of bones at the scull base and sphenoidal and ethmoidal hematosinus, as well as subarachnoid hemorrhage. He has been hospitalized in Neurosurgical clinic for duration of 1,5 months. One month from head injury, he was examined by the ophthalmologist who diagnosed chemosis of the right eye. Due to the difficult general condition of patient, examination with slit lamp is not performed and visual acuity, in the amount of 5/60 is determined on orientation basis. After several days, clinical features of proptosis of the right bulb with total phthalmoplegia, chemosis, relativ afferent pupillary defect and present of an audible bruit as well as paralysis of n. abducentis on left eye, developed. Control CT scan of head is suggested and showed no significant deviation from previous one. After the completion of treatment in Neurosurgical clinic, patient is examined by ophthalmologist. Due to significant chemosis and subsequent xerosis, blepharoraphia is performed on right eye. After 5 days, the same ophthalmologist symptoms, developed on left eye as well. At that time visual loss of both eyes had appeard. Patient was then hospitalized in Ophthalmology clinic for further treatment and diagnosis. Due to present of conjunctivitis purulenta, swab of conjunctiva was performed, and therapy included antibiotic ointment,in accordance with antibiogram, and lubricificant, in form of drops and gel. Venous stasis retinopathy were visible on both eye with intraretinal hemorrhages on right side. Values of IOP were within 21-24mmHg and antiglaucomatous therapy was included. MR angiography was performed and it showed direct bilateral carotid-cavernous fistulas, which prompted further treatment of patient by intervention neuroradiologist, who performed embolisation of CCF. After few days, clinical examination showed total resolution of ophthalmological signs and symptoms except paralysis of n.abducentis of left eye and diplopija.

**Conclusion:** After craniocerebral trauma,occurrence of chemosis, proptosis and a bruit over the eye, can be first symptoms which should alarm to development of CCF. Multidisciplinary approach is of great significance in diagnostics and treatment of patients with such problems

**Ključne riječi:** carotid-cavernous fistulas; ophthalmologic symptoms

# OKULOPLASTIKA

## 118 ENUCLEATIONS, EVISCERATIONS AND ORBITAL EXENTERATIONS – A TWO-YEAR PERSONAL EXPERIENCE

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### Apstrakt

**Aim:** To present the indications, intraoperative and postoperative complications and final outcome of three surgical procedures performed in a two-year period, by one surgeon, at a single institution.

**Material and methods:** In a two-year period (January 2010 – December 2011) at the Clinic of Eye Diseases Clinical Centre of Serbia, 172 consecutive surgical procedures (108 enucleations, 46 evisceration and 18 orbital exenterations) were done and, of these procedures, one surgeon (DMR) performed 118.

**Results:** Among those 118 (68,6%) procedures there were 72 enucleations with orbital PMMA implant accomplished by myoconjunctival technique, 32 eviscerations with scleral PMMA implant, and 14 eyelid-sparing orbital exenterations. Enucleations and orbital exenterations were done mostly in general anesthesia (two enucleations and one exenteration were done in local anesthesia), eviscerations were done in a vast majority of cases in local anesthesia (all except one, performed in general anesthesia in a young patient). The main indications were: for enucleations, uveal melanoma and a long-standing, severe, mostly painful eyeball atrophy/phthisis; for evisceration, perforating corneal ulcers in blind eyes, painful intractable glaucoma in blind eyes, severe panophthalmitis or endophthalmitis; for exenterations, orbital invasion by eyelid, conjunctival and uveal malignant neoplasm.

**Conclusion:** Procedures were done with minimal non-significant intraoperative complications (partial orbital hematoma in eight cases not compromising implantation and “loss” of one muscle suture in two cases of enucleations; evisceration and exenterations were done without intraoperative complications) and also with non-significant number of postoperative complications (partial migration of an orbital implant after enucleation in one case and extrusion of scleral implant after evisceration in two cases; exenterations were done without postoperative complications), and with a highly acceptable final cosmetic outcome.

# **ENDOSCOPIC ENDONASAL INSTRUMENTAL AND TRANSCANALICULAR LASER – ASSISTED DACYROCYSTORHINOSTOMIES VS. CONVENTIONAL EXTERNAL APPROACH – A TWO-YEAR PERSONAL EXPERIENCE**

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## **Apstrakt**

**Aim:** To present, compare and evaluate the outcomes and effectiveness of endoscopic endonasal instrumental dacryocystorhinostomy (EN-DCR), trans-canalicular laser-assisted dacryocystorhinostomy (TCL-DCR) and traditional external dacryocystorhinostomy (EX-DCR) in patients operated for primary lacrimal nasal duct obstruction.

**Material and methods:** This is retrospective, nonrandomized, comparative interventional case series. A total of 189 consecutive patients with primary lacrimal nasal duct obstruction, in a two-year period (2010-2011), at the Clinic of Eye Diseases Clinical Centre of Serbia, were managed by means of surgery – 48 by EN-DCR, 16 by TCL-DCR and 125 by EX-DCR. EN-DCR and TCL-DCR were done under general anesthesia, EX-DCR under local anesthesia. All procedures were performed by one surgeon (MK) and followed up to one year.

**Results:** Full success was achieved in 91.64% of EN-DCR patients [failure rate was 8.33% (4 out of 48 patients)], 87.5% of EN-DCR [failure rate was 12.5% (2 out of 16 patients)], and 92% of EX-DCR [failure rate was 8% (10 out of 125 patients)]. There was no statistical significance between these outcomes. Conclusion: Equivalent and high surgical success rate was achieved by EN-DCR and EX-DCR. Non-equivalent but not statistically significant lower success rate of TCL-DCR certainly is influenced by time/small-number-of-patients-operated related learning curve. The main advantages of EN-DCR and EX-DCR are better postoperative cosmetic appearance (there are no skin scars) but the main disadvantage is expensive equipment.

**Ključne riječi:** suzni putevi; dakriocista; dakriocistorinostomija;

# **OCULAR ADNEXAL SURGERY – TWO SURGEONS, TWO YEARS, SINGLE INSTITUTION**

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## **Apstrakt**

**Aim:** To present number and types of ocular adnexal surgery performed by two surgeons in a two-year period at a single institution.

**Material and methods:** From total number of 16564 consecutive surgical procedures performed in a two-year period (January 2010 – December 2011) at the Clinic of Eye Diseases Clinical Centre of Serbia, inpatient surgical procedures were done on 5782 consecutive patients and, of these procedures, 1382 were done on ocular adnexa, and two surgeons (DMR and MK) performed 741 of it. All outpatient ocular adnexal surgery were excluded from the study, although a substantial number of ophthalmic plastic surgery was done as outpatient surgery.

**Results:** Among 741 procedures there were 45 (6,07%) orbitotomies, 41 (5,53%) orbital decompressions for Graves orbitopathy, 17 (2,29%) orbital exenterations, 74 (9,99%) enucleations with orbital implant, 36 (4,86%) eviscerations with scleral implant, 189 (25,51%) dacryocystorhinostomies (125 external, 48 endoscopic endonasal, 12 trans-canalicular laser-assisted), 20 (2,70%) lacrimal canicular reconstruction after injury, 18 (2,43%) lacrimal probing in general anesthesia, 137 (18,49%) various eyelid tumours excisions with reconstruction, 115 (15,52%) various lid procedures (blepharoptosis, entropium, ectropium, dermatochalasis) and 49 (6,61%) other adnexal procedures (such as eyelids trauma, incisional biopsies, etc.).

**Conclusion:** Adnexal procedures present 23,90% of all inpatient surgical procedures performed at the Clinic in two years and two authors performed 53,62% of all inpatient adnexal procedures.

# **POST-EXCISIONAL RECONSTRUCTION IN TUMOUR SURGERY OF THE EYELIDS AND PERIOCULAR REGION**

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## **Abstract**

**Aim:** Presentation of reconstructive methods after surgical removal of different types of eyelid and periocular tumours.

**Patients and methods:** The reconstructive strategy for defects of the eyelids and periocular region are based on the location, size and affected lamellae of the lids. This area of oculoplastic surgery demands the most inventiveness on the part of the ophthalmic surgeon. We report 20 cases of different reconstructions, which systematically and visually describe the variety of methods that can be implemented.

**Results:** The integrity and function of the eyelids and periocular region were achieved in all cases by utilisation of different combinations of flaps and grafts. The most serious complication was necrosis of the reconstructed lid, due to compromised microcirculation.

**Conclusion:** A successfull reconstruction is one with a functional reconstructed eyelid and periocular region, in terms of a protected eye and a free visual axis, and with a satisfactory esthetic outcome.

## **COMPLICATIONS OF POOR SURGICAL TECHNIQUE IN ENUCLEATION, EVISCERATION AND ORBITAL IMPLANTATION**

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### **Abstract**

**Aim:** Presentation of anophthalmic patients, after enucleation or evisceration, in whom oculo-prosthetic treatment was not possible without additional revisional surgery.

**Patients and methods:** Five representative anophthalmic patients, who had undergone surgical eye removal in their regional tertiary hospitals, with or without placement of an orbital implant. In addition to the visual and palpitory clinical exam, appropriate imaging techniques were performed in all cases. Photographic documentation was obtained pre- and post-operatively, as well as after oculo-prosthetic treatment.

**Results:** In all presented cases, necessary revisional surgery was performed in order to create conditions for oculo-prosthetic rehabilitation.

**Conclusion:** Inadequate primary surgical removal of a diseased eye interferes with oculo-prosthetic treatment and requires a complicated and prolonged rehabilitation of anophthalmic patients.

# GLAUKOM

## PREPOZNAVANJE PROGRESIJE GLAUKOMA

*Predavanje po pozivu*

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### Apstrakt

Ključno saznanje u lečenje osoba sa glaukomom je da li je vremenom nastupila progresija bolesti ili je pak bolest terapijom stabilizovana. Prema definiciji Evropskog glaukomnog udruženja (EGS) i definiciji Američke akademije za oftalmologiju (AAO) pod progresijom glaukoma podrazumeva se pogoršanje strukturnog i /ili funkcionalnog glaukomatoznog oštećenja. Prema tome, da bismo došli do saznanja da li je vremenom nastupila progresija ili ne, oslanjamo se na procenu strukturnog oštećenje odnosno proceni stanja papile vidnog živca i sloja nervnih vlakana dok se pri proceni funkcionalnog oštećenja prvenstveno oslanjamo na pregled vidnog polja. Za procenu strukturnog oštećenja služimo se fotografijom papile i imidžing tehnikama. Fotografija papile se smatra zlatnim standardom za prepoznavanje promena dok su imidžing tehnike objektivnije i obezbedjuju kvantitativne podatke koji su podesniji za praćenje. Svaka od imidžing tehnika koja se danas koristi u kliničkom praćenju pacijenata sa glaukomom ima svojih prednosti i nedostataka.

Prepoznavanje progresije u vidnom polju vrši se programima koji su bazirani na događaju (Event based) i programima baziranim na vremenu (Analiza trenda). Dok Event based programi određuju da li se progresija odigrala (na Humphrey analizatoru je to program GPA), analiza trenda (na Octopus perimetru programi EyeSuite i Peridata) određuje nivo progresije vidnog polja (rate od progression, RoP). Svaki pacijent ima individualnu progresiju a određivanje nivoa progresije za svakog pacijenta (RoP) u svetu očekivanog životnog veka može dati odgovor na pitanje da li će osoba za svog života imati signifikantno funkcionalno oštećenja.

Na osnovu rezultata strukturalnih i funkcionalnih testova potrebno je determinisati nivo progresije bolesti i individualni rizik za nastajanje signifikantnog funkcionalnog oštećenja.

Primenjivanje ovog postupka pruža veliku verovatnoću da će se izbeći nepovoljan ishod bolesti i sačuvati kvalitet vida i života svakog pojedinačnog pacijenta sa glaukomom.

# KONTRAVERZE PREPERIMETRIJSKOG GLAUKOMA

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*Predavanje po pozivu*

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## **Apstrakt**

Kontraverze preperimetrijskog glaukoma Prof. Dr Predrag Jovanović Klinika za očne bolesti KC Niš Da li postoji preperimetrijski glaukom? Ako znamo da čak oko 50% retinalnih ganglijskih ćelija može da bude oštećeno a da to ne registruje standardna automatska perimetrija, onda naš odgovor mora da bude pozitivan. U radu ćemo prikazati karakterističan slučaj preperimetrijskog glaukoma. Pacijent V.D. (40 godina), muškog pola, sa vidnom oštrinom 1.0 i intraokularnim pritiskom 22 mm Hg. Prednji segment: b.o. i FOU C/D 05/I. Na standardnoj automatskoj perimetriji (Humphrey 30.2) nisu uočeni glaukomni ispadci u vidnom polju. Gonioskopija o.u.: komorni ugao otvoren, širok, Shaffar 3-4, slabo pigmentovan (Scheie 1). Pacijentu je postavljena dijagnoza okularne hipertenzije i nije ordinirana terapija. Ali uradjena dopunska ispitivanja: pahimetrija (CCT od:523 µm, os:548 µm), dnevna kriva IOP (od 16 mm Hg do 26 mm Hg), HRT II i elektrifiziolska ispitivanja (VEP normalan, pERG patoloski) su pokazala patološke vrednosti pa je postavljena dijagnoza početnog primarnog glaukoma otvorenog ugla i posle toga ordinirana odgovarajuća topikalna medikametozna terapija. Analiziraćemo i veću seriju pacijenta sa okularnom hipertenzijom (30 pacijenata-60 očiju) sa postavljenom dijagnozom na osnovu "normalne" standardne automatske perimetrije kod kojih je na osnovu dopunskih ispitivanja preinačena dijagnoza u POAG u 40% slučajeva. Standardna automatska perimetrija je još uvek neprikosnoveni rutinski funkcionalni test u dijagnozi glaukoma ali je prava interpretacija nalaza od izuzetne važnosti. Analiza cluster tačaka i ciljana ispitivanja pojedinih delova vidnog polja je presudna u tzv. graničnim slučajevima. Zato je dobra edukacija oftalmologa od presudne važnosti.

# **EARLY DETECTION OF GLAUCOMA: GLAUCOMA WORLD DAY-SCREENING**

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**Emir Gorcevic**, Klinika za ocne bolesti KCUS, BiH (Federacija BiH)

## **Apstrakt**

**Aim:** Glaucoma is usually symptomless and vision loss is irreversible. With early detection, medications and surgeries can be used to prevent further vision loss. World Glaucoma Day aims to educate people about how to assess their risk for glaucoma and to be aware of the importance of regular eye exams and disease detection.

**Material and Methods:** During glaucoma screening programme 158 persons were included. We took database from patients and payed attention on all glaucoma risk factors (age, race, family history, diabetes, high myopia, hypertension, migraine, headache...). We measured IOP with aplanation tonometry and checked head of optic nerv by ophtalmoscopy.

**Results:** Age - most of people were in age of 60 - 70. (46%), 56% with cardiovascular disease, 50% with hypertension, 17% with family history. Results of IOP: 16% were with IOP more than 21 mmHg. C/D ratio: 10% more than 0.4 and C/D asimetry between two eyes more than 0.2, 2%. 21 of patients were suspicious on glaucoma and they were invited on complete glaucoma test on Eye Clinic. After all glaucoma diagnostics (visual aquity, CCT, aplanation tonometry, gonioscopy Octopus perimetry, OCT), we detected 3 patients with open angle glaucoma, one with low tension glaucoma and one with ocular hypertension.

**Conclusion:** Finding people with the early stages of glaucoma, and then treating them before theylose their sight is the key to prevention of blindness.

**Ključne riječi:** Glaucoma world day; Prevention of blidness

## **GLAUCOMA SCREENING IN BANJA LUKA REGION**

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## **Apstrakt**

**Aim:** Identification of patients with high eye pressure (IOP) as one of risk factors that may cause glaucoma, patients' education of other risk factors that may cause glaucoma.

**Materials and methods:** Screening glaucoma in Banjaluka was held during World glaucoma week from 7.3.2011 to 11.3.2011 and in 2012 from 12.3.2012 to 17.3.2012. During screening patients were asked whether somebody in the family had glaucoma, long view correction, presence of sugar disease, high body fats, high or low blood pressure, smoking. After measuring IOP and biomicroscopy summary fundoscopy was done with valuation of eye nerve papilla condition.

**Outcome:** In 2011. 331 patients were overseen (142 men and 189 women). 218 patients had normal IOP values, 95 patients (29%) had eye pressure beyond 22mmHg. Highest measured pressure was 52 mmHg. 63 patients (19%) had other risk factors. In 2012. 273 patients were overseen, of which 61 patients (22%) had high IOP. Highest measured IOP was 33mmHg, and 41 patients had positive risk factor.

**Conclusion:** Only protection is early discovery of glaucoma. It is recommended for person beyond the age of 40 to measure IOP at least once every 3-5 years and beyond 50 once a year. This is especially for patients with present and proven risk factors, and those with history of glaucoma in family. Such patients should be overseen more often. Screening glaucoma is standardized measure for glaucoma protection.

**Ključne riječi:** screening; glaucoma; Banja Luka

## **POSTOPERATIVNA EVALUACIJA KAPSULARNIH GLAUKOMA**

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### **Apstrakt**

**Cilj:** Prikazati tok i evoluciju kapsularnih glakoma nakon urađene trabekulektomije kroz parametre vidne oštine (VA), napredovanje katarkte, vrijednosti intraokularnog pritiska (IOP) sa ili bez dodatne medikamentozne terapije

**Materijal i metode:** Ispitivanje je sprovedeno u Klinici za očne bolesti, UKC Banja Luka od 2007- 2011 godine. Preoperativno je svim bolesnicima određena VA, analizirano prisustvo kataraktogenih zamućenja sočiva, vrijednosti IOP uz punu medikamentoznu terapiju te su praćeni tokom nadnih godinu dana.Utvđena ekskavacija PNO kod kapsularnih glaukoma je bila c/d 0,6 a kod ostalih glaukoma c/d 0,5.

**Rezultati:** Istraživanje je ukupno obuhvatilo 150 bolesnika sa glaukomom kod kojih je urađena trabekulektomija u svrhu postizanja ciljnog pritiska. Od ukupnog broja bilo je 56 bolesnika sa kapsularnim glaukomom, od čega

32 muškarca i 24 žene. Prosječna životna dob je bila 68 godina, najmlađi bolesnik je imao 40 godina, a najstariji 82 godine. Prosječna VA preoperativno kod bolesnika sa kapsularnim glaukomom je bila 0,4; a kod ostalih bolesnika 0,5. Prosječni preoperativni IOP kod bolesnika sa kapsularnim glaukomom je izmjerен 32 mmHg, a kod ostalih bolesnika 26 mmHg. Preoperativno su bolesnici sa kapsularnim glaukomom imali kataraktu stepena zamućenja ++, a ostali bolesnici stepena +. Postoperativno su zamućenja u sočivu bila veća kod pacijenata sa kapsularnim glaukomom nego kod ostalih. Postoperativna evaluacija tokom godinu dana je ukazala na VA 0,3 kod kapsularnih glaukoma i VA 0,5 kod ostalih glaukoma. IOP se postoperativno kretao prosječno 20 mmHg kod bolesnika sa kapsularnim glaukomom, a 17 mmHg kod ostalih bolesnika. Pri tome je IOP kompenzovan već samim operativnim zahvatom kod 25 % bolesnika sa kapsularnim glaukomom, a kod 70% bolesnika sa ostalim oblicima glaukoma. Dodatak jednog antiglaukomatoznog lijeka je komenzovao IOP kod dodatnih 15 % bolesnika sa kapsularnim glaukomom, a kod 20 % bolesnika sa ostalim oblicima glaukoma. Dva antiglaukomatozna lijeka su kompenzovala IOP kod 25 % kapsularnih glaukoma i kod 8 % ostalih formi, dok je na trojnu antiglaukomatoznu terapiju komenzovano dodatnih 30 % kapsularnih glaukoma i 2 % ostalih oblika. Dekompenzovano je ostalo 5 % kapsularnih glaukoma. Eksavacija PNO kod kapsularnih glaukoma nakon godinu dana praćenja je bila c/d 0,7 a kod ostalih glaukoma c/d 0,5. Vidno polje u ovom istraživanju nije ocijenjeno kao validan parametar kod većine bolesnika, što je razlog njegovog neuvrštavanja u rezultate

**Zaključak:** Kapsularni glaukom je veoma refrakteran na medikamentoznu terapiju, ali ni operativni rezultati ne donose ni približno tako dobru kompenzaciju kao što je slučaj kod ostalih oblika glaukoma. Naročito su nezahvalni kasno otkriveni slučajevi kapsularnog glaukoma sa početnom kataraktom, koja u postoperativnom toku i evaluaciji tokom godinu dana pokazuje značajno bržu progresiju u odnosu na ostale oblike glaukoma.

