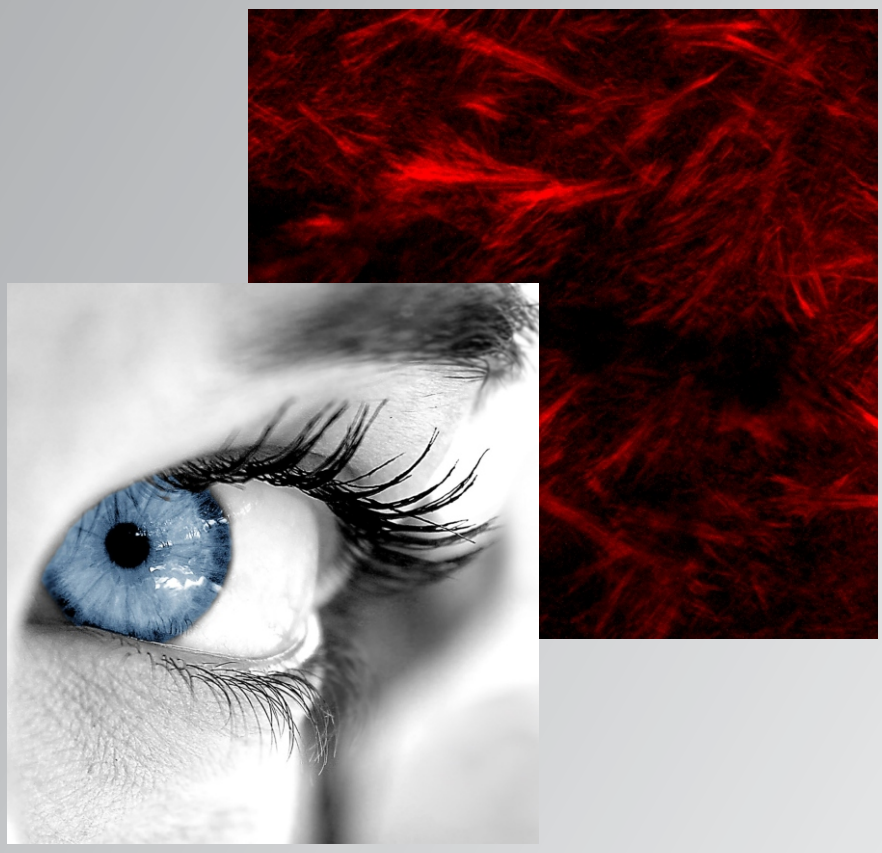
PROGRAM

2010

XII RESEARCH Days



Basic and Clinical Research
Conferences, Papers, Fast Papers and Posters

December 2010
10th and 11th

Vision Institute / Department of Ophthalmology

Federal University of São Paulo - UNIFESP

UNIFESP
UNIVERSIDADE FEDERAL DE SÃO PAULO
1933

HOSPITAL SÃO PAULO

SUPPORT:

KEMIN

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Johnson & Johnson Vision Care

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Index

PAPERS	=	57
FAST PAPERS	=	20
POSTERS	=	49
LECTURES	=	05

Credits for Images: CASO Laboratory and Carlos Lenz Cesar, MD

INFORMATION

Vision Institute – José Carlos Reys Building
821 Botucatu St. 1st floor – São Paulo – SP – Brazil
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Site: **http://www.oftalmo.epm.br**

Organization

POST-GRADUATION PROGRAM COORDINATION

Mauro Silveira de Queiroz Campos

PROGRAM DIRECTOR

Norma Allemann

SCIENTIFIC AND AWARDS COMMITTEE

Adriana Berezovsky
Ana Luisa Hofling de Lima Farah
Augusto Paranhos Jr.
Cristina Muccioli
Denise de Freitas
Élcio Hideo Sato
Ivan Maynart Tavares
João Antonio Prata Jr.
José Alvaro Pereira Gomes
Juliana Maria Ferraz Sallum
Lincoln Lemes de Freitas
Luciene Barbosa De Souza
Luis Alberto Vieira De Carvalho
Maria Cristina Martins
Marinho Jorge Scarpi
Maurício Maia
Mauro Nishi
Mauro Silveira de Queiroz Campos
Michel Eid Farah
Miguel Noel Nascentes Burnier
Norma Allemann
Paulo Augusto de Arruda Mello
Paulo Schor
Rubens Belfort Jr.
Solange Rios Salomão
Wallace Chamon
Walton Nosé

Special Guests

INVITED SPEAKERS

Arnaldo Lopes Colombo, MD
Head Professor
Department of Infectious Diseases
Dean of Research and Post Graduation Programs
UNIFESP
São Paulo, SP

Carlos Lenz Cesar, PhD
Head Professor
Gleb Wataghin Institute of Physics
UNICAMP
Campinas, SP

Ricardo Bertolla, VMD, PhD
Head of Research
Urology Research Center
Human Reproduction
UNIFESP
São Paulo, SP

Vanderlei Salvador Bagnato, PhD
Head Professor
São Carlos Institute of Physics
USP
São Paulo, SP

Rubens Belfort Jr, MD, PhD
President, SPDM
Head Professor Department of Ophthalmology
UNIFESP
São Paulo, SP

Program

December 10th 2010 (Friday)

December 10th 2010 (Friday)

7:50-8:05 **OPENING REMARKS**
Rubens Belfort Jr., Ana Luisa Höfling-Lima, Denise de Freitas

8:05-8:10 **PROGRAM HEADLINES**
Mauro Campos

PAPER PRESENTATION – SESSION 1

Refractive Surgery
Moderators: Wallace Chamon and Mauro Campos

8:10-8:30 LECTURE 1: New perspectives for the identification of fungal pathogens – *Arnaldo Lopes Colombo*

8:30-8:37 Evaluation of Topical Riboflavin Exposure to UVA Radiation and Implantation of Intrastromal Corneal Ring Segments for Keratoconus - *Adimara da Candelaria Renesto (PG-1)*

8:40-8:47 Pachymetric Mapping with Fourier-Domain Optical Coherence Tomography – *Camila Haydée Rosas Salaroli (PG-1)*

8:50-8:57 VEGF trapR1R2 Suppresses Experimental Corneal Angiogenesis – *Hailton Barreiros de Oliveira (PG-1)*

9:00-9:07 Surface Ablation with Sequential Collagen Crosslinking: Alternative to Penetrating Keratoplasty for Keratoconus – *Juliana Vendramini Rossi (PG-1)*

9:10-9:27 Visual Perception Changes and Optical Stability after ICRS Implantation: Comparison between 4 months and 1 year after surgery - *Juliane de Freitas Santos Paranhos (PG-1)*

Cornea and External Diseases
Moderators: Élcio Hideo Sato, Jose Álvaro Pereira Gomes, Mauro Nishi

9:30-9:37 Glycomic Analysis of Tear and Saliva in Ocular Rosacea Patients: the Search for a Biomarker - *Ana Carolina Cabreira Vieira (PG-1)*

9:40-9:47 Comparison between Scleral, Corneal and Amniotic Membrane Grafts to restore Scleral Thinning secondary to Pterygium Surgery with Betatherapy – *Charles Costa de Farias (PG-1)*

9:50-9:57 Effects of Topical Human Amniotic Fluid and Human Serum in a Mouse Model of Keratoconjunctivitis sicca – *Guilherme Goulart Quinto (PG-1)*

Program

December 10th 2010 (Friday)

10:00-10:07 Usefulness of magnetic nanoparticles on ocular cell therapies – *Gustavo Teixeira Grottone (PG-1)*

10:10-10:17 Amniotic Membrane Associated with Conjunctival Autograft vc. Conjunctival Autograft for Recurrent Pterygium – *José Bonifácio Barbosa Júnior (PG-1)*

10:20-10:40 **COFFEE BREAK**

PAPER PRESENTATION – SESSION 2

Cornea, External Diseases and Laboratory
Moderators: Denise de Freitas and Luciene Barbosa de Sousa

10:40-11:00 LECTURE 2: Photonic Therapies in the Diagnosis and Treatment of Diseases: New Perspectives – *Vanderlei Salvador Bagnato*

11:00-11:07 Comparison between Manual Deep Anterior Lamellar Keratoplasty and the Automated Technique with Femtosecond Laser Associated with Excimer Laser Phototherapeytic Keratectomy in Keratoconus – *Jarbas Pereira de Macedo (PG-1)*

11:10-11:17 Transplantation of Conjunctival Epithelial cells Cultivated Ex-vivo in Patients with Total Limbal Stem Cell Deficiency - *José Reinaldo da Silva Ricardo (PG-1)*

11:20-11:27 Transespithelial Collagen Cross-linking: Stromal concentration of an amphilic riboflavin – *Kátia Mantovani Bottós (PG-1)*

11:30-11:37 Conjunctival bacterial microbiota changes in diabetic patients with normal and abnormal glycosylated hemoglobin in two brazilian regions – *Natália Pimentel Moreno (PG-1)*

11:40-11:47 Human Conjunctival Epithelial Cells cultivated ex vivo on Amniotic Membrane – *Paulo Caldas Silver (PG-1)*

11:50-11:57 Correlation of Clinical Outcomes and Antifungal Susceptibilities among Molecularly Identified Fusarium Species From Ocular Sources in Brazil and USA – *Rafael Allan Oechsler (PG-1)*

12:00-12:07 Antimicrobial effect of Riboflavin/UVA Light Combination (365 nm) in vitro – *Renata Tiemi Kashiwabuchi (PG-1)*

12:10-12:17 Immunocytochemical analysis after treatment with osmoprotective lubricant in patients with dysfunctional tear syndrome - *Rossen Mihaylov Hazarbassanov (PG-1)*

12:20-12:27 DRAWINGS – Claudio Luiz Lottenberg

12:30-13:30 LUNCH

Program

December 10th 2010 (Friday)

PAPER PRESENTATION – SESSION 3

Cornea, External Diseases and Laboratory
Moderators: Mauro Campos and Ana Luisa Hofling-Lima

13:30-13:50 LECTURE 3: Proteomics in Clinical Research – *Ricardo Pimenta Bertolla*

13:50-13:57 Bactericidal effect of nitric oxide donors against clinical isolates from keratitis – *Angelino Julio Cariello (PG-1)*

14:00-14:07 Growth Factors Dosage in Fresh and Preserved Amniotic Membrane in Different Medium and at Different Temperatures – *Mario Genihu Bomfim Pereira (PG-1)*

14:10-14:17 Ocular Surface and Hepatitis C Virus Infection – *Sergio Felberg (PG-1)*

14:20-14:23 Study of the Therapeutic Action of 0.1% Riboflavin/ Ultraviolet Radiation on the Experimental Eye Burn in Rabbits — *Marcello Novoa Colombo Barboza (PG-0)*

14:25-14:28 Indications for Penetrating Keratoplasty: the Epidemiological Chaos in Brazil (Part of a National Epidemiological Study) - *Marisa Florence (PG-0)*

14:30-14:33 Optimization and characterization of human limbal stem cell culture – *Melissa Manfroi Dal Pizzol (PG-0)*

14:35-14:38 Effects of different Blood-Derived Preparations on cultured corneal cells – Final Results – *Renato Corrêa Souza de Oliveira (PG-0)*

Glaucoma
Moderators: Augusto Paranhos Jr. and Ivan Maynart Tavares

14:40-14:47 Evaluation of the Optic Nerve Head in Patients with Chronic Heart Failure – *Daniel Meira Freitas (PG-1)*

14:50-14:57 Does Ganglion Cell Complex Scan predict Glaucoma earlier than Retinal Fiber Layer Thickness Map in Suspects and Glaucoma Patients using Fourier Domain OCT? - *Fabio Kanadani (PG-1)*