**Ključne riječi:** postoperativno praćenje; kapsularni glaukom

# THE RESULTS OF PRIMARY CLOSURE ANGLE GLAUCOMA MANAGEMENT ON INTRAOCULAR PRESSURE

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## Apstrakt

**Aim:** To investigate the results of primary angle closure glaucoma management on intraocular pressure.

**Material and methods:** This was a retrospective study conducted on glaucoma department, Eye Clinic University KCUS. Subjects with angle closure glaucoma were threatened with YAG laser iridotomy at the time of diagnosis. These patients were re-examined in follow-up period for Patency of iridotomy, intraocular pressure, visual acuity, automated octopus perimetry and OCT investigation for detecting progression. All primary angle closure glaucoma subjects who had undergone YAG laser iridotomy for three years period were studied.

**Results:** Total of 168 patients were studied. The main age of the study population was  $60,1 +/ - 3$ . Nd: YAG laser iridotomy for primary angle closure glaucoma controlled the condition without any need for further medical or surgical therapy were 12,6% cases, patients who required added treatment were 65,2% with medical treatment and 22,2% with trabeculectomy

**Conclusion:** In most cases with primary angle closure glaucoma after YAG laser iridotomy were needed medication terapy more then the other therapy or without any therapy. Nd: YAG laser iridotomy with medical treatment was effective prophylactic procedure for all patient in preventing N acute angle-closure attack in the follow-up period

**Ključne riječi:** Primary angle closure glaucoma; Nd YAG laser iridotomy; intraocular pressure

# MEDICAL RETINA

## ANTERIOR ISCHAEMIC OPTIC NEUROPATHY ASSOCIATED WITH METABOLIC SYNDROME

*Predavanje po pozivu*

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### Apstrakt

**Introduction:** The metabolic syndrome denotes a common cluster of naturally connected risk factors including obesity, elevated blood pressure, insulin resistance, dyslipidemia, proinflammatory state and prothrombotic state. Anterior ischaemic optic neuropathy is an acute ischaemic disorder of the optic nerve head and may lead to severe visual loss.

**Methods and Results:** We considered three patients with moderate degree of diabetic retinopathy and anterior ischaemic optic neuropathy. They were thoroughly endocrinologically examined and the diagnosis of metabolic syndrome was established. Cardiological examination revealed that blood pressure control was not optimal. The signs of left ventricular hypertrophy and diastolic dysfunction were confirmed by echocardiography. They are possible markers of preclinical cardiovascular disease.

**Conclusion:** We found that well-known risk factors combined in metabolic syndrome led to very serious eye and cardiological complications. The early diagnosis and treatment of these patients can not only improve visual function but also prevent cardiovascular complications.

**Ključne riječi:** metabolic syndrome; anterior ischaemic optic neuropathy; cardiovascular disease.

# ANTI-VEGF THERAPY – LAST SOLUTION FOR RESIDUAL DIABETIC MACULAR EDEMA

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Miroslav Dznic, Ocni centar Dznic, Srbija

## Apstrakt

**Purpose:** to investigate the effects of intravitreal anti-VEFG (bevacizumab) application in patients with diabetic retinopathy and clinically significant residual macular edema, after laser photocoagulation treatment.

**Methods:** during 24 months period 26 patients (28 eyes) were followed. Mean age was  $67 \pm 10$ , 14 male and 12 female. All patients received laser photocoagulation therapy either pan retinal or macular (focal or grid) photocoagulation, depending on the severity of retinopathy, before intravitreal application of anti-VEGF. After photocoagulation FA was conducted and further laser treatment was not indicated. Visual acuity (VA) testing (Snellen chart), biomicroscopy, ophthalmoscopy, IOP and SD-OCT were conducted at baseline and follow up visits. All patients received intravitreal injection 1,25mg (0,05ml) of bevacizumab, during initial treatment and retreatment. The average number of injection per patient was 2.15. All patients used local non steroid antinflamatory therapy (NSAID) 4-6 weeks after injection. Follow up visits were conducted at the first and 7th day after injection and every 4-6 weeks after. Last follow up visit was 18 months after injection.

**Results:** Mean VA after laser photocoagulation and before treatment was  $0.2 \pm 0.2$  and average macular thickness  $430 \pm 103 \mu\text{m}$ . After 6 months average macular thickness was  $392 \pm 109 \mu\text{m}$ . At the last follow up average VA was  $0.34 \pm 0.2$  and macular thickness  $377 \pm 82 \mu\text{m}$ . Improvement was achieved in 17 eyes (60%), stabilization in 7 eyes (25%) and 4 eyes (15%) worsen.

**Conclusion:** According to our study intravitreal application of bevacizumab have beneficial effects in patients with residual diabetic macular edema, despite small average number of injections. After complete laser photocoagulation anti-VEGF seems to be promising treatment option for improvement and stabilization in VA and macular thickness.

**Ključne riječi:** diabetic retinopathy; macular edema; bevacizumab; photocoagulation

# NALAZ NA OČNOM DNU PRILIKOM POSTAVLJANJA DIJAGNOZE DIABETES MELLITUSA TIP 2

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## Apstrakt

**Cilj rada:** Epidemiološke studije pokazuju da DM tip 2 može da egzistira i desetak godina prije dijagnoze. Cilj našeg rada je da se prikaže nalaz na očnom dnu kod pacijenata u vrijeme postavljanja dijagnoze DM tip 2 i da se utvrdi učešće retinopatije u toj grupi pacijenata.

**Materijal i metode:** Radom je obuhvaćeno 170 pacijenata. Od toga 161 pacijent je po uspostavljanju dijagnoze DM tip 2 od strane endokrinologa upućen na pregled na očno odjeljenje, dok je kod 9 pacijenata oftalmolog pregledom očnog dna posumnjao na prisustvo diabetesa, što je i potvrđeno. Pregled očnog dna je vršen u maksimalnoj midrijazi. Pozitivni nalazi su dokumentovani digitalnom fundus kamerom.

**Rezultati:** U našoj studiji je od ukupno 170 pacijenata kod 29 (17,05%) uočen neki oblik dijabetičke retinopatije(DR): makulopatija 4, blaga neproliferativna DR 5, blaga neproliferativna DR sa makulopatijom 8, umjereni neproliferativna DR sa klinički značajnim edemom makule 4, teška neproliferativna DR sa klinički značajnim edemom makule 5, proliferativna DR sa klinički značajnim edemom makule kod 3 pacijenta.

**Zaključak:** Nije rijetkost da oftalmolog prvi uoči promjene koje ukazuju na dijabetes. Iz tog razloga naglašavamo značaj pregleda očnog dna čak i onda kada se osobe javljaju na pregled zbog prezbiopnih naočara. Pošto veliki broj osoba sa DM tip 2 ima jednu ili više komplikacija specifičnih za dijabetes u vrijeme postavljanja dijagnoze ističemo značaj ranog otkrivanja DM tip 2 kod svih osoba starijih od 45 g, kao i rano otkrivanje kod asimptomatskih osoba sa dodatnim rizičnim faktorima i u ranijem dobu života.

**Ključne riječi:** Dijabetička retinopatija;makulopatija; Diabetes mellitus tip 2

# **NON STEROIDAL ANTI -INFLAMMATORY DRUGS FOR PROPHYLAXIS OF CYSTOID MACULAR EDEMA IN HIGH RISK DIABETIC PATIENTS UNDERGOING CATARACT SURGERY**

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## **Apstrakt**

**Abstract Purpose:** To study the effect of topical non steroidal anti inflammatory drugs (NSAIDs) in high risk diabetic patients undergoing cataract surgery in preventing cystoid macular oedema (CME).

**Setting:** El Moada Eye Hospital, Shebin El Kom, Menoufiya, Egypt.

**Methods:** 86 eyes of 70 diabetic patients with high risk characteristics for development of CME were randomized to receive NSAIDs (ketorolac 0.4%) for 12 weeks after phacoemulsification with foldable IOL implantation or not. Those patients were divided into 2 groups, group (A) (43 eyes) were given topical NSAIDs, and group (B) (43 eyes) not given topical NSAIDs. The incidence and severity of CME were evaluated by fluorescein angiography, retinal foveal thickness on optical coherent tomography.

**Results:** for group (A), only one eye developed CME, and for group (B), 10 eyes developed CME, and hence there was high significant difference in the incidence of CME between the two groups ( $P=0.004$ ) - In group (A), the eye which developed CME had retinal foveal thickness of 260  $\mu\text{m}$ , while in group (B), the mean retinal foveal thickness was  $338.5 \pm 91.86 \mu\text{m}$  (range 220-495  $\mu\text{m}$ ) at 12 weeks postoperatively.

**Conclusion:** NSAIDS may have a fundamental role in prevention of CME in high risk diabetics undergoing cataract surgery. However, the results are limited in the small number of patients enrolled in this study, long term toxicity of topically applied drugs, and uncertain patient reliability.

**Ključne riječi:** Non Steroidal Anti -inflammatory Drugs; Cystoid Macular Edema; Phacoemulsification; Diabetes Mellitus

# NOVOSTI U LIJEĆENJU DIJABETIČKOG MAKULARNOG EDEMA

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## Apstrakt

**Cilj rada:** prezentirali smo moderne vidove farmakoterapije kod dijabetičkog makularnog edema(DME) kod 6 pacijenata koji su liječeni triamcinolonom periokularno ili intravitrealno bevacizumab (Avastin), ranibizumab (Lucentis), kao i dexamethason intravitrealni implant (Ozurdex).

**Materijal i metode:** od 6 pacijenata sa DME, 4 su imala nonproliferativnu dijabetičku retinopatiju, 1 preproliferativnu, a 1 proliferativnu dijabetičku retinopatiju. Laser fotokoagulacija (LFC) je urađena kod 3 pacijenta prije primjene farmakoterapije. Centralna debljina fovee (CFT) i najbolja korigovana vidna oštrina (BCVA) određivani su svakih 1.5 mjesec prema datoј terapiji u vremenu praćenja od 6.5 mjeseci do 17.5 mjeseci. Jednom pacijentu data je samo injekcija ranibizumaba, 3 pacijenta primili su kombinaciju triamcinolona (periokularno i intravitrealno), bevacizumaba i Ozurdexa, jedan primio bevacizumab i Ozurdex a jedan pacijent kombinaciju triamcinolona periokularno i Ozurdexa intravitrealno.

**Rezultati:** svi pacijenti su imali signifikantna poboljšanja BCVA i porast zadebljanja CFT, sa najboljim rezultatima poslije davanja kombinacije anti VEGF lijekova i Ozurdexa. Triamcinolon dat periokularno ili intravitrealno zadržao je BCVA i CFT stabilnim između aplikacija doza anti VEGF terapije.

**Zaključak:** Danas, farmakoterapija DME se dokazala kao superiorna metoda liječenja od LFC. Međutim, dužina trajanja farmakoterapije, podobnost farmakoloških preparata i njihova efikasnost se i dalje treba utvrditi.

**Ključne riječi:** Lijekovi; dijabetički makularni edem; triamcinolon; anti VEGF; Ozurdex

# **PRIMJENA ANTI - VEGF TERAPIJE KOD CENTRALNE SEROZNE RETINOPATIJE (CSR)**

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## **Apstrakt**

**Cilj rada:** evaluirati efikasnost i sigurnost primjene anti-VEGF terapije (bevacizumab (Avastin)) u liječenju hronične centralne serozne retinopatije (CSR) i prospektivnoj studiji na 8 pacijenata kod kojih standardna terapija nije imala efekta.

**Materijal i metode:** od 8 pacijenata sa hroničnom CSR, 6 su bili muškarci a 2 žene. Prosječna starost pacijenata je 38 godina, a svi su CSR imali duže od 6 mjeseci. Šest pacijenata je liječeno sistemskim acetazolamidom, 2 topikalnim, a niti u jednom slučaju nije zabilježeno bitnije poboljšanje. Srednja vrijednost najbolje korigovane vidne oštrine (BCVA) bila je 0.52 (od 0.2-0.8), a srednja vrijednost centralne debljine fovee (CFT) je bila 289  $\mu\text{m}$  (od 204-395  $\mu\text{m}$ ). Jedna intravitrealna doza bevacizumaba (Avastin) je data kod svih 8 pacijenata a BCVA i CFT su praćeni tokom 6 narednih nedjelja.

**Rezultati:** srednja vrijednost BCVA je poboljšala sa 0.52 na 0.64 a CFT je smanjena sa 289  $\mu\text{m}$  na 230  $\mu\text{m}$ , što je statistički signifikantna vrijednost (p.

**Ključne riječi:** Anti-VEGF; centralna serozna retinopatija; bevacizumab (Avastin); BCVA; CFT

# **THE SIGNIFICANCE OF LUTEIN WITH ZEAKSANTIN IN TERTIARY PREVENTION OF DIABETIC COMPLICATIONS IN EYE AND THERAPY**

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## **Apstrakt**

**Aim:** To analyse the influence of Lutein With Zeaksantin in prevention and therapy of diabetic complications in retina with special consideration of macula.

**Matherial and methods:** This study involves twenty patients with dia-

betes type 2, with average duration of illness of 5 years(1-10years), age 40-70 years, and they form two groups. First group: ten patients (4 f,6 m) who received Lutein with Zeaksantin during one month. Second group:ten patients (5f, 5m)who received other protectors of diabetic complications in retina. Both groups were treated with argon laser.

**Results:** After three months there were no statistically significant differences in diabetic complications in macula. After six months in first group there was a discrete decrease of complications, and with a few a visible improvement.

**Conclusion:** Lutein with Zeaksantin is the first choice in tertiary prevention of diabetic complications in retina with golden standard- argon laser photocoagulation.

**Ključne riječi:** lutein with zeaksantin; diabetic maculopathy

# VITREORETINALNA HIRURGIJA

## MIKROINCIZIONA BEŠAVNA ZADNJA VITREKTOMIJA, HIRURGIJA 21 VEKA?

*Predavanje po pozivu*

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### Apstrakt

Svedoci smo značajnog napretka hirurških tehnika i instrumentarijuma u poslednjih godina. Sve je više hirurga koji prelaze na bešavnu zadnju vitrektomiju (MIVS), ali i proširenja indikacija za njenu upotrebu.U početku, indikacije za njenu upotrebu su bile ograničene samim tehničkim mogućnostima tada dostupnih instrumenata, ali uporedo razvojem istih dolazi do značajne ekspanzije MIVS-a. Sada imamo situacijuda 95% patologije zadnjeg segmenta oka može biti rešeno upotrebom MIVS-a. MIVS je na VMA prisutan od 2006. godine, ali u značajnijoj meri od 2008. godine. Uporedo sa porastom poverenja u novu metodu proširivali smo indikacije za njenu upotrebu, i što je još važnije i hirurško razmišljanje i pristup u tretmanu različitih oboljenja zadnjeg segmenta oka.Sada više od 90% operacija čine operacije bešavne zadnje vitrektomije.

## HIRURGIJA INTRABULBARNIH STRANIH TIJELA, NEKAD I DANAS

*Predavanje po pozivu*

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### Apstrakt

**Cilj:** Prikazati hronološki aspekt razvoja hirurgije intrabulbarnih stranih tijela.

**Materijal i metoda:** Autenticni video zapisi nacina ekstrakcije intrabulbarnih stranih tijela snimljenih osamdesetih proslog vijeka u klinici u Beogradu kao i video zapisi iz iste ustanove snimljeni poslednjih nekoliko godina, a koji obradjuju istu temu. Kao i druge oblasti oftalmologije i hirurgija intrabulbarnih stranih tijela imala je razvojne etape medju kojima se jasno razlikuju tri. Prva etapa podrazumeva ekstrakciju stranog tijela po "svaku cijenu", posto su oftalmolozi u to vrijeme polazili sa stanovista da neestrahovano strano tijelo u oku predstavlja veliku opasnost u pogledu ocuvanja samog organa iz cega je proisticao stav da se stramo tijelo mora estrafovati po svaku cijenu. Iz tog razloga u primjeni su bili dzinovski

magneti, pa se ova etapa moze nazvati etapom dzinovskih magneta. Ova etapa je specificna po tome sto su se oftalmolozi oslanjali na snagu magneta, a manje na hirusku vjestinu. Ekstrakciju stranog tijela je bilo tesko kontrolisati, pa su i jatrogena ostecena bila redovna, a postoperativne komplikacije ceste, medju njima trakciona ablacija retine najcesca. Drugu etapu u hirurgiji drugih intrabulbarnih stranih tijela podrazumeva uvodenje kontrolisane ekstrakcije uz primjenu malog magneta. Ona je predstavljala kvalitetan skok sto se ocitovalo u smanjenju jatrogenih ostecenja horioretine i smanjenju ucestalosti trakcione ablacijske retine. Ova kontrolisana ekstrakcija intrabulbarnih stranih tijela se zasnivala na preciznoj likalizaciji stranog tijela u zadnjem ocnom segmentu, prvilnom izboru puta i mjesta ekstrakcije, kao i primjeni odredjenih profilaktickih mjera u cilju sprecavanja ablacijske retine. Navedena kontrolisana ekstrakcija intrabulbarnih stranih tijela vezana je za ime Profesora Milana Blagojevica sa Ocne Klinike u Beogradu, koji je osamdesetih godina proslog vijeka na skupu Njemackog Oftalmoloskog drustva prikazao rezultate ekstrakcije 225 intrabulbarnih stranih tijela estrahovanih u Ocnoj Klinici u Beogradu. Treca etapa razvoja hirurgije intrabulbarnih stranih tijela je vezana za primjenu vitrektomije. Vitrektomija je pored vizuelne kontrolisane ekstrakcije omogucila i hirusku rekonstrukciju zadnjeg ocnog segmenta endookularnim pristupom. Sama ekstrakcija stranog tijela u toku ovog hiruskog zahvata predstavlja samo jedan dio operacije. Zahvaljujuci vitrektomiji postalo je nevazno da li je strano tijelo mognetno ili amagnetno.

## **ACTUAL TREATMENT OF RHEGMATOGENOUS RETINAL DETACHMENT**

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*Predavanje po pozivu*

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### **Apstrakt**

**Purpose:** To analyze the major surgical techniques of repairing primary retinal detachment (PRD) - pneumatic retinopexy, scleral buckling and vitrectomy in the different aspects of morbidity and applicability.

**Matherial and method:** Lifetime prediction of annual incidence of PRD in elderly population and RD after cataract sugery was calculated and compared with total number of vitreal-retino surgeries performed 2009 in Serbia to understand surgical capabilitiesand our needs. The outcomes of consecutive 168 cases of RD treated with pneumatic retinopexy, scleral buckling and primary vitrectomy were analyzed.