15:00-15:07 Influence of age, race and corneal biomechanical properties on intraocular pressure by Goldmann, Ocular Response Analyser and Pascal tonometers – *Larissa Morimoto Doi (PG-1)*

15:10-15:17 Evaluation of Macular Structure and Function in Glaucoma - *Luciano Moreira Pinto (PG-1)*

15:20-15:27 Comparison of the diagnostic abilities of Spectralis, Cirrus and RTVue optical coherence tomography devices for detecting glaucoma – *Mauro Toledo Leite (PG-1)*

15:30-15:37 Intracameral Triamcinolone in Congenital Cataract Surgery in Children under two Years of Age and its Relation with Intraocular Pressure and Central Corneal Thickness – *Marcelo Carvalho Ventura (PG-1)*

15:40-15:47 Association between two Different Exercise Intensities and Intraocular Pressure – *Reginaldo Alexandre Rossin (PG-1)*

Program

December 10th 2010 (Friday)

15:50-16:10 **COFFEE BREAK**

PAPER PRESENTATION – SESSION 4

Glaucoma
Moderators: Ivan Maynart Tavares and Marinho Jorge Scarpi

16:10-16:17 Intraocular Pressure Response in Swimmers after Physical Effort in Warm Swimming Pool – Rodrigo *Gustavo Lopes (PG-1)*

16:20-16:27 Association between Corneal Biomechanical Properties and Optic Nerve Head Morphology in Newly Diagnosed Glaucoma Patients - *Tiago dos Santos Prata (PG-1)*

16:30-16:37 Ocular Surface Changes in Glaucoma Patients treated with Fixed Combinations of Prostaglandines / 0.5 % Timolol - *Heloisa Helena Abil Russ Giacometti (POS-DOC)*

16:40-16:47 Randomized Clinical Trial Evaluating Modified ETDRS Focal/Grid Laser Photocoagulation versus Normal-Density or High-Density Micropulse Photocoagulation for Diabetic Macular Edema – *Daniel Lavinsky (PG-1)*

16:50-16:53 Glaucoma detection ability of 3 Spectral-domain OCT devices and Stratus OCT - *Dinorah Piacentini Engel Castro (PG-0)*

16:55-16:58 Comparison of Silicone Ahmed and Baerveldt Glaucoma Implants in Refractory Glaucoma – *Maria Vitoria Oliveira Moura Brasil (PG-0)*

17:00-17:03 Regional Age-related Changes on Retinal Nerve Fiber Layer Thickness as Measured by Spectral Domain Optical Coherence Tomography – *Renato Dichetti dos Reis Lisboa (PG-0)*

17:05-17:08 Variation of Intraocular Pressure Resulting from the Use of Swimming Goggles – *Rudolph Eberhardt Lenk (PG-0)*

17:10-17:13 Evaluation of the Glaucomatous Lesion on the Central Nervous System by Functional Magnetic Resonance Imaging (fMRI) and the Correlation with Psychophysics and anatomical Retinal Findings - *Vanessa Miroski Gerente (PG-0)*

17:15-18:45 **POSTER - SESSION 1**

Refractive Surgery (03), Cornea and External Diseases (09), Laboratory (01), Pharmacology (01) Trauma and Emergency (01), Glaucoma (12)

Moderators for Poster Session 1 – Paulo Schor, Wallace Chamon, Élcio Hideo Sato, Jose Álvaro Pereira Gomes, Mauro Nishi, Denise de Freitas, Luciene Barbosa de Sousa, Mauro Campos, Ana Luisa Hofling-Lima, Paulo Augusto de Arruda Mello, Augusto Paranhos Jr., Ivan Maynart Tavares, Marinho Jorge Scarpi

18:45 **DRAWINGS – Denise de Freitas**

19:00 **END OF SESSION**

Program

December 11th 2010 (Saturday)

PAPER PRESENTATION – SESSION 5

Bioengineering, Low vision, Strabismus and Lacrimal System
Moderators: Paulo Schor and Mauro Campos

8:00-8:07 The Sight Measurement with Psychophysical Tests: Study, Development and Standardization of New Method and Digital Equipment - *Airton Leite Kronbauer (PG-1)*

8:10-8:17 Comparison between Simulated and Real Ablations in Customized Contact Lens – *Luciana de Matos (PG-1)*

8:20-8:27 Congenital Nasolacrimal Duct Obstruction in Premature Children – *Silvia Helena Tavares Lorena (PG-1)*

8:30-8:33 Quality of Life and Psychological Aspects Related to Retinopathy of Prematurity – *Alcione Aparecida Messa (PG-0)*

8:35-8:38 Treatment of Ocular Allergic Disease with Topical 0.05% Cyclosporine - *David Kirsch (PG-0)*

8:40-8:43 Analysis of visual fixation, smooth pursuit and saccadic during observation of motor actions – *Olival Cardoso do Lago (PG-0)*

8:45-8:48 Lacrimal Recanalizer - Recanalization of the nasolacrimal duct with High Frequency – *Eduardo Alonso Garcia (PG-0)*

Cataract and Ocular Plastic Surgery
Moderators: Walton Nosé and Lincoln Lemes Freitas

8:50-8:57 Salivary Gland and Labial Mucous Membrane Transplantation in the treatment of severe symblepharon and dry eye in patients with Stevens-Johnson Syndrome – *Ana Estela Besteti Pires Ponci Sant'anna (PG-1)*

9:00-9:07 Evaluation of Quality of Life in Patients Submitted to Cataract Surgery with Multifocal and Monofocal Lenses Accompanied for 2 years - *Beogival Wagner Lucas Santos (PG-1)*

9:10-9:17 Subconjunctival Delivery of Antibiotics in a Release-Controlled System. A Novel Anti-infective Prophylaxis Approach for Cataract Surgery – *Fernando Paganelli (PG-1)*

9:20-9:27 Comparison between two surgical techniques for lower eyelid rejuvenation: safety analysis and outcomes – *Giovanni Andre Pires Viana (PG-1)*

Program

December 11th 2010 (Saturday)

9:30-9:37 Intraocular Pressure Evaluation after Upper Blepharoplasty – *Tammy Hentona Osaki (PG-1)*

9:40-9:47 DRAWINGS – Rubens Belfort Jr.