**Results:** Calculated predicted Incidence of PRD was 780 cases annually in Serbia. From the total of 1712 of vitreoretinal surgical procedures performed in 2009, only 407 (24%) were extraocular surgical procedures for PRD. From 168 cases of PRD included in outcome study 45 % (75 eyes) were treated with two steps pneumatic retinopexy, 33% (58 eyes) with scleral buckling and 21% (35eyes) with primary vitrectomy. Single treatment with pneumatic retinopexy reattached retina in 84%,scleral buckling in 85 % and primary vitrectomy in 86% of our cases with visual outcome not significantly different between procedures.

**Conclusion:** Based on the recent available data for retinal detachment surgery, the anatomic reattachment ranged between 65 % and 99% as our study shows. Objective of each technique is closing the retinal break, but the approach can be either extraocular with scleral buckling or intraocular with pneumatic retinopexy or vitrectomy. The choice of surgical technique depends on various factors, including patient compliance, experience and capability of surgeons, cost of surgery and availability of appropriate instrumentation.

## EFFICACY OF PNEUMORETINOPEXY WITH SF6 IN PATIENTS WITH RHEGMATOGENOUS RETINAL DETACHMENT

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### Apstrakt

**Aim:** To investigate efficacy of pneumoretinopexy with SF6 in patients with rhegmatogenous retinal detachment.

**Methods:** In this three-year, prospective, cohort study, we analyzed patients with rhegmatogenous retinal detachment and retinal hole in upper parts, treated by retinopexy with SF6. Under topical anaesthesia, dry core vitrectomy was performed through scleral microvitreal incision at 3.5 mm from the limbus. Through the vitrectomy probe and three way stopcock, SF6 gas was injected in the vitreal cavity and microincision was sutured by crossed 7/0 Vicryl suture. The day after the surgery, photocoagulation of the chorio-retina around the hole was performed by slit lamp diode photo coagulator. Follow-ups were performed one day, ten days, one month and three months after the surgery. Data about visual acuity and retinal reattachment was collected and analyzed.

**Results:** Graphic analysis will be displayed during presentation.

**Conclusion:** Pneumoretinopexy can be a useful procedure for rhegmatogenous retinal detachments with retinal hole in upper parts treatment.

**Ključne riječi:** SF6; pneumoretinopexy; retinal detachment

## PPV AND ANTERIOR SEGMENT RECONSTRUCTION IN BLUNT OCULAR TRAUMA

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**Emina Alimanović**, Eye Clinic Sarajevo

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### Apstrakt

**Aim:** To present surgical procedure 20G VPP with anterior segment reconstruction in blunt ocular trauma.

**Material and Methods:** In small number of blunt ocular trauma cases advise complications are: rupture iridis,traumatic cataract, luxation lentis,retinal rupture and retinal detachment. In such casses anterior and posterior segment surgery is necessary in definitive care of patient. Video presentation show standard procedure of iris reconstruction, phaco traumatic cataract, IOL implantation and 20G PPV in retinal rupture and retinal detachment.

**Results:** Postoperative results in performed cases were improved with BCVA >6/12 without any significant complications at posterior segment.

**Conclusion:** Satisfid postoperative results without anterior and posterior segment complications in such csases blunt trauma is a good choise.

**Ključne riječi:** PPV; blunt ocular trauma; cataract; retinal detachment; iris rupture.

## WHY WERE WE LATE?

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### Apstrakt

This paper presents a video display of combined operation on anterior eye segment (phaco) and the posterior eye segment (vitrectomy), which was performed by two residents at the Eye clinic, University Clinical Cen-

ter (UCC) Tuzla under supervision of experienced vitreoretinal surgeon. A patient with persistent haematovitreus and cataract has undergone surgery in general anesthesia at regular surgical program in Eye Clinic UCC Tuzla. Surgery was performed under supervision of senior specialists (vitreoretinal surgeon). Cataract surgery was performed by modified "chop" technique and operation at posterior eye segment with standard 23gauge three "ports" entry vitrectomy. In practice these combined operations are performed by high experienced surgeons of anterior and/or posterior eye segment. The period required for development of quality anterior and posterior eye segment surgeon is about 10 years. In Eye Clinic UCC Tuzla, we decided for a different approach. In addition to current ophthalmology residency education program, residents who have expressed interest in ophthalmologic surgery, opportunity to actively participate in surgical program, is given. This approach has led to result that residents at Eye clinic UCC Tuzla in their final year of residency can do independently anterior eye segment surgeries and with supervision of experienced ophthalmic surgeon posterior eye segment surgeries. In this way, the young specialist, younger than 35 years, become fully independent ophthalmosurgeons, prepared to perform the most complex ophthalmic surgeries in many years to come.

**Ključne riječi:** ophthalmology residency; ophthalmosurgeon

# REFRAKTIVNA HIRURGIJA

## REFRAKTIVNA HIRURGIJA LASIK ILI PRK METODOM – ŠTA JE BOLJE ZA MOG PACIJENTA?

*Predavanje po pozivu*

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### Apstrakt

**Cilj:** Predstavljanje dva glavna modaliteta refraktivne hirurgije rožnjače excimer laserom LASIK i PRK i diskusija po pitanju prednosti i nedostataka svake od njih.

**Metodi:** Refraktivne mane oka mogu biti korigovane promenom prelomne moći rožnjače ili promenom jačine sočivnog sistema. Prvi pristup je dobio na zaletu od početka primene fotoablacije excimer laserom 90-ih godina prošlog veka, koji sa do tada neviđenom preciznošću može promeniti oblik rožnjače sa minimalnim komplikacijama. Dva glavna metoda su: površne ablacijs (PRK, LASEK i EpiLASIK) s jedne strane i LASIK s druge. Iako je LASIK danas najčešće primenjivana intervencija u oftalmologiji, jedan broj refraktivnih hirurga okreće se nazad ka površnim ablacijsima.

**Rezultati:** Više kriterijuma je primljeno radi definisanja najboljeg terapijskog metoda, a individualizacija za svakog pacijenta je izuzetno bitna. U slučaju suvog oka PRK je bolje rešenje jer manje oštećuje nervne završetke u rožnjači i time smanjuje rizik od razvoja ili pogoršanja stanja suvog oka posle intervencije. S obzirom da se pri PRK metodi ablacijs uklanja samo ona količina tkiva koja je potrebna za promenu zakrivljenosti rožnjače, indikovana je njena primena u slučajevima tanke rožnjače. Po pitanju bola i brzine oporavka LASIK je bolja opcija, pa su to uglavnom razlozi zašto se pacijenti odlučuju za ovaj metod. Po pitanju broja komplikacija, PRK je u prednosti kao jednostavnija procedura, dok LASIK ima veći broj komplikacija vezanih za pravljenje lamele i njeno zbrinjavanje u postoperativnom toku. Procenat ozbiljnih komplikacija za vid je veći kod LASIK nego kod PRK metode, ali se najveći deo njih može smanjiti pravilnim izborom pacijenta. Što se tiče refraktivne dorade, kod LASIK metoda je to moguće brže i jednostavnije uraditi, dok je za PRK potrebno duže čekanje za stabilizaciju dioptrijskih i metaboličkih stišavanja rožnjače, te pacijent prolazi kroz isto tako bolan i spor period oporavka kako i pri prvoj intervenciji. Po

pitanju refraktivnih rezultata, LASIK brže dostiže željenu korekciju nego PRK, dok su dugoročni rezultati istovetni kod obe metode.

**Zaključak:** Pravilan odabir pacijenata i primena odgovarajuće LASIK ili PRK metode je ključan parametar za zadovoljavajući rezultat posle refraktivne hirurgije, a na zadovoljstvo pacijenta. Dobro poznavanje indikacija, kontraindikacija, mogućih komplikacija, kao i načina prevencije i zbrinjavanja istih, važni su elementi za dobrog refraktivnog hirurga.

## TORIC MULTIFOCAL INTRAOCULAR LENS FOR CORRECTION OF PRESBYOPIA AND ASTIGMATISM

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**Branka Jurić**, University Eye Hospital Svjetlost, Hrvatska

### Apstrakt

**Purpose:** To evaluate clinical outcome of refractive lens exchange with implantation of AT LISA Toric IOL implantation.

**Methods:** Twenty one patients (42 eyes) were followed after clear lens extraction and binocular multifocal toric intraocular lens (IOL) implantation. Uncorrected distant visual acuity (UCDVA), uncorrected intermediate visual acuity (UCIVA) and uncorrected near visual acuity (UCNVA), spectacle independence, residual astigmatism, IOL misalignment, posterior capsular opacification (PCO) and visual disturbances were measured. Follow up was at least six months.

**Results:** Preoperative spherical equivalent reduced from  $+3,2 \pm 4,0$ D preoperatively to  $-0,25 \pm 0,75$ D postoperatively. Preoperative refractive cylinder was reduced from  $+2,00 \pm 0,75$  D to  $-0,25 \pm 0,50$  D after the surgery. UCDVA, UCIVA and UCNVA were satisfying with high percentage of spectacle independence; only two patients sometimes have to wear glasses for distance vision. IOL stability was good, only to one patient we had to do reposition of IOL.

**Conclusion:** AT LISA Toric multifocal IOL provide safe, predictable and stable option for correction of combined presbyopia and astigmatism with low rate of misalignment and surgical repositioning.

# RETINAL PERIPHERAL DEGENERATION AND LASIK

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## Apstrakt

**Purpose:** The aim of this prospective study is to establish the risk and incidence of occurrence of retinal complications in the myopic eye after LASIK.

**Materials and methods:** The study was carried out at the Special Hospital "Professional-Dr Suvajac" from June 2010. to September 2011. 165 patients underwent LASIK intervention to correct myopia. Mean spherical equivalent was - 4.75D (SD 2.25) preoperatively. A detailed review of fundus was done preoperatively with slit lamp biomicroscopy combined with Goldman three mirror and panfundoskopic contact lens, and repeated 1, 3, and 6 th month after LASIK intervention. LFC prophylactic treatment is done on one eye. Characteristics and distribution of peripheral retinal degenerative changes were observed and analyzed.

**Results:** Localization of most lesions were in the upper temporal quadrant. In 95.5% of cases the changes were bilateral, unilateral in 4.5%. Preoperatively, 262 eyes had normal periphery findings of the retina. 54 eyes had peripheral degenerative changes as follows: lattice degeneration 19 (35.2%), pigment alterations, 12 (22.2%), pavingston degeneration 10 (18.5%), snail track degeneration 7 (12.9%), cystic degeneration, 4 (7.4%), atrophic holes 2 (3.7 %), posterior vitreous detachment 9 (3.4%). After LASIK intervention there was no alteration of existing peripheral retinal changes, or retinal detachment.

**Conclusion:** Although there are described pathological conditions in peripheral retina of myopic patients, as a complication after LASIK interventions, our data do not find a cause - effect relationship between LASIK and retinal complications. A long-term follow-up of these patients is important to confirm our findings. The fact that the incidence of retinal pathological conditions are more common in myopic eyes, suggesting that it is necessary to strictly filtrate candidates for refractive surgery, along with a careful and detailed examination of the retinal periphery.

**Ključne riječi:** Lasik; myopia; retinal peripheral degeneration; complications

# LASIK OR PRK IN GLAUCOMA SUSPECTS?

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## Apstrakt

**Introduction:** Glaucoma patients present a unique set of challenges to physicians performing corneal refractive surgery.

**The Aim:** was to determine whether performing PRK in glaucoma suspects leads to damage progression in CVF and HRT in 6 months follow up.

**Material and methods:** In our study were analyzed 356 consecutive myopic eyes undergoing laser correction of vision using LASIK or PRK. Total myopic spherical equivalent was  $-4.75 \pm 2.25$ Dsph. Of these, in 39 eyes (11%) photorefractive keratectomy (PRK) was done. Total of 31 patients (61 eyes) were sent to the examination for suspected glaucoma. Reasons for examination were borderline or elevated intraocular pressure (12 patients-24 eyes), suspected clinical appearance of the optic nerve disc (14 patients-27 eyes) or a positive family history of glaucoma (2 patients eye-4-1.1% of myopic eyes). 1 patient was excluded from further tests and refractive surgery the exam confirmed the existence of damage and defects in the visual field. Of the 30 patients referred for further examination in 15 (30 eyes) were advised that the intervention is performed using PRK. In the rest of the suspects glaucomatous changes were excluded so they underwent LASIK. All patients were monitored postoperatively in terms of high IOP and repeated findings of HRT and CVF.

**Results:** In patients undergoing LASIK method, which are sent to the preoperative additional tests has not been observed shift in the IOP-in, even with the correction factor due to changes in corneal thickness during the six-month follow-up, or changes in the findings of KVP and HRT. In 10 patients after PRK is not observed high in IOP for 6 months. In three patients during the first 10 postoperative days was measured IOP reached values  $20 \pm 2$ . In two patients 7 days after laser IOP was 26 and 27 mmHg. They were treated with timolol corticosteroid therapy treatment was reduced. Pressure measured after 6 days was in the range of normal values. During further follow-up, there was no change in IOP values. In following postoperative CVF and HRT signs of progression or damage were not observed.

**Conclusion:** In the literature there is data that implies that previous glaucoma suspects can progress to further damage in the visual field and HRT after LASIK and are advised to undergo PRK. Our patients with even the slightest doubt on the existence of glaucoma damage, underwent PRK and in the first 6 months progression to the CVF and HRT was not observed.

**Ključne riječi:** LASIK; PRK; glaucoma suspects

# MODERN APPROACHES IN REFRACTIVE SURGERY

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## Apstrakt

**Purpose:** Retrospective assessment of more than 20000 patients who underwent variety of refractive procedures in Eye Clinic "Svetlost" in Zagreb in the past 13 years.

**Matherials and methods:** Review of patients data who underwent various refractive procedures since January 1998. Patients were divided into two main groups: first group underwent corneal refractive procedures (LASIK, PRK, Intracor) and second group underwent lens based procedures (Refractive lens exchange, Phakic IOL implantation). Diopter and age distribution, refractive outcome and patients satisfaction were observed.

**Results:** Preoperative refraction distribution of our patients was: myopia 22%, myopic astigmatism 53%, hyperopia 8%, hyperopic astigmatism 14%, mixed astigmatism 3%. Age distribution of our patients in corneal refractive procedures was: 18-25 years 23%, 26-35 years 36%, 36-45 years 25%, 46-55 years 12%, more than 56 years 4%. Age distribution in phakic intraocular lenses was: 26-35 years 44%, 36-45 years 27%, 46-55 years 10% and 1% of patients was older than 56 years. In multifocal refractive lens exchange age distribution was: 26-35 years 0,5%, 36-45 years 6%, 46-55 years 44%, and 56 years and older 49,5%. In both groups 95% of patients achieved 20/25 vision or better, with mean SE in the first group  $+0,25\pm1,0$ D, SE for refractive lens exchange was  $+0,25\pm0,50$ D, and for phakic lenses  $+0,50\pm1,25$ D. Patients satisfaction was obtained by questionnaire and ranged from 97% in the first group to 99% in the second group (95% in refractive lens exchange, and 99% for phakic IOL).

**Conclusion:** Refractive surgery is the quickest growing and evolving part of ophthalmology. With the introduction of new technologies we are able to meet expectations of more than 90% of patients. Technological improvements decreased complication rate to less than 1% and improved refractive outcomes bringing us 98% of satisfied patients especially those with high ametropia.

**Ključne riječi:** refractive surgery; LASIK; PRK; Intracor; Refractive lens exchange; phakic IOL

# **POBOLJŠANJE VIDNE OŠTRINE NAKON LASIK – A KOD PACIJENATA SA ANIZOMETROPSKOM AMBLIOPIJOM**

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## **Apstrakt**

**Cilj rada:** prikazati poboljšanje vidne oštine kod anizometropskih ambliopnih očiju nakon LASIK-a.

**Materijal i metode:** ova studija je retrospektivni prikaz pacijenata kojima je prethodno dijagnostikovana anizometropska ambliopija, a koji su bili podvrgnuti LASIK refraktivnoj hirurškoj proceduri za korekciju ametropije. Preoperativno smo kod svih pacijenata odredili manifestnu i cikloplegičnu refrakciju, odredili nekorigovanu (UCVA) i najbolje korigovanu vidnu oštirinu (BCVA) po Snellen-u, izmjerili intrakularni pritisak (IOP), uradili nalaz kornealne topografije, te preged prednjeg i zadnjeg segmenta oka na biomikroskopu. Postoperativni podaci su se sastojali od poređenja preoperativne manifestne refrakcije i najbolje korigovane vidne oštirine nakon 1, 3 i 6 mjeseci postoperativno.

**Rezultati:** analizirali smo preoperativne i postoperativne rezultate 108 očiju ili 82 pacijenta, prosječne starosti 32 godine (19-55 godina). Srednja vrijednost najbolje korigovane vidne oštirine je bila 0.45 (od 0.1 do 0.8), sa prosječnom sfernom dioptrijom od -6.49 D (od -9.50 D do +5.75 D), te prosječnom dioptrijom cilindra od -1.77 D (od -5.50 D do +4.50 D). Tri mjeseca postoperativno srednja vrijednost BCVA je bila 0.55 (od 0.1 do 0.9) sa prosječnom vrijednosti sfere od +0.15 D i cilindra od -0.46 D; 65.10% pacijenata postoperativno je imalo poboljšanje vidne oštirine od 1 ili više redova na Snellen-ovom optotipu.

**Zaključak:** Svi pacijenti su bili zadovoljni i imali su stabilnu vidnu oštirinu 6 mjeseci postoperativno, a LASIK metoda se pokazala kao sigurna i efikasna refraktivna hirurška procedura kod pacijenata sa anizometropskom ambliopijom.

**Ključne riječi:** Anizometropska ambliopija; LASIK; poboljšanje vidne oštirine

# KERATOKONUS I MOGUĆNOSTI LIJEČENJA

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## Apstrakt

**Cilj rada:** prikazati prevalenciju i mogućnosti liječenja keratokonusa.

**Materijal i metode:** analizirani su podaci 15.800 pacijenata pregledanih u Klinici Svetlost Zagreb i Klinici Svetlost Banja Luka od juna 2009 do juna 2011. godine. Pacijenti su grupisani prema polu, dobu, stepenu keratokonusa, te da li se keratokonus javio na jednom ili oba oka. Rezultati: Od 15.800 pregledanih pacijenata, keratokonus je otkriven kod njih 580 (3.8%); 326 (57%) su bili muškarci, a 204 (43%) žene; kerakonus na jednom oku je otkriven kod 287 pacijenata (49%), a na oba oka kod 293 pacijenta (51%). Najveći broj pacijenata sa kerakonusom bio je u dobnoj grupi od 26-35 godina (29%). Kod 19% pacijenata keratokonus je bio u stadijumu I, kod 39% u stadijumu II, 28% u stadijumu III i 14% u stadijumu IV. Terapijske mogućnosti koje smo primjenjivali uključivale su fitovanje RPG kontaktnih sočiva, Corneal Cross Linking (CXL), implantaciju kornelnih ringova i penetrantnu keratoplastiku. Zaključak: iako su kontaktna sočiva i dalje najbolji vid korekcije keratokonusa u stadijumu I i II, nove metode, kao što su Intacs, Ferrara ili KeraRings kornealni ringovi i CXL pokazale su se kao vrlo uspješne za zaustavljanje ektazije u stadijumima II i III, te umanjili potrebu za penetrantnom keratoplastikom (PK). PK je bila metoda izbora kod pacijenata sa ektazijom u terminalnom stadijumu, sa lošom vidnom oštrinom u promjenama u svih slojevima rožnjače. Stepen odbacivanja grafta je takođe bio izuzetno nizak.

**Ključne riječi:** Keratokonus; Corneal Cross Linking; Kornealni ringovi; Penetrantna keratoplastika

# **REFRAKTIVNA HIRURGIJA U KLINICI SVJETLOST BANJA LUKA OD 2008-2012. GODINE**

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## **Apstrakt**

**Cilj rada:** predstaviti vrste operativnih zahvata i rezultate u refraktivnoj hirurgiji Klinike Svjetlost Banja Luka.

**Materijal i metode:** analizirali smo podatke o obavljenim refraktivnim procedurama od oktobra 2008. do septembra 2011. godine. Podatke smo podijelili na osnovu doba i pola pacijenata, vrste refrakcione anomalije, te vrste operativnog zahvata.

**Rezultati:** u periodu od oktobra 2008 do decembra 2011. godine urađeno je 1196 refraktivnih operativnih zahvata, od kojih se 1112 odnosni na operacije laserskog skidanja dioptrije, 36 na implantaciju Verisyse fakičnih intraokularnih sočiva, 6 na implantaciju Veriflex fakičnih intraokularnih sočiva, 18 na implantaciju difraktivnih multifokalnih sočiva, 5 na implantaciju refraktivnih multifokalnih sočiva i 19 na implantaciju zadnjekomornih monofokalnih intraokularnih sočiva. Ukupno je operisan 431 pacijent muškog pola (48.92%) i 450 pacijenata ženskog pola (51.08%), najviše u dobnog grupi od 26-45 godina. Među refrakcionim anomalijama, najviše je bilo korekcija miopskih astigmatizama (565), a najmanje hipermetropija (63).

**Zaključak:** Klinika Svjetlost Banja Luka je prva zdravstvena ustanova u BiH u kojoj su se počele primjenjivati moderne refraktivne hirurške procedure. U našoj studiji, sve primjenjene procedure su se pokazale kao vrlo efikasne, bezbolne i sigurne, sa velikim stepenom satisfakcije operisanih pacijenata.

**Ključne riječi:** Refraktivna hirurgija; refrakcione anomalije; lasersko skidanje dioptrije; implantacija sočiva

## PREDNJI SEGMENT

### A SUCCESSFUL TREATMENT OF CORNEAL ULCUS WITH PROPAGATION TO ENDOPHTHALMITIS IN A GIRL WEARING RIGID GAS PERMEABLE CONTACT LENSES

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#### **Apstrakt**

The goal of our paper is to present the case of a successful treatment of corneal ulcer with propagation to endophthalmitis, after the rigid gas permeable (RGP) contact lenses had been worn. The subject is myopic astigmatism corrected by means of lenses, which had been worn by the girl patient for 15 days before pain, the eye red and eye narrowing appeared. As the clinical image was getting worse with the administration of local peroral antibiotic therapy, the patient was referred to the Eye Clinic. At admission, we found the red eye with a voluminous central-paracentral ulcer, descementocela, with pus in the anterior chamber and dense vitreous body opacity. In the corneal scraping, on the lens surfaces and in lens water, through microbiological analyses, *Pseudomonas aruginosa* was found. After systemic and local therapy with cyclofloxacin was introduced, alongside other ophthalmological therapy, there appeared reduction of clinical signs and reparation of the cornea with formation of a voluminous scar – leucoma. A hard exudate remained paramacularly after the treatment was completed, visual acuity was 1,0 with correction. Timely and appropriate therapy for corneal ulcer with propagation to endophthalmitis may produce excellent outcomes.

### AUTOLOGOUS FREE ORAL MUCOSAE GRAFT AS BY-PASS OF CONJUNCTIVAL FORNIX WITH NOSE

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**Mirsad Ibišević, Emina Alimanović-Halilović, Vesna Jurišić Friberg,  
Nebil Al-Hassan, Edita Dervišević, Azra Gutošić**

#### **Apstrakt**

**Purpose:** To present two first time cases where canalicular defect was reconstructed with autologous free oral mucosae graft connecting conjunctival fornix and nasal cavity.

**Material and Methods:** Two patients with medial angle tumors were treated at the Eye Clinic Sarajevo in 2009. Both cases underwent surgical excision of tumors. Skin defects were reconstructed by a free split skin graft while defects of lacrimal canalicules were reconstructed with oral mucosae graft after the maxillary bone osteotomy.

**Results:** Free split skin grafts were on place, and the nasolacrimal passage is still standing in the patent 30 (case one), and 36 (case two) months after surgery. Pathological exam: case one - squamocellular carcinoma; case two - basocellular carcinoma. No recidive of tumor, or any other serious after-surgery complications were discovered up to date.

**Conclusion:** Surgical excision of tumors in a medial angle produce skin defects and in some cases also a defect/ tearing of the passage system. Canaliculo-nasolacrimal passage defect can be passed over with conjunctivo dacryocystorhinostomy or in selected cases with our by-pass procedures using oral mucosae free graft which connect conjunctival fornix and nasal cavity.

**Ključne riječi:** conjunctivodacryocystorhinostomy; oral mucosae by-pass graft; canalicular defect

## EFFECT OF ACETAZOLAMIDE ON CENTRAL CORNEAL THICKNESS AFTER PHACOEMULSIFICATION IN SPECTRAL DOMAIN OPTICAL COHERENT TOMOGRAPHY

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### Apstrakt

**Introduction:** Acetazolamide as inhibitors of carbonic anhydrase in glaucoma therapy has an effect on lowering intraocular pressure. In addition to this primary effects, we attempted to determine the effect on the cornea after phacoemulsification. In our study, we determined the effects of systemically applied dose of 250 mg of acetazolamide on the edema, thickness, and corneal morphology after phacoemulsification, the spectral optical coherent tomography, high resolution (HR SD-OCT).

**Materials and methods:** The study included 47 patients who were divided into two groups. Groups were stratified by type of cataract (nuclear), age ( $62 \pm 1.5$ ), preoperative visual acuity ( $5/60 \pm 0.05$  on the Snellen table) and preoperative findings on HR SD-OCT. Phacoemulsification has worked

the same surgeon, with the same ultrasound probe length using ultrasonic force for a period of  $52 \pm 2.5$  seconds and the average value of 14. Group of 31 patients were administered systemic acetazolamide at a dose of 250 mg per scheme 01 hours +24 hours after phacoemulsification. Another group of 16 patients did not receive acetazolamide. HR SD-OCT recordings were performed before surgery, 6 hours and 24 hours after surgery to all patients.

**Results:** Before surgery the mean value in both groups was  $556 \pm 8 \mu\text{m}$ . Group I that received medication after 6h average value of  $648 \pm 6 \mu\text{m}$ , after 24 h mean value was  $612 \pm 4 \mu\text{m}$ . The group that did not receive acetazolamide had a mean thickness of the cornea after 6 hours of  $720 \pm 5 \mu\text{m}$ , and after 24 hours  $708 \pm 4 \mu\text{m}$ . Morphological changes in the tomograms of the group who received acetazolamide showed minimal creases Descemet's membrane. Postoperative visual acuity at 24h in the group receiving the drug was  $0.6 \pm 0.05$ , while the second group was  $0.3 \pm 0.05$  on the Snellen table.

**Conclusion:** In our study where patients were administered systemic acetazolamide has been a significant reduction of central corneal thickness and to reduce postoperative corneal edema. The folds Descemet's membrane and endothelial dysfunction in HR SD OCT recordings in this group showed less structural changes. Significant postoperative visual acuity in these patients is probably caused by small corneal edema after 24 h, which improves patients' comfort and better postoperative results.

**Ključne riječi:** Cornea; Optical coherence tomography; Corneal thickness

## **THE ROLE OF HIGH RESOLUTION SPECTRAL DOMAIN OPTICAL COHERENCE TOMOGRAPHY IN CORNEAL DYSTROPHY AND DEGENERATION**

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### **Apstrakt**

**Introduction:** Spectral domain optical coherence tomography high-resolution (HR SD OCT) of the anterior segment is a relatively new noninvasive method which allows us a detailed overview of anatomical-structural changes of cornea. In our study, we have analyzed the morphological characteristics of changes in the cornea at the HR SD OCT with corneal dys-

trophy and degeneration. We compared the findings of HR SD OCT with a clinical presentation at the Slit lamp and tried to determine the role of HR SD OCT in the clinical evaluation of dystrophy and degeneration of the cornea.

**Materials and methods:** A prospective study in 15 patients divided into two groups. Group of 8 patients had clinically verified changes on cornea. In 6 patients were dystrophy, three cases of stromal dystrophy and one case of corneal endothelial dystrophy, and 2 patients with epithelial dystrophy. Two patients had degenerative changes in the cornea. The control group included 7 patients without clinical signs of changes on cornea. Clinical examination was performed at the Slit lamps, a HR SD OCT tomograms (SOCT Copernicus HR) in asterisks cross sections of  $3\mu\text{m}$ , width 4mm and 5 mm. Software analysis was assessed structural distribution, size, density, and accumulation within the changes.

**Results:** In Slit lamp it could not be determined with great certainty the deposit accumulation layer in boundary forms which extend through Bowman layer and penetrate the epithelium. On HR SD OCT tomograms like as histopathologic findings can reliably determine structural arrangement, the spatial relationship of mutual deposit. Based on the intensity of the reflection light beam at the HR SD OCT we have determined a different consistency of the deposit, which has the highest accumulation in their central part. Measuring at the HR SD- OCT we have determined the size and spatial distribution of each individual deposit. In the control group there was no structural changes, with clearly differentiated anatomical layers of the cornea.

**Conclusion:** The role of HR SD OCT on the anterior segment is extremely important for dystrophy and degeneration of the cornea because it allows us to analyze structural changes. HR SD OCT as noninvasive method may represent *in vivo* optical biopsy and essential part of the clinical evaluation of dystrophy and degeneration of the cornea. As in their distribution also in the size and compactness of the deposit. This significance may have important clinical significance in planning of any surgical procedure, because the spatial distribution and accumulation places can be mapped preoperatively.

**Ključne riječi:** Optical coherence tomography; Cornea; Dystrophy

# **NECROTIZING FASCIITIS: CASE REPORT**

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**Miroslav Radojcic**, Opsta bolnica Doboј, BiH (Republika Srpska)

## **Apstrakt**

Necrotizing fasciitis is an extremely rare, rapidly progressive necrosis which first attacks a subcutaneous soft tissue, and later the skin.Unless the treatment is not undertaken early and adequately, it could be even lethal. The basis for its treatment is surgical removal of the necrotic tissue in combination with an intensive antibiotic treatment. Our goal is to present a case of necrotizing fasciitis of the upper eyelid, which, despite the developed system complications,ended up in the recovery. In October of 2010,a previously healthy 60-year-old woman, was sent to the ophthalmology department of General Hospital Doboј because of swelling and redness of the upper eyelid of the left eye. After a detailed case history and clinical examination, necrotizing fasciitis was suspected and the patient was hospitalized. After detailed history and clinical examination set is suspected necrotizing fasciitis, and hospitalized patients. The laboratory analysis were done, a dermatologist was consulted, and the incision was done, after which changes were obtained by manual expression of blood content. High doses of wide-spectrum antibiotic were prescribed. Due to a poor general condition, fever, tachycardia, decreased diuresis and lowering of blood pressure, the patient was moved to the Department of Internal Medicine under the constant supervision of an ophthalmologists. After 11 days of hospitalization, with good general condition and the changes of the eyelid, the patient was released from the hospital and sent home, with local and systemic antibiotic therapy. Necrotizing fasciitis is a rare and potentially lethal condition. According to the literature, the incidence of the disease is 0.4 to 5,8 on 100 000 people per year. It most often occurs at the place of a previous injury,in all age groups and is equally present in both sexes. Early diagnosis is usually missed, due to deficient clinical symptoms and partly due to insufficient clinical experience.An initial treatment includes intravenous use of antibiotics, but in spite of the adequate treatment, the large number of cases has a lethal outcome. An early diagnosis and a proper treatment are the most important factors for improvement of outcome of the necrotizing fasciitis. The aim of this study was to highlight the importance of a fast diagnosis and early initiation of therapy. Also, one of the goals of this work is to ask a question whether we have prevented further necrosis with incision, which is not mentioned in the literature?According to the literature, the surgical treatment consists of wide surgical excision of emergency necrotic tissue, which we tried to avoid, particularly due to the localization of the changes of highly visible part of the face.

Our case suggests that timely diagnosis, adequate antibiotic therapy, without surgical excision can be complete recovery.

**Ključne riječi:** incision; necrotizing fasciitis

## **CONJUNCTIVAL AUTOGRAPHING WITH FIBRIN GLUE FOLLOWING PTERYGIUM EXCISION – OUR FIRST EXPERIENCE**

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**Ibrahim Pačo**, General Hospital "Prim. Dr Abdulah Nakaš", BiH (Federacija BiH)

**Jozica Baralić**, General Hospital "Prim. Dr Abdulah Nakaš"

**Jasna Muhović-Beđić**, General Hospital "Prim. Dr Abdulah Nakaš"

### **Apstrakt**

**Objective:** To present and share our first experience and thoughts on techniques and learning curve of sutureless autografting with fibrin glue following pterygium excision.

**Methods:** After corneal ablation and pterygium excision, free conjunctival graft is dissected from the superior bulbar conjunctiva. The graft is transferred to the recipient bare-sclera bed and secured with a fibrin tissue adhesive.

**Conclusion:** The use of fibrin glue in pterygium surgery with conjunctival autografting reduces the surgical time, postoperative pain, conjunctival hyperemia and ocular discomfort with faster patient recovery compared to fixation with sutures. It is a safe and easy to learn technique and should be considered as an alternative method for the attachment of conjunctival autograft in pterygium surgery.

**Ključne riječi:** fibrin glue; pterygium; conjunctival autografting

# STRABIZAM I AMBLOPIJA

## SURGICAL APPROACH TO STRABISMUS TREATMENT

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*Predavanje po pozivu*

Jasmina Alajbegović-Halimić, Klinika za očne bolesti KCU SarajevoBiH (Federacija BiH)

### Apstrakt

**Intraductions:** In this report, we would like to confirme big dilemmas regarding choice of strabismus surgeries approach inspite of all known surgical principles. Sometimes and big disappointments with the results.

**Material & methods:** In retrospective study from 2008 until 2012, we included 210 operatedatines in total 240 surgeries.

**Results:** We had 181 (86,1%) children and 29 (13,81%) adults patinets, type of strabismus esodeviations 152 (72,3%), exodeviations 40 (19,94%), thirderve palsy 9 (4,28%) cases, abducens palsy 5 (2,3%), Duan syndrom 4 (1,9%), Nystagmus cvases 4 (1,9%), MOI hyperfunction 19 (9,04%), consecutive exo 4 (1,9%). No general anesthesia complications and postoperative complications we had 2 (0,95%) conjunctival cyst and 1(0.47%) post-operative diplopia.

**Conclusions:** Choice of surgigal tretment is sometimes very difficult nad sometimes very disappointed.Good preoperative conservative treatment is very important.

**Ključne riječi:** strabismus; surgical; treatment

## DID THE PEDIG STUDIES CHANGE MY APPROACH TO AMBLYOPIA TREATMENT?

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*Predavanje po pozivu*

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### Apstrakt

Amblyopia is a core part of pediatric strabismus management and is still a common problem even though it can be completely or partially overcome with treatment if detected in time. Practice varies widely in the management of strabismic, anisometropic and combined amblyopia: how much patching, start & maintenance, penalization, time of screening. The Pediatric Eye Disease Investigator Group (PEDIG) amblyopia studies have led to a reduction in the intensity and duration of amblyopia treatment

and production of new evidence-based practice guidelines, even though their adoption in clinical practice has been questioned. Frequently asked questions today are: did the PEDIG studies change my management of amblyopia? Are they an advancement in amblyopia management, or have they caused a dilemma? Several uncertainties still remain that cannot currently be answered reliably by referring to up-to-date systematic reviews of existing research evidence.

**Ključne riječi:** amblyopia; PEDIG studies

## **REFRAKCIJONE ANOMALIJE I SLABOVIDOST U DEČIJOJ DOBI**

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*Predavanje po pozivu*  
**Doc. dr Vladimir Čanadanović**

### **Apstrakt**

Nekorigovane refrakcione anomalije su čest uzrok poremećaja vida dovode do slabovidosti i razrokošti. U ovoj retrospektivnoj studiji su evaluirane veličina i tipovi refrakcionih anomalija kod 106 slabovide dece podeljene u tri grupe. Hipermetropija blagog stepena (1-3D) je bila prisutna kod 16 (26%), srednjeg stepena (4-6D) kod 37 (59,5%) a visoka ( $\geq 7$ D) kod 9 (14,5%). Miopija blagog stepena (1-3D) je bila prisutna kod 5 (23,8%) a srednjeg stepena (4-6D) kod 13 (62%). Kod 3 (14,2%) ispitivane slabovide dece bila je prisutna mipoja visokog stepena ( $\geq 7$ D). Kod 23 (21,7%) slabovide dece utvrđen je miopni ili hipermetropni astigmatizmom većim od jedne dioptrije. Slabovida deca sa hipermetroponom refrakcijom i astigmatizmom imaju signifikantno lošiju vidnu oštrinu u odnosu na miopnu. Poremećaji refrakcije su u 54% slabovide dece praćeni manifestnom razrokošću, signifikantno češće esotropiom. Kod slabovide dece koja su pored refrakcijske greške imala i manifestnu razrokost vidna oštrina 0,5 ili niža je bila zastupljena u preko 70%.

**Ključne reči:** refrakcija, slabovidost, vidna oštrina

## **ANISOHYPERMETROPIC AMBLYOPIA – DO WE TREAT AFTER TEN YEARS OF AGE?**

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**Branko Stankov**, Stankov Oftalmologija

**Đoko Obućina**, Stankov Oftalmologija, Srbija

**Nebojša Nikitović**, Stankov Oftalmologija, Srbija

**Miroslav Stamenkovic**, Fakultet za specijalnu edukaciju i rehabilitaciju, Srbija

### **Apstrakt**

**Purpose:** It is generally known that amblyopia is present in 2-3% of the general population. One of the most common types of functional amblyopia is anisohypermetropic amblyopia, which occurs as a result of constant suppression of the eye with greater hypermetropia. The universal principle to detect amblyopia as soon as possible and begin treatment as soon as possible (the younger child- the more rapid the response), despite three centuries of experience still does not give universal regimen.

**Method:** This is a retrospective study of 18 patients Stankov Ophthalmology, both sexes, aged between 10 and 12 years. A review of all patients, we find that the best visual acuity determined by Snellen is up to 0.3 on amblyopic eye with appropriate correction. All children were treated with total occlusion of sound eye for 1 to 6 months, with monthly control. Before starting treatment we make a fundus examination and excluded the possibility of organic impairment.

**Results:** In 16 patients (89%) there was an increase in visual acuity of 0.7 or more with optimal optical correction. After correction of visual acuity of all patients was prescribed partial occlusion.

**Conclusion:** Treatment of anisohypermetropic amblyopia should try in the years after the maturation of the visual system. If after six months of treatment, visual acuity does not progress, it is appropriate to consider discontinuation of further treatment.

## **ULOGA NASLJEDNOG FAKTORA U NASTANKU STRABIZMA**

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**Vinko Regoda**, BiH (Republika Srpska)

**Branko Stankov**, BiH (Republika Srpska)

**Miško Ljutica**, BiH (Republika Srpska)

**Đoko Obućina**, BiH (Republika Srpska)

### **Apstrakt**

**Cilj:** Nasljedni faktor je često prisutan kod roditelja, braće, sestara i bliže rodbine. Cilj našeg istraživanja je da utvrdimo ulogu nasljednog faktora kod djece sa prisutnim strabizmom.

**Bolesnici i metode rada:** Ispitivanje u našem radu smo sprovedeli kod srodnika 113 djece kojima smo na osnovu odgovarajućih dijagnostičkih procedura utvrdili postojanje strabizma. Do podataka smo dolazili na osnovu pregleda srodnika koji su se odazvali našim pozivima na pregled. Objektivno ispitivanje naših ispitanika je uključivalo: određivanje vidne oštchine, refrakciju svakog oka, ispitivanje pokreta verzija-dukcija, cover-uncover test, određivanje PPC, određivanje fiksacije, pregled očnog dna i mjerjenje veličine ugla devijacije.