9:50-10:10 COFFEE BREAK

PAPER PRESENTATION – SESSION 6

Epidemiology, Electrophysiology, Clinical Trials and Uveitis
Moderators: Solange Rios Salomão, Cristina Muccioli and Adriana Berezovsky

10:10-10:30 LECTURE 4: Toxoplasmosis: What have we learned from the lab? – *Rubens Belfort Jr*

10:30-10:37 Refractive Services Outcomes in Low-income School Children in São Paulo City – *Célia Regina Nakanami (PG-1)*

10:40-10:47 Diagnosing Anisometropic and Strabismic Amblyopia by Grating and Optotype Acuity – *Eric Pinheiro de Andrade (PG-1)*

10:50-10:57 Contributing Factors for Visual Loss in Children with Cortical Visual Impairment - *Nivea Nunes Cavascan (PG-1)*

11:00-11:03 Frequency and Causes of Visual Impairment Secondary to Uveitis in Patients Examined at the Low Vision Service – Department of Ophthalmology UNIFESP: A Retrospective Study – 20 years - *Luci Meire P. Silva (PG-0)*

Tumors and Pathology
Moderators: Maria Cristina Martins and Norma Allemann

11:05-11:12 Expression of SIRT1 in Epithelial Neoplasia of the Conjunctiva – *Luiz Filipe de Albuquerque Alves (PG-1)*

11:15-11:22 X-6 Immunohistochemical Expression in Retinoblastoma – *Patrícia Rusa Pereira (PG-1)*

11:25-11:32 The In Vivo Effects of Imatinib Mesylate in an Animal Model of Uveal Melanoma - *Rubens Belfort de Mattos Neto (PG-1)*

11:32-11:35 Pathologic correlation in conjunctival tumors – *Simone Ribeiro de Araujo Almeida (PG-0)*

Program

December 11th 2010 (Saturday)

Retina and Vitreous
Moderators: Juliana M. Ferraz Sallum and Maurício Maia

11:40-11:47 Method to Quantify Traction Applied to the Retina using Vitreous Cutters during Vitrectomy - *Anderson Gustavo Teixeira Pinto (PG-1)*

11:50-11:57 Morphological Changes and Visual Functional Correlation in Age-Related Macular Degeneration - *Andrea Lima Barbosa (PG-1)*

12:00-12:07 Assessment of Toxicity derived from Osmolality of Intravitreally Injected Solutions in Rabbits - *Bruno de Albuquerque Furlani (PG-1)*

12:10-12:17 Optical Coherence Tomography in Retinitis Pigmentosa Patients Study – 5 years follow up – *Douglas Yanai (PG-1)*

12:20-12:27 Leonardo da Vinci: Science, Art and Ophthalmology – *Eduardo Buchelle Rodrigues (PG-1)*

12:30-13:40 **LUNCH**

PAPER PRESENTATION – SESSION 7

Retina and Vitreous
Moderators: Michel Eid Farah and Rubens Belfort Jr

13:40-14:00 LECTURE 5: Photonic Microscopy – Carlos Lenz Cesar

14:00-14:07 Light sources and vital dyes interaction in ARPE cells – *Elaine de Paula Fiod Costa (PG-1)*

14:10-14:17 Development of a score in order to predict retinopathy of prematurity (ROP) in very low birth weight preterm infants – *Gabriela Unchalo Eckert (PG-1)*

14:20-14:27 Real-Time PCR for the diagnosis of bacterial endophthalmitis – *Gustavo Barreto de Melo (PG-1)*

14:30-14:37 Diagnosis Correlation between Digital Imaging Screening (Retcam) and Clinical Examination in Retinopathy of Prematurity - *Licia Cristina Vago Matieli (PG-1)*

14:40-14:47 Three Major Loci Involved in Age-Related Macular Degeneration are also Associated with Polypoidal Choroidal Vasculopathy – *Luiz Henrique Soares Gonçalves de Lima (PG-1)*

14:50-14:57 Macular Pigment Optical Density Correlates with HbA1C Levels in Diabetic and Non-Diabetic Patients – *Verônica Franco de Castro Lima (PG-1)*

15:00-15:03 The use of Lutein and Zeaxanthin as a Safe and Efficacious Dye for the Visualization of the Epiretinal Membrane, Internal Limiting Membrane and Vitreous – *Diogo de Sousa Martins (PG-0)*

Program

December 11th 2010 (Saturday)

15:05-15:08 A Randomized Trial to Compare the Efficacy and Safety of Intravitreal injection of Triamcinolone Acetonide and Bevacizumab separated and combined for Diabetic Macular Edema – *Hermelino Lopes de Oliveira Neto (PG-0)*

15:10-15:13 Comparison of 20-, 23- and 25-gauge air infusion forces – *Leonardo Martins Machado (PG-0)*

15:15-15:18 Outcomes of idiopathic macular hole surgery with internal limiting membrane peeling using brilliant blue staining – *Oswaldo Ferreira Moura Brasil do Amaral (PG-0)*

15:20-15:23 A study on the cost-effectiveness on the anti-VEGF treatments for age-related macular degeneration – *Renata Portella Nunes (PG-0)*

15:25-15:45 **COFFEE BREAK**

15:45-17:15 **POSTER - SESSION 2**

Oculoplastic Surgery (04), Low Vision (01), Uveitis (01), Tumor and Patology (02), Orbit (01), Neurophthalmology (01), Retina and Vitreous (13)

Moderators for Poster Session 2 – Paulo Schor, Wallace Chamon, Walton Nosé, Lincoln Lemes Freitas, Solange Rios Salomão, Cristina Muccioli, Adriana Berezovsky, Maria Cristina Martins, Norma Allemann, Juliana M. Ferraz Sallum, Maurício Maia, Michel Eid Farah, Rubens Belfort Jr.