**Rezultati:** Od 113 djece sa strabizmom smo našli 36 (31,85%) srodnika koji su imali neki oblik razrokoši. Pri tome smo našli da je otac bio razrok kod 6 i majka kod 10 djece. Kod jednog djeteta smo imali slučaj da su oba roditelja razroka. Brat je bio razrok kod 2 i sestra kod 7 djece dok su baka i djeda bili razroki u 6 slučajeva. Ostala bliža rodbina je bila razroka kod 3 naša ispitanika. Pojava nasljednog faktora se različito procjenjuje kod strabizmičke populacije i ona iznosi od 30% do 70% po nekim autorima. Rezultati našeg istraživanja se ne razlikuju bitno od rezulatata domaćih i stranih autora. Wardenburg i Francois smatraju da je strabizam dominantno nasljedan dok Bauer vjeruje da je multifaktorijski.

**Zaključak:** Kada imamo malog pacijenta sa strabizmom moramo imati na umu da možda neko od njegovih srodnika takođe ima strabizam. Neophodno je široko sprovoditi aktivnu pretragu među srodnicima djece sa strabizmom u cilju iznalaženja uloge nasljednog faktora kod djece sa prisutnom devijacijom bulbusa.

**Ključne riječi:** strabizam; nasljedni; faktor; regoda; vinko; obucina; stankov

## UNILATERAL SIXTH CRANIAL NERVE PALSY – THERAPEUTIC POSSIBILITIES AND DILEMMAS – CASE PRESENTATION

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Nebojša Nikitović, Stankov Oftalmologija, Srbija

### Apstrakt

**Purpose:** As many studies show, palsy of cranial nerve VI is one of the most frequently paralytic strabismus, with palsy of cranial nerve IV. The idea is to show the possibilities and dilemmas of treatment of unilateral abducens palsy through the case.

**Method:** Male, 46 years, three years ago suddenly left eye turn inward, with double vision and abnormal head position in the beginning. He did

not have therapy so far, hoping for a spontaneous recovery. Neurological and cardiovascular examinations: without pathology (except sixth cranial nerve palsy on left eye). Strabological status: VOU: 1.0sc; in primary position: left eye esotropia (60PD) without torticollis, secondary deviation (75PD), lack of abduction of the left eye. We performed asymmetric bilateral recession of medial rectus (on right eye 12mm; left eye 10mm) with resection of the lateral rectus (10mm) on his left eye.

**Results:** Seven days after surgery we found orthotropia in primary position, lack of abduction of the left eye and mild anterior segment ischemia. We recommended him orthoptic treatment.

**Conclusion:** Depending of lateral rectus function we making the appropriate procedural choice in order to achieve binocular vision in primary position, to correct of compensatory head posture and achieve the best possible abduction.

## ZNAČAJ OPTIČKE KOREKCIJE I OKLUZIJE U LIJEĆENJU UNILATERALNE MIOPIJE

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Đoko Obućina, BiH (Republika Srpska)

### Apstrakt

**Cilj:** Odgovarajuća optička korekcija refrakcione anomalije dovodi oko u stanje emetropizacije i uspostavlja impuls akomodacije i konvergencije. Okluzija boljeg oka omogućuje da pacijent koristi ambliopno oko i isključuje supresiju dominantnog oka koje ima na ambliopno oko. Cilj našeg ispitivanja je da utvrdimo ulogu optičke korekcije i okluzivne terapije u lijećenju ambliopije kod djece sa unilateralnom miopijom.

**Materijal i metode rada:** Naše istraživanje je sprovedeno kod 78 djece dobne uzrasti od 5 do 15 godina za period 2009-2011. Kod sve djece smo na osnovu dijagnostičkih procedura dokazali postojanje unilateralne miopije. Svakom ispitniku smo uradili: određivanje vidne oštrine, određivanje refrakcije, strabološko ispitivanje, pregled očnog dna.

**Rezultati:** Od 78 djece nisku miopiju smo uočili kod 55, srednju kod 20 i 3 visoku miopiju. Vidna oštrina naših ispitnika prije optičke korekcije je bila manja od 0,1 kod 15 djece, 0,1 do 0,3 kod 50 djece i 0,4 do 0,8 kod 13 naših ispitnika. Nakon optičke korekcije nismo imali ni jedno dijete sa vidnom oštrinom manjom od 0,1. Ambliopija poslije optičke korekcije je bila prisutna kod 18 djece. Vidna oštrina od 0,1 do 0,3 je bila kod 3 djece i 0,4 do 0,7 je bila kod 15 djece dok su svi ostali ispitnici imali vidnu oštrinu bolju od 0,8. Ambliopnu djecu smo tretirali okluzijom kroz neko-

liko mjeseci. Pri tome smo imali samo jedno dijete sa ambliopijom od 0,1 do 0,3 i 4 djece od 0,3 do 0,7.

**Zaključak:** Važan tretman ambliopije je ispravljanje refrakcione greške uz dosljedno nošenje naočara ili kontaktnih sočiva. Drugi važan oblik liječenja ambliopije je primjena okluzivne terapije. Liječenja unilateralne miopije dovodo do značajnog poboljšanja vidne oštchine i otklanjanja funkcionalnog vidnog hendikepa.

**Ključne riječi:** opticka; konkuzija; regoda; obucina; stankov; ljutica

## APPLICATION CONTACT LENSES IN PREVENTION OF VISUAL IMPAIEMENT AND BLINDNESS

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### Apstrakt

We present the importance of contact lenses correction in prevention of visual impairment development in patients with high ametropias (amblyogenic refraction disorders namely hyperopia, myopia and astigmatism). We present retrospective review of our results and literature on application of contact lenses in different refractive disorders. Continuous wear with silicone hydrogels represents a breakthrough for these cases and some illustrative case studies are given. Fitting of soft, contact lenses can be used for therapeutic treatment of aphakia, anisometropia, myopia, hyperopia, esotropia, irregular astigmatism, and nystagmus. Cosmetic custom designs are available for the treatment of aniridia, albinism, amblyopia, and corneal disfigurement. The visual deficit in amblyopia can be reduced in some cases solely by fitting contact lenses, without the need for occlusion therapy. Other uses of contact lenses are reviewed including: correcting motor deviations, occlusion, and infantile onset nystagmus. Based on our experience correction of high refraction disorders we present positive results of amblyopia prevention and treatment. Contact lenses are more satisfactory than spectacle lenses in the management of ametropias and amblyopia in regard to cosmetics, comfort and treatment compliance.

**Ključne riječi:** contact lenses; refractive disorders; amblyopia

# DJEČIJA OFTALMOLOGIJA

## AGGRESSIVE POSTERIOR RETINOPATHY OF PREMATURITY

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### Apstrakt

**Purpose:** Retinopathy of prematurity (ROP) is the disease of immature retinas of prematurely newborns and is the major cause of blindness in this population. Aggressive posterior ROP (AP ROP) is the most severe form of ROP, with often unpredictable and unfavourable outcome. The purpose of this paper is to present case series of patients with AP ROP.

**Methods:** Prospective study of patients treated for AP ROP at Clinic for Gynaecology and Obstetrics, Clinical Centre of Serbia and Institute for Neonatology in Belgrade, Serbia. Patients underwent complete ophthalmological examination including medical history, slit lamp examination, indirect ophthalmoscopy with 20D lens, fundus photography and neonatologists' examination. Patients were treated with laser photocoagulation and in some cases, anti-VEGF drugs were administered intravitrealy.

**Results:** AP ROP is characterized by the posterior localization of new vessels, marked plus sign (congestion of blood vessels in iris, iridoplegia, vitreal opacities, dilatation of veins and tortuosity of arterial vessels on the posterior pole of the eye) and extremely rapid progression of the disease with need for immediate treatment due to the potential complications such as retinal detachment. Treatment modalities include extensive laser photocoagulation of the avascular retina (in the widespread zone with more than 2000 laser spots of high power and duration) and in the most severe cases which do not respond to the laser treatment, application of intravitreal anti-VEGF drugs. Patient follow up must be on every 7 days and in case of complications, experienced vitreoretinal surgeon must be a part of the team, although final functional outcome is unpredictable.

**Conclusion:** AP ROP is the most severe form of ROP with extremely rapid progression of the disease and early development of the sight threatening complications. Standard treatment modalities included extensive laser photocoagulation of the ischemic retina and vitreoretinal surgery. Application of intravitreal anti-VEGF drugs is a new treatment option for the most severe cases that for the moment has promising results.

**Ključne riječi:** retinopathy of prematurity; laser treatment; anti-VEGF

# TEN YEARS OF EXPERIENCE IN THE TREATMENT OF ROP IN MONTENEGRO

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## Apstrakt

The leading cause of blindness in children, both here and in the world is retinopathy of prematurity (ROP). In all premature births in Montenegro, and where indicated, to be screened for ROP according to the recommendations ETROP study. The examination is performed by indirect ophthalmoscope and magnifying glass 20D. Mydriasis: Mydriacil 0,5% and Phenilephrin 2,5%. Time of the first examination, depending on gestational week, is 32 and 36 weeks post-conceptual. Before 2003. there was no form of ROP treatment. Since 2003. children were transported to the Eye Clinic in Novi Sad for diode laser treatment. Since 2009. Laser treatment is performed at the Institute for Children Disease in Podgorica. From 2011. in the treatment of AP ROP applies anti VEGF therapy intravitreal. This therapy will be implemented from this year in our institution. We have come a long way for these ten years, from nothing to follow modern trends in the fight against ROP.

**Ključne riječi:** Montenegro; ROP; treatment

# NEONATALNI APSCES ORBITE (PRIKAZ SLUČAJA)

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**Jelica Predojević-Samardžić**, KI za Dj. bolesti, BiH (Republika Srpska)

**Dragica Jojić**, KI za Dj. bolesti, BiH (Republika Srpska)

**Dejan Đurđević**, MF hirurgija, BiH (Republika Srpska)

**Milka Mavija**, KI za Očne. bolesti, BiH (Republika Srpska)

## Apstrakt

**Uvod:** Cellulitis orbite je akutno serozno zapaljenje sadržaja orbite koje se veoma rijetko viđa u neonatalnom periodu. Ukoliko se na cellulitis orbite nadoveže gnojno zapaljenje ono može biti difuznog karaktera – flegmona ili lokalizovano- apsces orbite.

**Cilj:** Prikaz slučaja novorođenčeta kod kojeg je blagovremeno dijagnostikovan i uspješno izliječen apsces orbite.

**Prikaz slučaja:** Muško novorođenče primljeno na Kliniku za Dječije bolesti u 24 danu života po preporuci oftalmologa pod dg. Cellulitis orbite

tae lat.sin. Prvo dijete iz prve uredne, navodno kontrolisane trudnoće. Porod terminski, u OB Gradiška protekao uredno, kao i rani neonatalni period. Na prijemu muško novorođenče u 24 danu života, svjesno, febrilno ( $38,5^{\circ}\text{C}$ ), uznemireno, tahikardno, eupnoično, euhidrično; TM 3630 gr; TD 53 cm. Glava normalne konfiguracije, OG 38 cm, VF 1x1,5 cm u nivou okolnih kostiju. Desno oko urednog nalaza. Lijevo oko: kapci edematozni, crveni, oko zatvoreno sa žutozelenom sekrecijom u nazalnom uglu. Cjelokupan ostali nalaz po organiskim sistemima je uredan. Bris konjunktive desnog oka: sterilan; bris konjunktive lijevog oka: *Staphylococcus aureus*. Laboratorijski nalazi na prijemu: SE 60/100, E 4,07; Hgb 134; Htc 0,38; Tr 321; Le 28,6; nsg 007, seg 051, limf 029, mo 012, eoz 001; GUK 3,5 mmol/l; CRP 168 mg/l; PCT 4,2 ng/ml; fibrinogen 8,8 g/l, INR 0,9%; PTT 37,1"; BU 7,8 umol/l; AST 22, ALT 12; urea 2,82 mmol/l; kreatinin 45 umol/l; jonogram seruma: u granicama normale. ABS: uredan. Nalaz likvora: uredan; Urin: uredan nalaz, bris nosa: *Staphylococcus aureus*. Nakon kompletne obrade ordinirana je antibiotska th (ceftriakson, vankomicin, amikacin, a peti dan i metronidazol), lokalna terapija od strane oftalmologa (Tobrex, sol.), te infuzija tečnosti i elektrolita, kao i antipiretici. Konsultuje se oftalmolog, spec. ORL i maksilofacialni hirurg. Učini se CT glave i orbite koji ukažu na izražen periorbitalni celulitis lijevo sa posljedičnim egzoftalmusom. Kako na konzervativnu terapiju nije došlo do zadovoljavajućeg kliničkog i laboratorijskog poboljšanja, petog dana učinjena od strane maksilofacialnog hirurga incizija i drenaža apscesa, uz plasiranje drena, nakon čega dolazi do značajnog kliničkog poboljšanja sa normalozovanjem inflamatornih markera. U aspiratu apscesa izolovan *Staphylococcus aureus*. Šesnaestog dana hospitalizacije otpušta se kući, dobrog opštег stanja, uz prepouke o terapiji, njezi i kontrolama. TM na otpustu 4140 g. Najčešće zapaljenja orbite nastaju širenjem upale iz paranasalnih sinusa, suzne kesice, nosa, uha, te direktnom infekcijom orbite nakon penetrantnih povreda. Iako su ovako teška inflamatorna oboljenja orbite u neonatalnom periodu relativno rijetka, na njih se i danas mora misliti, pogotovo ukoliko nije sprovedena adekvatna prevencija neonatalnog konjunktivitisa ukapavanjem 1% Povidon Iodina, sol. Tetracycline ili sol Erytromycine odmah po rođenju.

**Ključne riječi:** neonatus; apsces orbite; liječenje

## CHEMOREDUCTION AND DEFINITIVE TREATMENT OF CONJUNCTIVAL AND CORNEO-CONJUNCTIVAL NEOPLASIA

Mirsad Ibišević, Emina Alimanović-Halilović, Nedžmija Saračević, Faruk Nišić,  
Merita Pranjić, Slavenka Marković, Vesna Jurišić Friberg

### Apstrakt

**Purpose:** To present 23 cases with conjunctival and corneo-conjunctival neoplasia treated with mitomycin C and Interferon α -2b.

**Material and Methods:** Prospective, nonrandomise, noncomapratitive, interventional study. Of all cases with conjunctival or corneo-conjunctival neoplasia treated with local and topical application of Mitomicin- C and Interferon α -2b at the Eye Clinic Sarajevo in the period of 2005 to 2011, 23 cases (with reference to inclusion and exclusion criteria) were included in this study. Group I: 12 cases with melanotic lesions. Group II: 11 cases with non melanotic neoplasia of conjunctivae or corneo-conjunctive. All patients had macroscopic (biomicroscopic) appearance of conjunctival or corneo-conjunctival neoplasia. Confirmation of diagnosis was achived by patohistological analysis of samples of impression citology and /or after patohistological analysis of material obtained by excisional biopsy.

**Results:** Of 23 cases in 9 cases tumors disapeared after 3 cycles of local and topical treatment with MMC and Interferon α -2b. In 12 cases (after 3 cycle of antimetabolites) tumors were smaller(chemoreduction) or unchanged and required additional surgical treatment with cryoapplication. In two cases tumor enlarged after antimetabolite treatment. Three cases with intensive vascularisation treated and with local application of bevacizumab. Patohistological results (impression cytology or excisional biopsy): 8 cases had malignant melanotic melanoma, 2 case amelanotic melanoma, 2 cases had primary acquired melanosis. In 9 cases was confirmed squamocellular carcinoma, one had intraepithelial neoplasm G3,one case had planocellular carcinoma.

**Conclusion:** Excision with cryotherapy are still standard treatment of conjunctival neoplasia.In selected cases, antimetabolite, may be therapeutic options for the treatment of conjunctival and/or corneo - conjunctival neoplasia as permanent solution, or as chemoreduction before surgical excision and cryotherapy. Because of their simple requirements (of imprsion cytology and simple requirements for antimetabolites application) both procedures can be used in outpatients settings.

**Ključne riječi:** Malignant melanoma; squamocellular carcinoma; mitomycin C; Interferon alfa-2b.Impression cytology; bevacizumab

# SESTRINSKA SESIJA

## CLASSIFICATION OF HOSPITALIZED PATIENTS

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**Naza Mujkić**, JZU UKC Tuzla, BiH (Federacija BiH)  
**Biljana Sekulić**, JZU UKC Tuzla, BiH (Federacija BiH)  
**Fejzić Dijana**, JZU UKC Tuzla, BiH (Federacija BiH)

### Apstrakt

Categorization of patients in nursing means to classify patients into specific category according to individual needs for care over time with the primary aim of progressive care.

**Objective:** Determine the classification of hospitalized patients by type of healthcare provided to the Department of Ophthalmology and Department of Anesthesiology and Reanimation. Compare the actual number of nurses with the necessary number of them, and conducted by categorization. To determine the quality of provided health care at clinics and provide suggestions for improvement.

**Material and methods:** The prospective study of categorization of patients hospitalized at the Clinic of Ophthalmology (Department of surgical treatment) and the Department of Anesthesiology and Reanimation (Intensive Care Unit) in the period from 01/01/2011 to 01.12.2011.god. Categorizing patients were not included with which is in the early postoperative period was required intensive care for several hours in the intensive care ward.

**Results:** Annual average patient at the clinic for eye disease is 197 per month, and the Department of Anesthesiology and Reanimation is 48 patients. The largest number of patients at the Ophthalmology Clinic belongs to the second category, while at the Clinic for Anesthesiology and Reanimation belongs to the fourth category. Annual need for nurses at the Department of Ophthalmology, ranging from 2.5 to 5 nurses. Annual need for nurses at the clinic for Anesthesiology and Reanimation is around 0-6 nurses. The average score for quality of provided health care for 2011 year at the Department of Ophthalmology is 4.92 and represents the result of patient satisfaction. At the Clinic for Anesthesiology and Reanimation because of the patient survey was not conducted.

**Conclusion:** The need for nurses are higher at the Department of Ophthalmology, in relation to the Department of Anesthesiology and Reanimation, because the classification at the Ophthalmology Clinic is employed less sisters, and there were more patients during the year. Quality health care is provided at a high level.

**Ključne riječi:** classification; nurses; health care.

## **ORGANIZACIJA RADA NA KLINICI ZA OČNE BOLESTI**

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**Amela Dizdarević**, Klinika za očne bolesti, BiH (Federacija BiH)

### **Apstrakt**

Organizacija oftalmološke službe u bh datira iz 1894 godine u sklopu zemaljske bolnice u Sarajevu. Djelatnost klinike je usmjeren na obavljanju širokog dijapazona različitih mijkohiruških, laserskih i dijagnostičkih procedura. Klinika za očne bolesti raspolaže sa hospitalnim, ambulantno-polikliničkim dijelom i operacionim salama, gdje se uradi veliki broj pregleda i hiruških intervencija, prema čemu imamo i različitu strukturu kadra i standarda zdravstvene njege.

## **ORGANIZACIJA RADA NA KLINICI ZA OČNE BOLESTI BANJA LUKA**

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**Daliborka Kuzmanovic**, UKC Banja Luka, BiH (Republika Srpska)

### **Apstrakt**

Department of Ophthalmology UKC Banjaluka has moved to location Pa prikovac in year 1990 where it is today. It is consisted of department for conservative treatment with ambulances and department for surgical treatment. Operating room with new reorganisation of UKC belongs to department of surgical rooms. On conservative department diagnostic and therapeutic procedures of anterior and posterior eye segment are being done, while on surgical department preoperative and postoperative care and patient treatment are being done. With improvement of equipment and staff education we could expand the range of diagnostic and therapeutic procedures.