17:15-18:15 **FINAL REMARKS AND AWARDS ANNOUNCEMENT**
Awards Committee

18:25h **ADJOURN**
Organizing Committee

Program

POSTERS

December 10th 2010 (Friday)

POSTER - SESSION 1

Refractive Surgery (3)

1. Initial Experience in Femtosecond Laser for Flap Creation During LASIK – *Francisco Rosa Stefanini (R)*
2. Second Harmonic Generation for Tridimensional Visualizing of Crosslinked Collagen Lamellae in Keratoconic Corneas – *Amanda Correia da Paz (R)*
3. Photochemical Remodeling of the Cornea – *Bruno Torres Herrerias (R)*

Cornea and External Diseases (9)

4. Detection of Herpes Simplex Type 1, 2 and Varicella Zoster Virus in Corneal Scrapings from Patients with Infectious Keratitis by Real-Time Polymerase Chain Reaction – *Heloisa Moraes do Nascimento (R)*
5. Mydriasis, cataract and glaucoma: special features of Acanthamoeba keratitis – *Juliana Ferreira Camargo (R)*
6. Mansonella ozzardi in the cornea of patients from Coari, Amazonas State, Brazil – *Lucas Monferrari Monteiro Vianna (R)*
7. Acanthamoeba keratitis among contact lenses users: a case control study – *Maria Flavia de Lima Ribeiro (R)*
8. Clinical Correlation in Acanthamoeba Keratitis and Coinfection – *Pedro Vanalle Ferrari (R)*
9. Comparative Evaluation of Confocal Microscopy and Culture Results in the Diagnosis of Acanthamoeba Keratitis – *Juliana Moura Bastos Prazeres (R)*
10. Ocular infections due to Pseudomonas resistant to Fourth-generation Fluoroquinolones – *Cláudia Asperti Ottaiano (R)*
11. Dry Eye Syndrome Prevalence on Patients with Proliferative Diabetic Retinopathy **-** *Luís Guilherme Milesi Pimentel (R)*
12. Analysis of Corneal Permeation of Nitric Oxide Donors in Porcine Corneas – *Rodrigo Arantes de Souza Lima (R)*

Laboratory (1)

13. Determination of DNA topoisomerase mutations and biofilm production in moxifloxacin resistant coagulase negative Staphylococci isolates – *Tiago Massao Yamanaka* (G)

Pharmacology (1)

14. Translational Research: From the Basic Science to Patient Care: Our experience with Nanostructurated Riboflavin in Crosslinking for Keratoconus – *Acácio Alves de Souza Lima Filho*

Trauma and Emergency (1)

15. Socioeconomic Profile of patients attending the emergency Department of Ophthalmology of the São Paulo Hospital – *Moacyr Amaral Campos (R)*

Glaucoma (12)

16. Posture-induced changes in ocular perfusion pressure in glaucoma patients: A comparison between fistulizing surgery and clinically controlled patients – *André Rodrigues de Castro (R)*
17. Reproducibility of the Retinal Nerve Fiber Layer Thickness Measurements with Optical Coherence Tomography – *Leonardo de Araújo Jorge Fogaça (R)*
18. FDT Matrix in schizophrenia. Evaluation for magnocellular pathway dysfunction in schizophrenia and their parents – *Carolina Pelegrini Barbosa (R)*
19. Retinal Nerve Fiber Layer as a biomarker in Neuromyelitis Optica – *Fabiana da Fonte Gonçalves (R)*
20. Effect of Myopia on the Thickness of the Retinal Nerve Fiber Layer Measured by **Cirrus HD** Optical Coherence Tomography – *Joyce Borges Tsuchyia (R)*
21. Effect of Myopia on the Thickness of the Retinal Nerve Fiber Layer Measured by **Spectralis** Optical Coherence Tomography – *Juliana de Filippi Sartori (R)*
22. Retinal Nerve Fiber Layer as a biomarker in Multiple Sclerosis – *Luiz Filipe Adami Lucatto (R)*
23. Effect of Myopia on the Thickness of the Retinal Nerve Fiber Layer Measured by GDx™ Scanning Laser System – *Adriana Rainha Mascia (R)*
24. Prevalence of Ocular Surface Complaints in Patients with Glaucoma Treated with Trabeculectomy – *Mariana Kaori Yasuta (R)*
25. The New Visual Field Index: Correlation with Conventional Perimetric Indices in Different Stages of Glaucoma - *Marina Costa Carvalho de Souza (R)*
26. Ocular Pulse Amplitude in Patients with Heart Failure – *Paula Leal dos Santos Barros (R)*
27. Ex-vivo Experimental Model of Adjustable Suture for Trabeculectomy – *Vespasiano Rebouças Nunes dos Santos (R)*

Program

POSTERS

December 11th 2010 (Saturday)

POSTER - SESSION 2

Ocular Plastic Surgery (5)

1. Sebaceous carcinoma of the eyelid: different diagnostic times, different outcomes – *Cintia Tulio Fernandes (E)*
2. Standardized clinical photography: the role of flash – *Vanessa Yumi Sugahara (E)*
3. Mydriasis induced by anesthesia during blepharoplasty – *Roberto Novaes Horovitz (E)*
4. Pain Evaluation after Ice Application in Essential Blepharospasm Patients treated with Botulinum Toxin Type A – *Teissy Hentona Osaki (R)*
5. Lateral canthal tendon laxity in patients with involutional entropion or ectropion: the pathogenetic role of elastin and elastin-degrading enzymes – *Renato Dasmaceno Wendell (PG)*

Low Vision (1)

6. Functional Performance in Basic Activities of Daily Living in Children with Visual Impairment– *Marcela Aparecida Santos (F)*

Uveitis (1)

7. Using the technique of real-time PCR in the diagnosis of infectious uveitis – *Fabio Felipe dos Santos (PIBIC)*

Tumors and Pathology (2)

8. Retinoblastoma epidemiology at a referral center, São Paulo, Brazil – *Daniel Coliccio (R)*

Orbit (1)

9. Epidemiological Study of Glioma of Optic Pathway in a Service of Quaternary University Hospital – *Igor Rodrigo Lins da Silva (R)*

Neurophthalmology (1)

10. Adie's Tonic Pupil: Epidemiological Aspects – *Natalia Yumi Valdrighi (R)*

Retina and Vitreous (12)

11. Incidence of Cystoid Macular Edema after Cataract Surgery Using Spectral-Domain Optical Coherence Tomography – *Bruna Andrade Nascimento (R)*
12. Macular Sensitivity Changes in Microperimetry for Detection of Chloroquine Toxicity - *Nahin Mohamad Ali Geha (R)*
13. Spectral Domain Optical Coherence Tomography and Autofluorescence of lipofucsin and melanin on Chloroquine and Hydroxychloroquine Retinopathy – *Rodrigo Vianna Pozzo (R)*
14. Viability and sterility of bevacizumab in different vials and temperature alone and associated with triancinolone – *Tarcísio Batista Guerra (R)*
15. Correlation between Preferential Hyperacuity Perimetry and OCT in Patients with Metamorphopsia Age-Related Macular Degeneration (AMD) – *Bruno Landgren (R)*
16. Investigation of new dyes for chromovitrectomy – *Emmerson Badaró Cardoso (R)*
17. Spectral Domain Optical coherence tomography in commotio retinae after blunt ocular trauma – *Franklin de Souza Santos (R)*
18. Experimental model to quantify the retinian phototoxicity of different wavelengths during vitreoretinal surgeries. – *João Rafael de Oliveira Dias (R)*
19. Spectral Domain Optical Coherence Tomography Findings in Toxoplasmic Retinochoroiditis – *Mariann Midori Yabiku (R)*
20. Spectrum of Ophthalmologic Manifestations and Dry Eye Syndrome in Patients with Inflammatory Bowel Disease – *Ana Carolina Almeida Britto Garcia (R)*
21. Ocular Wavefront Aberrations in Patients with Central Serous Chorioretinopathy – *João Crispim Moraes Lima (R)*
22. Vitreomacular Traction Syndrome Clinical Correlation between Functional and Anatomical Postoperative Results and OCT Morphology - *Juliana Mantovani Bottós (PG)*

E = External Fellow
F = Fellow
PG = Post-Graduate Student (Master or Doctorship in Ophthalmology or Visual Science)
G = Graduate Student
R = Resident

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

☒ Paper
☐ Poster
☐ FAST Paper

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee"

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Scientific Section Descriptions (two-letter code):

(BE) OCULAR BIOENGINEERING
(CO) CORNEA AND EXTERNAL DISEASE
(CA) CATARACT
(EF) ELECTROPHYSIOLOGY
(EP) EPIDEMIOLOGY
(EX) EXPERIMENTAL SURGERY
(GL) GLAUCOMA
(LA) LABORATORY
(LS) LACRIMAL SYSTEM
(LV) LOW VISION
(NO) NEURO-OPHTHALMOLOGY
(OR) ORBIT
(PL) OCULAR PLASTIC SURGERY
(PH) PHARMACOLOGY
(RE) RETINA AND VITREOUS
(RS) REFRACTIVE SURGERY
(RX) REFRACTION-CONTACT LENSES
(ST) STRABISMUS
(TR) TRAUMA
(TU) TUMORS AND PATHOLOGY
(UV) UVEITIS
(US) OCULAR ULTRASOUND

Deadline: Sep 24, 2010

FORMAT:
Abstract should contain:
Title
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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Renesto
First Name: Adimara
Middle: da Candelaria

Service : Refractive Surgery (RS)

CEP Number: 1915/07

5. ABSTRACT (REQUIRED):

EVALUATION OF TOPICAL RIBOFLAVIN EXPOSURE TO UVA RADIATION AND IMPLANTATION OF INTRASTROMAL CORNEAL RING SEGMENTS FOR KERATOCONUS:ONE YEAR RESULTS

Author and Co-authors (maximum 6): Adimara da Candelaria Renesto; Luiz Alberto Soares de Melo Júnior; Marta Sartori; Mauro Campos.

Purpose: To determine whether corneal collagen cross-linking(CXL) with riboflavin and UVA light augments the effect of intrastromal corneal ring segments(ICRS).
Methods: Prospective, randomized, interventional clinical trial.Thirty-nine keratoconic eyes were randomized for corneal collagen cross-linking or not.After three months all patients underwent insertion of ICRS.Outcomes measures were uncorrected visual acuity (UCVA), best spectacle-corrected visual acuity (BSCVA), intraocular pressure (IOP) taken by contact (Goldmann Applanation Tonometry-GAT and Dynamic Contour Tonometry-DCT), corneal hysteresis by Ocular Response Analyser(ORA), topography, scanning-slit(SL-Orbscan®), scheimpflug images(SI-Pentacam®), optical coherence tomography (Visante OCT®), contrast sensitivity, ultrasound pachymetry (UP), endothelial cell count(ECC) and impression cytologic (IC).
Results: BSCVA improved in both groups after (CXL or not) and after insertion of ICRS (P<0.001).The values of the steepest meridian (K2) showed a statistical difference (P<0.001) after (CXL or not) and after insertion of ICRS.There is no difference between the groups for BSCVA (P=0.12) and K2 (P=0.72) if the preoperative values were considered.
Conclusion: Despite BSCVA and K2 values the CXL treatment did not augment the effect of ICRS.

Keywords: keratoconus; riboflavin; cross-linking

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Last Name: Salaroli
First Name: Camila
Middle: Haydée Rosas

Service sector: (RS)

Doheny Eye Institute and Department of Ophthalmology, Keck School of Medicine of the University of Southern California, Los Angeles, California.