## **VAŽNOST KOMUNIKACIJE U RADU MEDICINSKIH SESTARA – TEHNIČARA**

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**Misada Hodžić**, Klinika za očne bolesti, BiH (Federacija BiH)

### **Apstrakt**

Efikasne vještine komunikacije u sesrinstvu predstavljaju benefit za pacijenta u smislu boljeg zadovoljstva pacijenta kao korisnika usluge, boljeg zadovoljstva sestre svojom karijerom i za zdravstveni sistem u cjelini kroz motivirane i osnažene sestre. Na današnjem stupnju razvoja medicinske

struku u pravilu nikada sam zdravstveni radnik ne riješava zdravstvene probleme pojedinog bolesnika. Riječ je, dakle, o timskom radu. Zdravstveno osoblje se mora na odgovarajući način educirati u kulturi zdravstvene nege i komunikaciji s bolesnicima, a posebno je potrebno organizirati zdravstvo na odgovarajući način da se postigne ušteda na vremenu i da se medicinsko osoblje može više posvetiti komuniciranju s bolesnicima.

## COMMUNICATION WITH BLIND PERSONS

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**Azra Kuduzović**, JZU UKC Tuzla, BiH (Federacija BiH)

**Naza Mujkić**, JZU UKC Tuzla, BiH (Federacija BiH)

**Biljana Sekulić**, JZU UKC Tuzla, BiH (Federacija BiH)

### Apstrakt

Communication is the bridge between two isolated individuals, and because of that, it is the basis for fellowship and mutual understanding. Communication reflects the ability of living together and maintaining important relationships that give us confirmation of the value and importance for other people. Often we encounter blind people in the streets, stairs, work organizations, hospitals. How to help them, when they need help? A valid communication with these people has a special significance in the environment reaction and opportunity to present themselves and their needs. To determine the mode of communication with blind persons the interview is performed with six blind persons. Questions were related to behavior and aid to blind persons in conversation on the street, at home in the hospital. Through analysis of the study we tried to learn the way of communication, how blind persons "see"? The aim was to establish the preconditions for successful implementation of proper way of communication that would be directed towards improving the current situation in the accessibility to blind persons. Analyzing the results of the interview we realize that in most cases there is no good communication with blind individuals what often isolate them from society. With all that what blind persons are missing, poor communication make worse quality of their lives. In communication with blind people we need to have the attitude, here I am, I understand you, and accept you.

**Ključne riječi:** Communication; a blind person

## DAY-SURGERY BENEFIT

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Naza Mujkić, BiH (Federacija BiH)

Biljana Sekulić, JZU UKC Tuzla, BiH (Federacija BiH)

### Apstrakt

**Introduction:** Day-surgery involves surgical procedures with retention of patients in hospital until 23 hours.

**Purpose:** The purpose of this study was to analyze the importance and benefits of day-surgery compared with few days-surgery.

**Methods and materials:** It was prospective study in which were interviewed sixty patients enrolled at the operational program for the period 1.4.2011 to 1.7.2011. Patients filled in at discharge. The questionnaires contained questions that are related to: age, comorbidity, duration of lying, patient satisfaction, fear / stress and work activity.

**Results:** We were surveyed of 30 patients who have been underwent surgery in a day-surgery and 30 patients who have been underwent surgery in a few days surgery. Based on the analysis of the questionnaire we found:

- Age distribution of patients who were operated in day surgery were approximately 55 years (43% of working age).
- Age distribution of patients who were operated in few days surgery were averaged 75 years (10% of working age).
- Patients who were in a day-surgery had not other comorbidity except only one disorder.
- Patients who were in few days surgery had comorbidities with three or more other disorder (the most common were diabetes mellitus and hypertension).
- Lying period of patients who were underwent surgery in a few-days surgery were approximately three days.
- Average satisfaction score of patients who were operated on in a day-surgery was 4.8.
- Average satisfaction score of patients who were operated in a few days surgery was 4.3.
- The average score suffered fear / stress in living patients who were operated in a day-surgery was 2.5.
- The average score suffered fear / stress patients who were operated in a few days surgery was 1.9.

**Conclusion:** Patients in surgery day lie shorter versus several day-surgery, they had faster recovery, patients were satisfied with a short period went in hospital, and patients fear were less. Recovery was faster due to the absence of comorbidity. Day-surgery provides cost benefit for the patients and the institution.

**Ključne riječi:** Day-surgery; nurses; health care

## **ULOGA MEDICINSKE SESTRE PRI APLIKACIJI LIJEKA**

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**Azra Imamovic**, KCUS-ocna klinika, BiH (Federacija BiH)

### **Apstrakt**

**Specifičnosti rada oftalmološke sestre:** Uloga medicinske sestre pri aplikaciji lijeka se sastoji od: priprema pacijenta, lijeka, i načina davanja istog. Osnovni načini unošenja lijeka: enteralno, parenteralno, lokalno. Unos lijeka intravenskom injekcijom, unos lijeka infuziom. Terapija anafilaktičnog šoka. Zadatak medicinske sestre je piprema i podjela lijekova bolesnicima. Cilj je prikazati ulogu medicinske sestre u lijecenju odnosno terapiji pacijenta.

**Zaključak:** Da bi zadatak aplikacije lijeka bio potpunosti izvrsen, medicinska sestra se mora pridržavati 5 pravila: pravi bolesnik, pravi lijek, prava doza, pravi način i pravo vrijeme.

**Ključne riječi:** pacijent; sestra; lijek; vrijeme; metod.

## **NEURITIS, ATROPHY OF THE PAPILLAE NERVI OPTICS, TUMORS**

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**Sanela Pašalić**, Očna klinika Kliničkog centra Univerziteta Sarajevo, BiH (Federacija BiH)

### **Apstrakt**

Neuritis can affect the whole optic nerve or some of its parts. Inflammation of optic nerve divided depending on the localisation, optalmic image and inflammation. Etiology of optic nerve inflammation is different. Known etiological factors are: inflammatory diseases of CNS, acute and chronic systemic infections, inflammation of orbit, degenerative diseases etc. In the diagnosis of the optic nerve inflammation the most important test is test of visual acuity, fluorescein angiography and color vision. To determine location of inflammation patient needs to do tomography, magnet resonance and VEP. Type of some inflammation of the optic nerve Neuritis; Papillitis; Neuroretinitis; Retrobulbar neuritis; Atrophy papillae n.o. Atrophy may occur as result of different pathological conditions that lead to deterioration of axons of retinal ganglion cells. Atrophy of the optic nerve be divided on primary and secondary. Atrophy of the optic nerve follows decrease in vision. Tumors optic nerve tumors are uncommon. There are divided on primary and secondary.

**Conclusion:** Timely diagnosis of these diseases can be made by detailed internist, neurological, radiological and functional examination.

# **OPTIČKA KOHERENTNA TOMOGRAFIJA I NJEN ZNAČAJ U DIJAGNOSTICI TE RANOM OTKRIVANJU GLAUKOMA**

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**Amer Smajic**, Klinika za očne bolesti, Klinički centar Univerziteta u Sarajevu

## **Apstrakt**

**Cilj rada:** Približiti značaj OCT-a u dijagnostici, ranom otkrivanju i pravovremenom liječenju glaukoma.

**Materijal i metode:** U kabinetu za OCT na Klinici za očne bolesti KCU-Sarajevo prikupljeni su podaci u razdoblju od 1. januara 2011 do 31. decembra 2011 god. Podaci su prikupljeni na temelju uvida u protokol, koji se nalaze u kabinetu za OCT na Klinici za Očne bolesti u Sarajevu, gdje koristimo uređaj STRATUS OCT model 3000. OCT aparat nabavljen 2009 god. Snimanje se vrši kako za potrebe pacijenata naše Klinike, Kantona Sarajevo, ostalih kantona FBiH kao i cijele BiH. Snimanje na OCT aparatu za sada obavljaju: dva doktora specijalista Oftalmologije, jedan dipl.med. teh.i jedna viša med.sestra. Snimanje se obavlja pri maksimalnoj midrijazi zjenica, tako što naložimo pacijentu da fokusira pogled u određeni marker u ili van aparata. Snimanje traje oko 5-10 min. ovisno o saradnji pacijenta.

**Rezultati:** U navedenom razdoblju snimljeno je 1081 pacijenata na aparat za OCT, od tog broja 679 otpada na snimanje vidnog živca koji su pomogli u donošenju konačne dijagnoze

**Zaključak:** U modernoj Oftalmologiji neizostavna je dijagnostička pretraga bez koje se sigurno mnoga očna oboljenja ne bi mogla dijagnosticirati, kao ni pratiti.

**Ključne riječi:** OCT, glaukom

## ELEKTRONSKI POSTERI

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# **ANEMIA ONE OF A RISK FACTOR FOR DEVELOPMENT OF DIABETIC RETINOPATHY IN TYPE 1 DIABETES MELLITUS**

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**Denisa Zvizdić**, KCU Sarajevo, BiH (Federacija BiH)

**Jasmina J Alajbegović-Halimić**, KCU Sarajevo, BiH (Federacija BiH)

**Meliha Alendar**, KCU Sarajevo, BiH (Federacija BiH)

## **Apstrakt**

**Objective:** The objective of this study was to determine how anemia affects the development of diabetic retinopathy in type-1 diabetes mellitus.

**Material and methods:** Our study included 18 patients aged between 30 and 40 years who had type 1 diabetes mellitus and that lasted more than 15 years. The study included 10 women and 8 men. All patients were examined at the Department of Ophthalmology with a certain visual acuity, IOP was measured, surveyed the front and rear segmneta and Refractometry. The studies were excluded, all patients found to have a refractive errors. All patients were followed for laboratory parameters of blood and urine and blood pressure vrijenosti.

**Results:** In 12 patients the visual acuity was 0.9 to 1.0, 0.6 to 0.8 in 4 patients and 2 patients below 0.6. In 10 patients had nonproliferative diabetic retinopathy were found, while in 8 patients revealed proliferative diabetic retinopatije.Blood and urine parameters and blood presser in patients with proliferative form of diabetic retinopathy were far outside the reference range.

**Conclusion:** blindness, which occurs due to diabetic retinopathy can be stoped if there is an appropriate and comprehensive internist control. Poor diabetic control, elevated serum lipids, hypertension, unregulated and often neglected aneija represent major risk factors for developing diabetic retinopathy.

**Ključne riječi:** anemia; diabetic retinopathy

# **CENTRALNA AREOLARNA HOROIDALNA DISTROFIJA – PRIKAZ SLUČAJA**

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## **Apstrakt**

**Uvod:** Centralna areolarna horoidalna distrofija(CACD) je autozomno dominantno nasljedno oboljenje koje se najčešće ispoljava u trećoj ili

četvrtoj dekadi života blagim do umjerenim bilateralnim i simetričnim padom centralnog vida od 0,8 do 0,1. Oboljenje je progresivnog karaktera te do pete ili šeste decenije najčešće dolazi do pada vida od oko 0,1 i manje. CACD počinje sa nespecifičnom granulacijom fovealnog pigmenta koja progredira do jasno ograničenih bilateralno simetričnih, okruglih ili ovalnih zona atrofije RPE i horiokapilarisa, koji su obilježje ovog oboljenja. Zbog prisutne atrofije krvni sudovi horiokapilarisa se veoma dobro uočavaju. Odsustvo druza i mrljastih promjena omogućava razlikovanje CACD od drugih makulopatija koje prouzrokuju centralnu geografsku atrofiju.

**Prikaz slučaja:** Pacijentica Š.M., 1964 god. se u junu 2009 god. javila očnom ljekaru zbog vrtoglavice. Subjektivno nije primjetila značajniji pad vida, ali navodi da od 22 god. slabije vidi te joj je ordinirana korekcija za stalno nošenje. Negira očne bolesti u porodici. Ima hiperhololesterolemiju i hipertrigliceridemiju. Vidna oštrina je bila VOD: 0,6 c.c. (sa -3,50 Dcyl ax 180) i VOS: 0,9 c.c. (sa -2,50 Dcyl ax 160), nalaz na prednjem segmentu je uredan, a nalaz na fundusu je pokazivao u makuli desno okruglu, a lijevo ovalnu, jasno ograničenu zonu atrofije retinalnog pigmentnog epitela i horiokapilarisa. Pregledom u aprilu 2012 nađe se vidna oštrina VOD: 0,5 c.c i VOS: 0,7 c.c., na blizu J: OD: 5, OS: 2, Amslerova rešetka OD: prisutna metamorropsija dole i centralno, OS: uredan nalaz. Vidno polje program G07 i M1: centralni relativni defekti. FA rađena u februaru 2012 god.: nalaz ukazuje na centralnu areolarnu sklerozu oba oka izraženiju desno.

**Zaključak:** CACD je oboljenje koje se veoma rijetko javlja, ali ga diferencijalno dijagnostički treba uzeti u obzir ukoliko su promjene na fundusu locirane u predjelu makule. Isto tako treba pregledati članove porodice oboljelog i detektovati promjene, ako su prisutne. Nažalost, zasad nema efikasnog medicinskog tretmana te se pacijentima propisuju teleskopski sistemi u poodmakloj fazi bolesti.

**Ključne riječi:** Centralna areolarna horoidalna distrofija; Makularne distrofije

## CHANGES IN VISUAL ACUITY IN OPTIC NEURITIS

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Ljubica Perić Lazić, OB, "Sveti apostol Luka", BiH (Republika Srpska)

### Apstrakt

**Goal:** Optic neuritis is an inflammatory, infectious or demyelinating process that affects the optic nerve. To show changes in visual acuity in optic neuritis.

**Material and methods:** Data about patients treated in the past decade at the Ophthalmologic ward have been used. Following was processed: age, sex, ophthalmologic findings, laboratory analysis and specialists' findings.

**Results:** Average age of the patients was 32,78 years. 57,14% were women 30,37 years old in average and 42,85% were men 36 years old in average. On admittance, visual acuity was from L+P+ to 1,0 partially. 93% out of 14 patients had visus from L+P+ to 0,3. Visus 1/60 was found in 28,54 % of patients when they came to see the ophthalmologist's while visus 0,2 was found in 1/5 of them. 83,3 % had visus 1,0 on the other, healthy eye. 16,67% of the patients had a binocular process. On discharge, the visus was in the spectrum from stagnation to improvement and normalisation. At the end of hospitalisation, 1/5 of the patients had complete eyesight rehabilitation. 43% of all optic neuritis was of infectious etiology (sinusitis), 21,42 % were autoimmune processes, 7,1% was ischemic and 28,57% were unknown. 15% of the patients had the depression-anxiety component and same number had hypertension.

**Conclusion:** People who suffer from this disease are of young age, number of women is slightly higher. In most cases symptoms are loss of eyesight and pain. On admittance, the visus was usually 1/60. Average treatment lasts 8 days. Complete recovery was achieved at 28,5% of treated patients while others experienced improvement during further treatment.

**Ključne riječi:** Optic neuritis; changes in visual acuity; reduction of visual acuity

## **COMBINED OPERATION OF CATARACT AND GLAUCOMA – MODERN APPROACH**

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Emir Čabrić, Poliklinika Dobojski Jug, BiH (Federacija BiH)

Davor Cvijetić, Opšta bolnica, BiH (Republika Srpska)

### **Apstrakt**

**Purpose:** Cataract and glaucoma are the leading preventable causes of blindness worldwide, including 48% and 12% of all cases. Over the last years techniques for cataract surgery have improved significantly with increased patient requests and expectations. There is no general consensus and exact guidelines for surgical management of cataract in patients with glaucoma. Combined operation of cataract and glaucoma although very practical has many potential complications. We report a case of combined cataract and glaucoma operation and present modern approach to combined glaucoma and cataract surgery with special emphasis on literature review presenting possible advantages of combined cataract and glaucoma operations in patients with cataract and glaucoma.

**Material and methods:** Case report and video presentation. 46-year-old woman presented at Poliklinika Doboj-Jug, with dense cataract and uncontrolled open angle glaucoma in the both eyes. Patient underwent combined operation of right worse eye, with phacoemulsification and trabeculectomy without any complications. Postoperative follow-up was 3 months.

**Results:** Best corrected visual acuity (BCVA) in right eye improved from 0,08 to 0,5. Intraocular tension (IOT) reduced from 25,8mmHg with medicamentous therapy to 15,6mmHG with no any additional therapy and maintained stable during follow ups. There was no visual field before operation due to dense cataract and later examination demonstrated significant visual field changes due to long history of decompensated glaucoma.

**Conclusions:** Phacoemulsification with trabeculectomy can be used as combined operation and can significantly improve visual functioning in patients with significant cataract and mild to severe glaucoma impairment. Combined cataract extraction and glaucoma surgery should be carefully selected and adapted to every case, depending on its clinical findings.

**Ključne riječi:** cataract; glaucoma; phacoemulsification; trabeculectomy

## CORNEAL ASTIGMATISM AFTER MICROINCISION PHACO

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Vahid Jusufović, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

Jasmin Zvorničanin, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

Meliha Halilbašić, Klinika za očne bolesti UKC Tuzla, BiH (Federacija BiH)

### Apstrakt

**Objective:** To evaluate the effect of micro-incision (2.2 mm) coaxial phaco-emulsification with implantation of intraocular lenses on corneal astigmatism, keratometric values, and surgically induced astigmatism (SIA).

**Materials and methods:** In this study we have checked 30 patients who have undergone cataract phaco surgery (microincision) with 2.2mm corneal incision. All participants have gone through usual preoperative examinations and findings. Phaco-emulsification was followed by intraocular lens implantation via the Monarch II injector with the C cartridge. Uncorrected distance visual acuity, corneal keratometry and corneal astigmatism and SIA were assessed 1, 7 and 30 days after cataract surgery.

**Results:** Mean preoperative visual acuity (BCVA) in 30 patients who underwent phacoemulsification with implantation intraocular lens (IOL) through 2,2mm corneal incision was  $0.1123 \pm 0.0374$ . On the first post-operative day after surgery, mean uncorrected visual acuity in patients with 2.2mm corneal incision was  $0.75 \pm 0.0594$ , on 30th day it was  $0.9467 \pm 0.0306$ . In this study, we monitored movement of keratometric value, in a

short postoperative period of thirty days after cataracts phacoemulsification with intraocular lens implantation through a 2.2mm corneal incision. As expected maximal astigmatism value, so as keratometric, occurred soon after surgery. In the further postoperative course it leads to reduction of keratometric value and grouping values around the mean values. Surgical induced astigmatism on first day after was  $1.87 \pm 0.906$ , while seven days after surgery it was  $1.36 \pm 0.778$  and on 30th day after surgery it was  $0.85 \pm 0.630$ .

**Conclusion:** Today's reduction in corneal incision size is trend in modern phaco surgery. Reduction in size of corneal incision by 0,8mm (from 3.0mm to 2.2mm) could give better control of keratometric and astigmatic values after surgery at least in early postoperative period.

**Ključne riječi:** microincision phaco; surgical induced astigmatism; corneal astigmatism

## EPISKLERITIS I NODOZNI DERMATITIS NAKON RADIOTERAPIJE

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### Apstrakt

**Cilj:** Episkleritis je oboljenje koje često srećemo u oftalmološkoj praksi. To je benigno, samoograničeno, recidivirajuće oboljenje, kod kojih su etiološki faktori poznati u samo jednoj trećini slučajeva. Veoma rijetko episkleritis može da se javi kao posljedica radioterapije.

**Prikaz slučaja:** Predstavili smo osobu ženskog pola, starosne dobi 65 godina, kod koje je primarno dijagnostikovan cervikalni tumor, te urađena histerektomija, po dobijanju PH nalaza (skvamocelularni karcinom), odlučeno je da se sproveđe radioterapija. Dvanaestog dana po sprovodenju radioterapije, kod pacijentice je primjećen istovremeno sektorski episkleritis i nodozni dermatitis, VOD:0,8; VOS:0,9; TOD:18 mmHg; TOS:16 mmHg, Širmer test: 25 mm/5 min. Uvedena je lokalna kortikosteroidna i nesteroidna antiinflamatorna terapija, dolazi do poboljšanja, a nakon završetka radioterapije simptomi su se potpuno povukli.