5. ABSTRACT (REQUIRED):

Pachymetric Mapping with Fourier-Domain Optical Coherence Tomography

Camila H. R. Salaroli, MD, Jose L. Ramos, MD, Yan Li, PhD, Maolong Tang, PhD, Xinbo Zhang, PhD, David Huang, MD, PhD

Purpose: To evaluate the repeatability of Fourier-domain optical coherence tomography (FD-OCT) pachymetric mapping and compare OCT central corneal thickness (CCT) measurements with those of ultrasound pachymetry and Orbscan II and compare OCT peripheral corneal thickness measurements with those of Orbscan II.
Methods: An RTVue-CAM FD-OCT system was used to map the corneal thickness of 54 participants without corneal abnormalities. The scans were centered on either the corneal vertex or pupil. The repeatability of central and pericentral map sectors was assessed by pooled standard deviation (SD). The CCT measured by OCT was compared with those measured by ultrasound and Orbscan II by paired *t*-test and Pearson correlation. The peripheral corneal thickness measured by OCT was compared with those measured by Orbscan II by paired *t*-test.
Results: Pupil centration from 64 eyes (SD: 1.27 µm central, 1.73-6.60 µm pericentral) provided better repeatability than vertex centration from 42 eyes (1.65 µm central, 2.45-9.50 µm pericentral) in all sectors ($P<0.029$). The CCT measured by OCT, ultrasound, and Orbscan II (acoustic factor 0.92) was 537.9±26.9, 557.1±30.0, and 537.1±32.0 µm, respectively. The peripheral corneal thickness measured by OCT was significantly thinner than Orbscan II pachymetric readings ($P=0.000$).
Conclusion: Pachymetric mapping with FD-OCT was highly repeatable in normal corneas. The repeatability was better with pupil-centered scans than with corneal vertex-centered scans.

Keywords: Pachymetric mapping, central corneal thickness, optical coherence tomography.

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_Hailton Barreiros de oliveira
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Last Name: OLIVEIRA
First Name: HAILTON
Middle: BARREIROS

Service (e.g. Glaucoma): REFRACTIVE SURGERY (RS)

CEP Number: 937/04

VEGF trapR1R2 suppresses experimental corneal angiogenesis

Oliveira HB, Sakimoto T, Javier JAD, Azar DT, Wiegand SJ, Jain S, Chang J-H

Purpose. To determine the effect of vascular endothelial growth factor(VEGF)TrapR1R2 on bFGF-induced experimental corneal neovascularization (NV).

Methods. Control pellets or pellets containing 80 ng bFGF were surgically implanted into wild-type C57BL/6 and VEGF-LacZ mouse corneas. The corneas were photographed, harvested, and the percentage of corneal NV was calculated. The harvested corneas were evaluated for VEGF expression. VEGF-LacZ mice received tail vein injections of an endothelial-specific lectin after pellet implantation to determine the temporal and spatial relationship between VEGF expression and corneal NV. Intraperitoneal injections of VEGF TrapR1R2 or a human IgG Fc domain control protein were administered, and bFGF pellet-induced corneal NV was evaluated.

Results. NV of the corneal stroma began on day 4 and was sustained through day 21 following bFGF pellet implantation. Progression of vascular endothelial cells correlated with increased VEGF-LacZ expression. Western blot analysis showed increased VEGF expression in the corneal NV zone. Following bFGF pellet implantation, the area of corneal NV in untreated controls was 1.05±0.12 mm2 and 1.53±0.27 mm2 at days 4 and 7, respectively. This was significantly greater than that of mice treated with VEGF Trap (0.24±0.11 mm2 and 0.35±0.16 mm2 at days 4 and 7, respectively; $p<0.05$).

Conclusions. Corneal keratocytes express VEGF after bFGF stimulation and bFGF-induced corneal NV is blocked by intraperitoneal VEGF TrapR1R2 administration. Systemic administration of VEGF TrapR1R2 may have potential therapeutic applications in the management of corneal NV.

Key Words : Angiogenesis, bFGF, Cornea, VEGF TrapR1R2

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Rossi
First Name: Juliana
Middle: Vendramini

Service (e.g. Glaucoma): CORNEA

CEP Number:

5. ABSTRACT (REQUIRED):

Advanced Surface Ablation with Sequential Collagen Crosslinking: Alternative to Penetrating Keratoplasty for Keratoconus

Author and Co-authors (maximum 6): Rossi JV, Kairala MM, Rezende R, Farah ME.

Purpose: To report refractive, topographic, and aberrometric outcomes after advanced surface ablation (ASA) sequentially followed by corneal collagen cross-linking (CXL) in eyes with progressive grades I and II keratoconus (KC).
Methods: In a prospective non-randomized study 30 eyes of 30 consecutive patients with progressive KC (grades I and II) underwent photorefractive keratotomy (PRK) immediately followed by CXL. Custom PRK with Zyoptix Z100 (Baush&Lomb) was performed when possible, whereas tissue-saving ablation was performed when wavefront data was impossible to obtain. After surface ablation, topical 0.1% riboflavin drops were instilled every 5 minutes over deepithelialized cornea 30 minutes before UVA irradiation and every 5 minutes during irradiation (3mW/cm for 30 minutes). Uncorrected visual acuity (UCVA), best spectacle-corrected visual acuity (BSCVA), pachymetry, endothelium cell count, topography (Orbscan II), and aberrometry were evaluated at baseline and at 1, 3, and 6 months follow-up.
Results: Mean baseline UCVA and BSCVA were 0.25 /0.26 and 0.67/0.21, respectively; 6-month mean UCVA and BSCVA were 0.71/0.3 and 0.8 /0.24. Maximal curvature decreased a mean of 3.97 diopters ($p<0.01$). The mean decrease in thickness as measured at the thinnest part of the cornea by Orbscan was 110 um ($p<0.01$). There was no statistical significance between endothelium cell count before and 6 months after the procedure ($p>0.1$).
Conclusion: The significant clinical improvement in both UCVA and BSCVA after PRK followed by CXL, and the apparent stability during the 6-month follow-up, seems to validate this treatment approach as an alternative to penetrating keratoplasty for progressive keratoconus at 6-month follow-up.