**Zaključak:** Rijetko su opisani slučajevi episkleritisa koji su uzrokovani sprovodenjem radioterapije, ali danas treba razmišljati i o njima.

**Ključne riječi:** sektorski episkleritis; nodozni dermatitis; radioterapija

## EYE MICROBIOLOGY – EFFICIENCY OF PERIOPERATIVE APPLICATION OF ANTIBIOTICS IN CATARACT SURGERY PATIENTS

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### Apstrakt

**Introduction:** Severe ophthalmological infections (such as trachoma) were eradicated or put undercontrol by development of microbiology and anti-microbe therapy. Due to widespread application of corticosteroids, non-selective application of antibiotics and increase innumber of HIV infected patients, opportunistic microorganisms are main causes of ophthalmological post-operative infections.

**Objectives:** To investigate population of microorganisms in periocular area and test efficiency of theapplication of perioperative antibiotics in cataract surgery patients.To establish algorithm for peri-operative preparation of patients and antibioticprophylactic therapy in cataract surgery patients.

**Patients and method:** Cataract surgery patients in Polyclinic “Oko” dr Karčić formed survey samplewhile microbiological tests were conducted in the Institute for microbiology “Nalaz” in Sarajevo. Perioperative application of antibiotics included cleaning perioperative area and rinsing conjunctival saccus with Povidone-iodine solution, intracameral instillationof 3rd generation Cephalosporins, followed by post-operative local application of Tobramycin and combination of Neomycin, Polimyxin B and Dexamethasone.

**Results:** Before surgery, 31% had sterile smears.Primary culture remained sterile at 82,14% patients. In other patients, the following microorganisms were isolated:St.epidermidis: 62,07%, St. aureus: 10,34%, Streptococcus alpha haemoliticus: 3,44%, G+ diplococcus: 3,44%, Diphtheroides: 10,34%, St.saprophyticus: 3,44%. After Povidone-iodine solution, culture remained sterile in 69,56% patients; St. epidermidis: 26,09% (in sub-culture), G+diplococcus: 4,34%, St. aureus: 4,34%. Seven days af-

ter surgery, primary culture remained sterile in all patients. 52,94% patientshad St.epidermidis in sub-culture.

**Discussion:** Povidone-iodine, although potent, did not prove to be efficient antibiotic agent. Substantial efficiency of intra and post-surgery application of antibiotics is noted incataract surgery patients. Microbiologic analysis of smears generally shows normal eye flora. Introduction oftopical antibiotic therapy on the day of cataract surgery should be considered.

**Ključne riječi:** prophylaxis; antibiotics;cataract surgery; smear

## FAKOLITICKI GLAUKOM

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### Apstrakt

**Uvod:** Fakolitički glaukom (glaukom izazvan sočivnim proteinima) je sekundarna forma glaukoma otvorenog ugla koji se javlja u očima sa hipermaternom kataraktom.

**Prikaz slučaja:** Predstavili smo 75-godišnju ženu sa intenzivnom glavoboljom, mučninom, povraćanjem, visokim krvnim pritskom (180/100 mmHg), konjunktivalnom mješovitom hiperemijom, primarno cilijarnom na lijevom oku, prednja očna komora u potpunosti ispunjena pseudohipopionom, vidnom oštrinom od L+P+ i intraokularnim pritiskom (IOP) 58 mmHg. Nakon uključene sistemske i lokalne kortikosteroidne i antiglaukomatozne terapije (lokalno kapi 0,5 % timolol i acetazolamid tbl. 250 mgx2), operativnog zahvata - ekstrakcije katarakte metodom ECCE+IOL+irigacija CA, koja se uradi 7. dan hospitalizacije, dolazi do normalizacije IOP na 15 mmHg, bez antiglaukomatozne terapije, vidna oštrina se nakon 6 mjeseci praćenja stabilizira na 0,8 bez korekcije i vidno polje ne ukazuje na oštećenje simptomatično za glaukom.

**Zaključak:** Akutni napad glaukoma sa velikim pseudohipopionom kod starijih osoba može upućivati na hipermaturnu kataraktu u nerazvijenim zemljama. U većini slučajeva intraokularni pritisak može biti regulisan ako se uradi operacija katarakte.

**Ključne riječi:** fakoliticki glaukom; pseudohipopion; hipermaturna katarakta

# **FAKOMEHANIČKI GLAUKOM – PRIKAZ SLUČAJA**

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## **Apstrakt**

**Cilj:** Fakomehanički glaukom je akutni sekundarni glaukom zatvorenog ugla, koji je izazvan intumescentnom kataraktom.

**Prikaz slučaja:** Predstavili smo muškarca S.M., životne dobi 72 godine, kojem je prije tri godine postavljena dijagnoza senilne incipijentne katarakte na oba oka. Sada se javio na ambulantni pregled zbog jako lošeg vida na lijevom oku, a radi planiranja operativnog zahvata fakoemulzifikacije sa ugradnjom intraokularnog sočiva (PHACO + IOL OS). Nalaz pri pregledu: VOD:0,5/60; VOS:L+P+; TOU=14 mmHg; FOU (na midrijazu): ne vidi se. Par sati kasnije javlja se bol u lijevom oku, lijevoj polovini glave, praćen mučninom sa povraćanjem. Tada se ponovo izmjeri IOP na lijevom oku: 54 mmHg i pacijent se hospitalizuje. BM OD: arcus senilis, prednja komora (CA) diskretno plića, incipijentno zamućenje sočiva. BM OS: arcus senilis, edem epitela rožnjače, plitka CA, pupila šira, ne reaguje na svjetlost, intumescentno zamućenje sočiva. Nakon što se IOP na lijevom oku medi-kamentozno smanji na 18 mmHg (topikalno timolol, sol a 0,5%, dorzolamid, sol, dexamethason-neomycin, sol, te sistemski acetazolamid, per os i manitol, sol, intravenski), uradi se operativni zahvat PHACO +PCL OS. Na kontrolnom pregledu sedam dana nakon operacije, bez antiglaukomske terapije: VOS:0,2;TOS=10 mmHg; Goniskopia OU: komorni ugao srednje, širok, otvoren, pigmentacija Scheie II.

**Zaključak:** Kod fakomehaničkog glaukoma prevencija ima veliki značaj, tako kod osoba sa anatomske predispozicijama(plitka prednja komora) potrebno je izvršiti operaciju katarakte prije nego što dođe u fazu intumescencije.

**Ključne riječi:** fakomehanički glaukom; intumescentna katarkta; plitka prednja komora

# **GOOD VISUAL ACUITY AFTER CONTUSIO BULBI WITH RUPTURE HORIOIDEE AND HEMORRHAGE IN THE MACULA**

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## **Apstrakt**

**Objective:** Accompanying patient with a blunt eye-injury, and trying to find the best suited treatment with the least severe complications and the best functional outcome, assessing the the injury impact on final visual acuity, as well.

**Material:** Two patients, 25 and 28 years old respectively. In both cases, a blow with a fist caused horioidea rupture with hemorrhage in the macula.

**Methods:** We conducted basic diagnostic tests: visual acuity test, tonometry, biomicroscopy, ophthalmoscopy and ultrasound of the injured eyes. In both cases, the injury caused the cornea erosion and the hyphema in 1 / 3 of the chamber; in one case the injury caused traumatic mydriasis; in both cases it ruptured the chorioidea and caused bleeding in the macula, approximately two papilla diameters wide. At admission, the visual acuity of injured eyes was a VA OD =CF at 1m distance in one case, and VA OS =CF at 5m distance, in the other. One patient proved responsible and used Dicynoni pills therapy over 2 months, along with Uniclopheni 3x1 drops. He also received retrobulbar Sol. Kenalog injections once a week, for a month time period.. Whereas the other patient was not equally cooperative- showed irregularity at the aftercare appointments and took only Vit. C tablets and Uniclopheni 3x1 drops for about 1 month period.

**Results:** In first case, hemorrhage in the macula was completely resorbed in about 6-7 months time. A smallest scar in the macula remained. The other, clearly visible scar left by horioidee rupture, was distanced from the macula by 2 / 3 of the diameter of the papillae. The injured eye BVA=0.7 c -0.75 sph = 1.0. On the other hand - in the retina of the patient who did not adequately used the therapy, there were still remains of blood in the macula even after 9 months. Visual acuity increased to 0.4 c -1.0 sph = 0.5 eccentric.

**Conclusion:** Chorioidea rupture with hemorrhage in the macula, in addition to very low initial visual acuity, can however have a good prognosis, if the rupture is not in macula proper, and, if it is sufficiently distanced from it.

**Ključne riječi:** hemorrhage in the macula; hyphema; horioidea rupture

# **JUSTIFIABLE TREATMENT OF AMBLYOPIA DISCOVERED FOR CHILDREN OLDER THAN SIX**

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## **Apstrakt**

**Aim:** The aim of study is to present justifiable treatment of amblyopia for children which are older than six.

**Patients and methods:** We treated 30 patients with medium and severe type of amblyopia. We checked visual acuity, sciascopic value and fixation before treatment. 15 of them started with stable central fixation, 7 with excentric fixation, 8 with unstable central central fixation. The treatment includes adequate glasses and patching for all patients. Some of them performed Heidinger propeller training.

**Results:** 5 of 30 (16,7%) with low or without results, 23 (76,7%) recovering visual acuity until 0,7 and 2 (6,6%) recovering visual acuity until 1,0.

**Conclusion:** We have good results of treatment especially for children that started with central stable or unstable fixation. Each of them deserve attention and opportunity. We must find ways that checking visual acuity is obligation and have to be checked younger than five years.

**Ključne riječi:** Amblyopia; treatment; visual acuity; fixation

# **KATARAKTA IZAZVANA ZRAČENJEM-PRIKAZ SLUČAJA**

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## **Apstrakt**

**Cilj:** Sočivo oka je jedno od najradiosenzitivnijih tkiva u ljudskom organizmu, a poznato je da kao posljedica jonizujućeg zračenja može nastati katarakta. Ovaj tip katarakte može se javiti kod pacijenata oboljelih od malignih bolesti, kod kojih je sprovedena radioterapija.

**Prikaz slučaja:** Predstavili smo muškarca B. Ž., životne dobi 50 godina, kojem je u maju 2004. g. urađena radikalna disekcija vrata, zbog uvećanih limfnih čvorova. PH nalaz: Metastasis carcinomatis planocellularis anaplastici G3 in lymphonodo et textofibroso et adiposo perinodalis. Potom je pacijent prikazan Konzilijumu za nepoznate primarne tumore, koji je donio odluku da se sproveđe zračna terapija limfatika vrata. Postoperativna radioterapija sa TD 64 Gy je sprovedena u Institutu za onkologiju i

radiologiju Srbije, u trajanju od dva mjeseca. U oktobru prošle godine pacijent se javio na oftalmološki pregled zbog jako lošeg vida na oba oka. Nalaz pri pregledu: VOD: L+P+; VOS: 3/60 n.k., TOU= 18 mmHg, BM OU: zadnje kortikalno i subkapsularno zamućenje sočiva. Uradi se PHACO + PCL OU, sa razmakom od tri mjeseca. Postoperativni nalaz tri mjeseca od poslednjeg zahvata: VOD: 1,0, VOS: 1,0.

**Zaključak:** Jedan od kasnih neželjenih efekata radioterapije na oko može biti razvoj katarakte. Sada se to više ne smatra teškom komplikacijom, jer vidna oštrina može biti uspješno obnovljena hirurškim liječenjem, bez značajnih komplikacija.

**Ključne riječi:** zadnja subkapsularna i kortikalna katarkta; radioterapija; fakoemulzifikacija

## MACULOPATHY FROM A HANDHELD GREEN LASER POINTER: A CASE REPORT

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### Apstrakt

**Objective:** To report maculopathy following thirteen seconds lasting exposure to the light from a commercial green laser pointer.

**Case report:** A 19-year old man exposed himself to the light from a commercially available green laser pointer during a dare game with his friends. Patient "won" the contest with thirteen seconds long staring at the light. Next day he came to our practice complaining about the blurred vision on his right eye. Fundus examination, optical coherence tomography (OCT) and fluorescein angiography showed parafoveal hypo- and hyperpigmented lesion with local cell loss in the retinal pigment epithelium (RPE) layer and a window defect.

**Conclusion:** Thirteen seconds long exposure to the light of green laser pointer is enough to induce long term damaging effects to the human macula and to cause permanent visual impairment.

**Ključne riječi:** laser pointer; maculopathy; phototoxicity

# PHACO CHOP IN CATARACT SURGERY – OUR RESULTS

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## Apstrakt

**Aim:** to show results of cataract surgery using phaco-chop technique in patients with different type of cataract maturity and other ocular co morbidities.

**Material:** 84 eyes (75 patients) undertaken cataract surgery. Mean age was  $63 \pm 19$  years, visual acuity (VA) ranges between L+P+ to 0.7 (Snellen chart), L+P+ in 11 eyes, < 0,1 in 26 eyes, from 0,1 to 0,3 in 30 eyes, and 17 eyes between 0,3-0,7. Nuclear hardness from N+1 – N +4. Other ocular co-morbidities were: corneal opacifications in 4 eyes, 12 eyes with glaucoma, 8 eyes with senile macular degeneration (OCT verified), 8 eyes with myopia more than -4.00D, 4 eyes with PEX syndrome, 11 eyes with diabetic retinopathy, 2 eyes after OVCR and one eye with Sy-Fuschs. In all patients coaxial 2.75mm phacoemulsification technique was performed with temporal approach. Follow up visits were conducted at the first and 7-10th day after surgery and 4-6 weeks after the surgery.

**Results:** at the first day after the surgery visual acuity was  $\leq 0.1$  in 5 eyes (6%), from 0,1-0,3 in 30 eyes (36%), from 0,3-0,7 in 42 eyes (50%), and in 7 eyes (8%) more than 0,7. At the last follow up visit 4-6 weeks after surgery VA was  $\leq 0.1$  in 2 eyes, 0,1-0,3 in 4 eyes (5%), from 0,3-0,7 in 13 eyes (16%), and in 65 eyes (77%) more than 0,7. Complications during surgery includes narrow pupil  $\leq 4$ mm in 6 eyes, ECCE conversion in 4 eyes, scleral IOL fixation in 2 eyes and additional corneal sutures in 4 eyes.

**Conclusion:** this study showed that phaco-chop phacoemulsification is technique of choice for different type of cataracts combined with other ocular co morbidities. Complications which occurred in this study urge the need for careful patients selection and preoperative assessment.

**Ključne riječi:** cataract surgery; phacoemulsification; phaco-chop

# **PHACOEMULSIFICATIO IN THE CASE OF NEUROFIBROMATOSIS TYPE 1**

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**Adel Smajlović**, KB Zenica, BiH (Federacija BiH)

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## **Apstrakt**

The report describes a 55-years-old man with neurofibromatosis type 1 who had a non-mature cataract in the eyes. Adults with neurofibromatosis type 1(NF1) usually have multiple, bilateral Lisch nodules (pigmented iris hamartomas). They can be found in all zones of the iris as smooth, gelatinous-appearing masses protruding from the iris surface. We have done phacoemulsificatio et implantatio IOL in the capsular beg. Preoperative and perioperative midryasis were optimal. We didn't have any complications during the operation. Lisch Nodules are one of the criteria for the diagnosis of NF type1. They are asymptomatic and do not result in any ophthalmologic complications.

**Ključne riječi:** NF 1; cataract; phacoemulsificatio

# **PHACOEMULSIFICATION FOR IRRADIATION CATARACT AFTER BRACHYTHERAPY**

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## **Apstrakt**

**Purpose:** To report a case of irradiation cataract phacoemulsification after brachytherapy with special overview on literature review.

**Methods:** Case report and video presentation. 30-year-old man presented to Polyclinic Doboj Jug with white (total) irradiation cataract. Patient was already subjected to brachytherapy due to choroid melanoma with implantation of glaucoma filtration device. Patient underwent phacoemulsification in local anesthesia without any complications. Postoperative follow-up was 6 months.

**Result:** Uncorrected visual acuity (UCVA) improved from light perception to 0,1. There was no postoperative keratopathy, intraocular pressure maintained stable with no changes on retina surface noticed. Incidence of ocular melanoma in Europe is 2-8 per million. Management concept of ocular melanoma has changed in recent years, introducing brachytherapy

as treatment of choice in small and medium sized melanomas. These data is well supported on the basis of long-term follow-up studies with survival rates of 28%, same as in patients who underwent enucleation. Lens of the eye is highly sensitive to radiation with irradiation cataract developing in 16 to 30% of all cases of brachytherapy. 50% patients preserve some visual acuity after brachytherapy.

**Conclusions:** Small- and medium-sized melanomas can be adequately treated with brachytherapy. Phacoemulsification can be helpful in patients who develop irradiation cataract after brachytherapy. Cataract extraction can significantly improve visual functioning in patients with irradiation cataract and esthetic results are excellent.

**Ključne riječi:** irradiation cataract; brachytherapy; phacoemulsification

## **PHACOEMULSIFICATION IN EYES WITH COMPLICATED CATARACT (PSEUDOEXFOLIATION SYNDROME AND MYOPIA)**

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### **Apstrakt**

**Aim:** Complicated cataract develops as a result of some other primary ocular disease. The most common causes of complicated cataracts are: chronic anterior uveitis, acute congestive closed-angle glaucoma, nuclear cataract in patients with pseudoexfoliation syndrome (PEX) that is followed by instability zonules and high (pathological) myopia. The aim of investigation is to examine the use of phacoemulsification in patients with complicated cataract in achieving good recovery of vision and a small number of intraoperative complications.

**Material and methods:** In retrospective study were included 100 surgically treated eyes with complicated cataract and 100 eyes without PEX and myopia (control group) in Department of Ophthalmology Military Hospital from 2006 to 2011. The operation was performed after administration PBB, through the corneal incision of 3 mm, using viscoelastic and doing anterior CCC.

**Results:** Demographic analysis shows that the average age of patients with complicated cataract was 74 years old, while the control group was slightly younger (average age 70 years old). The average value of intraocu-

lar pressure was higher about 3 mm Hg in patients with PEX. The average length of myopic eyes was 28.59 mm and in the control group it was 23.08 mm. Pharmacological mydriasis was significantly worse in eyes with PEX. The number of surgical intraoperative complications were not statistically different between the PEX and control groups, except for incomplete CCC, which was higher in PEX group.

**Conclusion:** With proper preoperative preparation, phacoemulsification surgery in patients with complicated cataract (PEX and myopia) is a safe method of treatment.

**Ključne riječi:** phacoemulsification; cataract; pseudoexfoliation syndrome; myopia

## **POAG IN RETINITIS PIGMENTOSA (RP) – A DILEMMA IN THE TREATMENT OF GLAUCOMA**

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### **Apstrakt**

Case report-64 years old woman has been treated 20 years of glaucoma simplex. Referred to the examination because of elevated IOP OU:24 /26mmHg despite of triple local antiglaucomas therapy. Half a year before VOU:0,5/0,6c.c..In recent years, she began to notice a bed night vision. At the last examination:VOU:0,4/0,3c.c.;IOP OU: 19/19mmHg under therapy. Gonioscopic findings OU: Shafer 5, pigmentation Scheie1. Slit lamp OU: normal findings. Visual field OU: annular scotoma with relatively preserved little island of central vision. Ophthalmoscopic findings OU: pale PNO; C/D 0,8; on the right eye was present optic pit, and on the left, the prepapillary hemorrhage; attenuation of arterioles; on the middle periphery, rough perivasculär pigmentary changes, similar to osteoblasts and expanding the way back; macular physiological reflexes were absent.Fundus photographs OU in 7 directions with auto fluorescence, displayed findings typical of RP. Due to lack of equipment, ERG has not been done. The findings of HRT OU show the progression of decay in a period of 15 months. Based on the examination, RP is diagnosed, and for the first time, the patient was given an explanation of the nature of her illness. Recommended an examination of relatives. The previous therapy is continued with a recommendation for more frequent checks. A dilemma: whether the IOP of 19mmHg is low enough due to the occurrence of the prepapillary hemorrhage, the

nature of the disease and worsening of visual acuity in the absence of the appearance of cataract? Whether to decide for surgery to achieve a lower IOP than 19mmHg, with the present ophthalmological findings and the possible postoperative complications?

**Conclusion:** POAG in RP occurs in approximately 3% of cases and it is extremely difficult to follow the progression of glaucoma and making the right decision how to treat them

**Ključne riječi:** glaucoma; retinitis pigmentosa; treatment

## **POSTERIOR CAPSULE OPACIFICATION INCIDENCE IN CORRELATION WITH IMPLANTED INTRAOCULAR LENS**

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### **Apstrakt**

**Purpose:** To establish incidence of posterior capsule opacification (PCO) and its correlation with implanted intraocular lens (IOL).

**Methods:** In this 3-years prospective study, the same surgeon performed standard phacoemulsification in patients who were randomized and divided into three groups:

- group 1: patients with AcrySof® IQ IOL (Model SN60WF) implantation
- group 2: patients with SENSAR® Acrylic IOL implantation
- group 3: patients with Akreos AO (model AO60) implantation

Each group had 30 patients, with no history of any metabolic disease. In two years follow up we evaluated visual acuity, PCO and patient's satisfaction.

**Results:** After two years follow up PCO incidence in group 1 was 1%, in group 2 10% and in group 3 8%. Visual acuity and patients satisfaction follow up after one month, one year and two years are graphically presented.

**Conclusion:** After two years, patients in group 1 had less PCO incidence, better visual acuity and were more satisfied than patient in other groups.

**Ključne riječi:** PCO; IOL; cataract

# **PROSJEČNE VRIJEDNOSTI IOP-A MJERENE NON-CONTACT TONOMETRIJOM**

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## **Apstrakt**

**Cilj:** Određivanje prosječne vrijednosti IOP-a naše populacione grupe starnosne dobi između 20 i 60 godina koji nemaju glaukom.

**Pacijenti i Metode:** Ukupno je pregledano 200 pacijenata, u periodu oktobar-decembar 2011. godine. Pregledani pacijenti su podijeljeni u starosne grupe od 20-60 godina, a svaka grupa I po polu. Analizirane su prosječne vrijednosti IOP-a mjerene non-contact tonometrijom po starosnim skupinama od 20-60 godina i po polu.

**Rezultati:** Posmatrana vrijednost IOP-a je u rasponu IOP-a od 11-21 mm Hg. Prosječna vrijednost IOP-a u rasponu od 14-16 mm Hg zastupljena je u 36,5% slučajeva. Najniži raspon IOP-a od 11-13 mmHg je u starosnoj skupini od 20-30 godina. Viši rasponi IOP-a od 14-16mmHg i od 17-19 mmHg su u starijim dobnim skupinama (30-50 god.), a raspon od 20-21 mmHg u iznosu 51,6% u dobroj skupini 50-60 godina. Razlike u visini IOP-a između muškaraca i žena uočavaju se u starijoj skupini (50-60 god.) i vezana je za raspon IOP-a od 20-21 mmHg. Prosječna vrijednost IOP-a je od 14-16 mmHg (36,5%).

**Zaključak:** Visina u rasponu IOP-a raste sa godinama starosti, I po polu je veća kod starijih žena.

# **PTERYGIUM SURGERY – OUR EXPERIENCES**

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## **Apstrakt**

**Aim:** This survey shows the results of the patients treated from pterygium by using surgery technique-avulsia pterygium with autotransplantation of conjunctiva bulbi.

**Setting:** Health Center Krusevac, Eye department, Serbia

**Methods:** Retrospective study of the patients treated from pterygium (November 2007. to July 2011.) at the Eye Department in Krusevac. The analysis was made of postsurgery complications (six months after the surgery) as well as the whole survey of the achieved results. All patients were treated by the same technique-avulsia pterygium with autotransplantation of conjunctiva bulbi, observed by biomicroscope and were given the same therapy in postsurgery period.

**Results:** The number of patients treated was 109. They were 63 years old on the average. The youngest was 33 years old and the oldest was 86. There were 44 men (40,37 %) and 65 women (59,63%). Pterygium reccurences were found in 10 patients (9,17%). Other postsurgery complications-graft edem almost always noticed in postsurgery period, a complete rejection of the graft in two patients (1,83%), half rejection of the graft in 6 patients (5,50%), dellen corneae in 7 (6,42%), the chronical redness in 4 (3,67%).

**Conclusion:** Pterygium reccurrence of 9,17% is directly associated with the very pathology of pterygium, familiarity with the surgery technique and successful non-surgery treatment of postsurgery complications. The achieved results are in compliance with the results of other research studies in the world. According to our experience, the postsurgery period is longer than when other methods are used. But, this technique is much safer, more effective and has more successful final results. Avulsia pterygium with autotransplantation of conjuctiva bulbi has become the standard method for this kind of eye disease at our department.

**Ključne riječi:** avulsia pterygium with autotransplantation of conjuctiva bulbi; pterygium reccurrence

## RISK FACTORS AND DIABETIC RETINOPATHY

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### Apstrakt

**Aim:** was to determine the correlation between risk factors and diabetic retinopathy who is the leading cause of blindness in development countries for patients age 20 to 65.

**Patients and methods:** In this retrospective and comparative study, risk factors for diabetic retinopathy were analyzed by randomly selected sample, including 30 patients with proliferate diabetic retinopathy, 30 patients with non-proliferate retinopathy and 30 patients with diabetes but without diabetic retinopathy. All patients were hospitalized at Department for Internal Diseases of Cantonal Hospital Zenica and prepared by ophthalmoskopy. Duration of diabetes, existence of arterial hypertension, values of HbA1C, level of cholesterol and triglycerides in blood (risk factors) were used from patient history records. We compared risk factors between patients without retinopathy, with non-proliferate and with proliferate retinopathy ( $p < 0.05$ ).

**Results and conclusion:** Duration of diabetes is the most important for development of retinopathy. Hyperglycaemia and high blood pressure are important for progression. Better control of blood sugar and controlling elevated blood pressure can reduce progression of retinopathy and risk of vision loss.

**Ključne riječi:** diabetic retinopathy; risk factors; progression

## **SENILNA DEGENERACIJA ŽUTE MRLJE KOJA SIMULIRA MALIGNI MELANOM HOROIDEJE**

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### **Apstrakt**

**Cilj rada:** Senilna degeneracija žute mrlje može da pokazuje različite kliničke manifestacije. Prikazujemo slučaj pacijenta koji je upućen u našu ustanovu sa kliničkim i ehografskim nalazom na desnem oku koji su govorili u prilog malignog melanoma horoideje.

**Materijal i metode:** Ehografski nalaz desnog oka opisuje masu temporalno od PNO koja prominira prema staklastom tijelu sa širokom bazom 11,4 mm, prominencije 6,14 mm i plitkom sekundarnom ablacijskom retine. Kliničkim pregledom vidljiva je kupolasta prominencija sivosmeđe boje. Na ivici promjene uočena tanka crvena nit krvi pobudila je sumnju na senilnu degeneraciju žute mrlje.

**Rezultati:** Kliničkim i ehografskim praćenjem pacijenta svakih sedam dana uočili smo da se dimenzije promjene smanjuju. Angiografski nalaz u petoj sedmici praćenja potvrdio je da se radi o senilnoj degeneraciji žute mrlje.

**Zaključak:** Senilna degeneracija žute mrlje praćena masivnim horoidalnim krvarenjem može da simulira maligni melanom horoideje, o čemu treba razmišljati.

**Ključne riječi:** Senilna degeneracija žute mrlje; maligni melanom horoideje; fluoresceinska angiografija; ehografija oka

# SIDEROSIS BULBI: CASE REPORT

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## Apstrakt

Siderosis is a chronic degenerative process created as a result of the interaction of iron particles and tissues of the eye. Siderosis manifests itself in anterior capsular cataract with radial deposits of iron on the front of the lens capsule, reddish discoloration of the iris, secondary glaucoma and pigmented retinopathy. Siderosis of the eye usually occurs as a consequence of the presence of an intraocular foreign body. The aim of our paper is to present a case of Siderosis bulbi as a consequence of the untimely diagnosed foreign body. In September 2011, a 51-year-old man was referred to our department because of reduced vision in his right eye. The patient's medical history states that he had an eye injury working with metal hammer 10 years ago. More than a year ago, he noticed a gradual loss of the sight in the right eye. We find a heterochromia iridis and the ptosis of the right upper eyelid. Using the slit lamp examination, it could be seen that the lens was not homogeneously blurry, with visible brownish diffusely arranged precipitates on the endothelium of the cornea, and clusters of pigment on the front capsule of lens. The existence of intraocular foreign bodies was suspected, and the patient was sent for further diagnostic evaluation, which confirmed the referral diagnosis. After the preoperative preparation, the Phacoemulsificatio, Vitrectomia via the pars plana, Extractio corporis aliens, Endolaserphotocoagulatio were done. The twelfth day of hospitalization, the visual acuity in the right eye with +12.0 diopters was 0.2. After discharge, the patient was sent to regular checkups. Visual acuity 3 months after surgical treatment was 1.0 with 12.0 diopters of correction. Siderosis bulbi usually occurs as a consequence of the presence of intraocular metallic foreign body. Intraocular foreign body may hurt eye mechanically, cause an infection or demonstrate other toxic effects on intraocular structures. Once in the eye, foreign body can nestle in any of its structures: the anterior chamber of the eye, retina and horoidee. Siderosis caused by an intraocular foreign body requires detailed clinical history and diagnostic evaluation of the patient, as well as the removal of the foreign body. Finding of heterochromia iridis should be considered as a possible foreign body in the eye, particularly if there is a previous history of the eye injury. Early diagnosis and removal of the foreign body accelerates recovery and lead to an improved visual function. The goal of this thesis was to prove that even ten years after the injury, diagnosis and removal of foreign body from the eye can result in the full recovery of the visual function.

**Ključne riječi:** siderosis; foreign body; heterochromia iridis

# SMARTPHONES IN OPHTHALMOLOGY

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## Apstrakt

**Introduction:** Mobile technology continues to revolutionize how physicians practice medicine, and ophthalmologists are no exception. From having access to the latest medical research at the point of care to being able to communicate at a moment's notice with physicians and colleagues around the world, we are practicing medicine in a technological age.

**Material and methods:** Video and photo presentation of available ophthalmic software for smartphones.

**Results:** Smartphones are multifunction electronic devices that can be used to perform photography and videography, internet browsing, data sharing, listening to music and watching/presenting movies and pictures. They have been used by physicians for some time as a reference utility and now, for the ophthalmologist these devices are much more. Ophthalmology is a gadget-centered specialty and every doctor is used to carrying a phone, pager, digital camera and personal digital assistant to keep in communication with the clinic, document findings, access medical information and keep ourselves organized. Smartphones, in particular the iPhone/Android phones, have utility in virtually every part of an ophthalmologic examination. With the functionality that we will present in this article, it appears that these devices have secured a place in the ophthalmologist's tool bag. Presently in the USA about one out of every two physicians utilizes smartphones, with estimates suggesting that about 85 percent physicians may use a smartphone by end of 2012. Creation of applications for smartphones allows end users access to a tool that is designed to perform a specific task quickly and effectively.

**Conclusions:** The increasing distribution of smartphone applications in ophthalmology may have the potential to facilitate patient treatment, data management and communication.

**Ključne riječi:** ophthalmology; smartphones

# **STEPEN I VRSTA PROMJENA U KOLORNOM VIDU KOD DIJABETIČARA ZAVISNO OD POSTOJANJA DIJABETIČKE RETINOPATIJE I MAKULOPATIJE**

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## **Apstrakt**

**Uvod:** Promjene u kolornom vidu (KV) postoje kod pacijenata koji boluju od diabetes mellitusa (DM) tip 2, a mogu se javiti i bez prisustva dijabetičke retinopatije (DR) i makulopatije (DMA).

**Cilj:** Utvrditi postojanje promena KV i tip eventualne anomalije kod pacijenata sa DM tip 2 zavisno od udruženosti sa DR i DMA.

**Metodologija:** Prospektivnom studijom kontrolisanih grupa ukrštenih prema starosti i polu, ukupno je obuhvaćeno 100 pacijenata (n=200 očiju) i to 50 koji su imali DM tip 2 i 50 ispitanika u kontrolnoj grupi koji nisu imali dijabetes. Kriterijum uključenja u studiju je bio da je najbolje korigovana vidna oštrina veća od 0.6, normalan intraokularni pritisak i potpuno providne optičke medije. KV je ispitivan monokularno Ishiharinim tablicama, Nagelovim anomaloskopom, Farnsworth Panel D-15 i Farnsworth 100 hue testom. Rezultat je iskazan preko total error score (TES). Svi pacijenti su kompletno oftalmološki obrađeni.

**Rezultati:** 16% pacijenata sa DM je imalo blagu formu neproliferativne DR. Prosječna vrijednost TES-a je značajno veća u grupi sa DM tip 2 ( $82.8 \pm 33.69$  vs  $70.2 \pm 27.3$ ). 26% pacijenata je imalo ispad u osovini plavo-žuto, 10% u osovini crveno-zeleno dok je kod 64% pacijenata nalaz nespecifična osovina. Pacijenti sa dijabetičkom makulopatijom su imali značajno višu vrednost TES od onih koji nisu imali patološki nalaz u makuli ( $111.8 \pm 47.6$  vs.  $74.9 \pm 25.3$ ).

**Zaključak:** Promjene u KV postoje, po tipu difuznog pada, kod pacijenta koji boluju od DM tip 2 i zavise od prisustva DR i DMA.

**Ključne riječi:** Kolorni vid; FM 100 hue test; TES; diabetes mellitus tip 2

# **THE EFFECTIVENESS OF NON-PENETRATE DEEP SCLERECTOMY WITH COLLAGEN IMPLANT IN THE MYOPIC EYES**

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## **Apstrakt**

The purpose of our study was to examine the effectiveness of anti-glaucomatous surgery - non-penetrating deep sclerectomy with collagen implant

and to assess the character and frequency of complications for the given intervention in myopic eyes. The material and methods Patients who were included in this study had myopia and uncontrolled IOP with maximum hypotensive therapy. The group consisted of 21 patients with myopia of -2 to -9 diopters. IOP was  $20.5 \pm 4.8$  before surgery. The technique of the operation was the standard one, where the only difference was appliance of the injection of lidocaini to the sub-conjunctive in order to ease separation of the conjunctiva from sclera, which is very thin in the myopic eyes. Ophthalmologic examinations were performed before and after the surgery at week one, and later monthly, quarterly, on a semi-annual basis, annually, 18 months and finally 24 months. Ultrasound biomicroscopy was performed quarterly and on an annual basis. Results Patients were monitored for  $48 \pm 2$  months. Postoperative IOP was  $16 \pm 2.3$ . Complications of ablation as horioidee and hyphema were not found. In two cases after 6 and 8 months, and also in two cases after only 12 months (19%) IOP is increased and it was necessary to include medical therapy. Goniopuncture with the Nd: YAG laser was performed in two cases.

**Conclusion:** non-penetrating deep sclerectomy with collagen implant is safe and effective for myopic patients and due to very few postoperative complications can be considered as the choice of surgery.

**Ključne riječi:** glaucoma; myopia; surgery

## **THE MOST COMMON CAUSE OF CONJUNCTIVITIS IN CHILDREN UNDER TWO YEARS OF AGE**

---

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### **Apstrakt**

**Introduction:** In the first six months of postnatal life often leads to the appearance of conjunctivitis. The infection manifests blepharospasm, mucopurulent secretion, and in severe cases the appearance of pseudomembrane.

**Material and methods:** The study was conducted at the Clinic of ophthalmology, Clinical Center Nish and Institute of Public Health from February 2009. to December 2011. The study included 265 children (55% girls and 45% boys) aged up to 24 months with clinical signs of conjunctivitis. For microbiological examination was sampled secretion and conjunctival swabs. To determine the presence of Chlamidya trachomatis swabs were taken at the manufacturer's test.

**Results:** Microbiological examination of samples was found Chlamidya trachomatis in 183 (69%) children. Increased frequency of infection with this agent was observed during the winter months. Also we found infection by other microbes: Stafilococcus aureus (11%), Stafilococcus epidermidis (8%), E.coli (4.5%), Proteus mirabilis (2%), Pseudomonas aeruginosa (1.5%) cases.

**Conclusion:** Results show that the most common cause of conjunctivitis in children aged two years, Chlamidya trachomatis.

**Ključne riječi:** conjunctivitis; children; chlamidya trachomatis

## THE ROLE OF OXIDATIVE STRES IN DIFFERENT STAGES OF AGE-RELATED CATARACT MATURITY

---

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### Apstrakt

**Aim:** To determinate concentration of lipid peroxidation products as well as anti-oxidative stress parameters (total sulfhidril-SH groups, enzymes superoxid dismutase-SOD and catalase) in aqueous humor of age-related cataract patients depending on its maturity.

**Material and method:** In total, 50 patients with age-related cataract underwent complete ophthalmological examination. Two groups were compared: the first was with incipient cataract (N=40) and the second showed mature cataract (N=10). To all of them, a sample of aqueous humor was taken at the beginning of phacoemulsification. Lipid peroxidation products were measured by FOX method, while SH group concentration was determined by a spectrophotometric Ellman method, SOD concentration by Misra and Fridovich method and catalase activity by Aebi UV method.

**Results:** Significantly higher concentration of hydroxiperoxidation in aqueous humor was detected in mature vs. incipient cataract (1.04 nmol/mL vs. 0.56 nmol/mL; p < 0.01) as well as SOD activity (33.88 U/mL vs. 29.53 U/mL) and catalase activity (49.87 fmol/mL vs 38.83fmol/mL) but without significance. Total SH group aqueous concentration was lower in mature cataract patients (17.92 nmol/mL vs. 18.72 nmol/mL).

**Conclusion:** Lipid peroxidation, altogether with numerous risk factors, could play an important role in cataract progression.

**Ključne riječi:** cataractogenesis; oxidative stress

# TREATMENT OF THE IDIOPATHIC INFANTILE NYSTAGMUS

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## Apstrakt

**Introduction:** The mechanismus underlying idiopathic infantile nystagmus (IIN)are still unknown.IIN can be sporadic or inherited.The common form of inheritance is due to X-linked mutation located on the FRMD7 gene(on chromosome Xq26.2).The nystagmus appears before 6 months of age and changes during childhood.Mainly horisontal conjugate nystagmus with a null region where the nystagmus has a lower intensity.

**Material and methods:** The series of 176 patients were recruited in retrospective,controlled trial, and were treated by one surgeron(DR).Children were from 6-15 years old. Clinical assessment included history and complete ophthalmologic and strabismologic examination with cycloplegic refraction (Atropine),and ENG.

**Results:** The I group of patients consisted of 93 children.They had surgery treatment with success rate of 56% (52 patient).The II group consisted of 58 children treated with the glasses and prisms.We have the good results in 79% of them (46 patient).The III group consisted of 25 children treated with the glasses only. The good results were in 24% of them (6 patients).

**Conclusion:** We got the best results in the II group.We treated these patients with the glasses and prisms. Surgery treatment gave also the good results.The patients treated only with the glasses had not the good results.

**Ključne riječi:** Nystagmus; Surgery; Glasses; Strabismus

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