Keywords: Keratoconus, Crosslinking, cornea

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( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: PARANHOS
First Name: JULIANE
Middle:de Freitas Santos

Service (e.g. Glaucoma): REFRACTIVE SURGERY

CEP Number:0490/06

5. ABSTRACT (REQUIRED):

VISUAL PERCEPTION CHANGES AND OPTICAL STABILITY AFTER ICRS IMPLANTATION: COMAPARISON BETWEEN 4 MONTHS AND 1 YEAR AFTER SURGERY

Author and Co-authors (maximum 6) Juliane F.S. Paranhos. Marcos P. Ávila, Augusto Paranhos Jr, Paulo Schor

Purpose: To prospectively evaluate if the impact of ICRS implantation on the quality of life (QoL) of patients with keratoconus changes over time and identify the factors responsible to these changes if it happens. QoL was obtained using the NEI-RQL (National Eye Institute Refractive Error Quality of life) instrument.
Methods: Sixty-nine eyes of 42 keratoconus patients were implanted with the Keraring (Mediphacos, Belo Horizonte, Brazil). All patients self-administered the NEI-RQL after surgery when they were wearing the best correction for at least 40 days and 1 year after surgery. We also compared best corrected visual acuity, refraction and steep keratometric value between 3 months and 1 year after surgery. To evaluate the impact of the correction in use on QoL patients were divided in group A (patients using appropriate correction) and B (not using appropriate correction).
Results: There was no statistical difference in general scale and all NEI-RQL scales except for "clarity of vision", "far vision" and "near vision". Keratometric values, sphere and spherical equivalent had no statistical difference between 3 months and 1 year after surgery, but there was a little worsening in cylinder (1,78 (0.18) to 1.98(0.16) p=0.0144) and BCVA (0.25 (0.02) to 0.34 (0.03) p=0.0091). One year after surgery 18 patients were not using the correction that was suggested by physician 3 months after surgery. QoL was not statistically different one year after surgery between those that were using the appropriate correction and those that were not. At one year after surgery Group A had no change in BCVA and Group B lost one line but this change did not reach significance (p=0.053)
Conclusion: QoL did not change one year after surgery except for "clarity of vision", "near vision" and "far vision". These results cannot be explained based only on quantitative metrics. Results show the importance of subjective analysis to evaluate visual function specially in highly aberrated eyes.
Keywords: Keratoconus, quality of life, surgery

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Last Name: Vieira
First Name: Ana Carolina
Middle:

Service (e.g. Glaucoma): Cornea and External Diseases

CEP Number:

Glycomic Analysis of Tear and Saliva in Ocular Rosacea Patients: the Search for a Biomarker

Author and Co-authors: Ana Carolina Vieira, Sureyya Ozcan, Hyun Joo, Carlito B Lebrilla, Mark J Mannis

Purpose: Rosacea is a prevalent disorder that may cause visual dysfunction. The vision-threatening aspects of rosacea are mostly associated with chronic, untreated disease, often in the context of misdiagnosis and inappropriate therapy. Up to 90% of patients with ocular rosacea may have subtle skin changes and in 20% of the cases, the ocular signs precede skin involvement, making diagnosis of ocular rosacea challenging. There is no diagnostic test for rosacea. Biochemical methods for early and definite detection of ocular rosacea could potentially provide a diagnostic marker as well as an etiologic explanation. Our group has previously shown potential diagnostic detection of ocular rosacea by glycomic analyses of human tears. Easy sample collection and relatively simple components of tear and saliva provide advantages for biomarker discovery. The purpose of this study was to identify a biomarker for rosacea using a glycomics approach in order to make an early and specific diagnosis possible and enhance our understanding of this common and troublesome disease. **Methods:** Tear fluid was collected from 28 subjects (10 controls and 18 patients with ocular rosacea) and saliva from 22 subjects (10 controls and 12 patients with ocular rosacea). N and O-linked glycans were released from samples to profile glycosylation change. Released glycans were purified and analyzed by high-resolution mass spectrometry. Most abundant glycans were further characterized by tandem MS and exoglycosidase digestion to elucidate their structures. **Results:** Highly fucosylated N-linked glycans were major component in both tear and saliva from patients and control samples. The signal intensity of fucosylated glycan was significantly decreased in patient saliva while a slight difference was observed in tear samples. Sulfated O-linked glycans were observed in tear and saliva as a major component. Sulfated glycans were dramatically increased in patient saliva while there was a small difference in tears. We observed various common glycans between tear and saliva, suggesting that salivary and tear glands are correlated with each other and can be used simultaneously for biomarker discovery. We found 93 N-linked and 188 O-linked glycans in tear and saliva. **Conclusion:** The decrease of abundance of highly fucosylated N-linked glycans in rosacea patients tear and sulfated O-linked glycans in rosacea patients saliva may lead to a diagnostic marker for this disease.

Keywords: rosacea, biomarker, glycans, tear, saliva.

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Charles Costa de Farias

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Last Name: Farias
First Name: Charles
Middle: Costa

Service (CO): CORNEA AND EXTERNAL DISEASE

CEP Number: 0060 / 04

COMPARISON BETWEEN SCLERAL, CORNEAL AND AMNIOTIC MEMBRANE GRAFTS TO RESTORE SCLERAL THINNING SECONDARY TO PTERYGIUM SURGERY WITH BETATHERAPY

Farias CC, Vieira LA, Souza LB, Sternlicht T, Gomes JAP

INTRODUCTION: Scleral thinning may occur secondary to different ocular surface conditions, especially in rheumatologic diseases and after surgeries as in pterygium. There are different methods to treat this condition, as to use scleral, corneal and more recently amniotic membrane graft.

PURPOSE: To evaluate the use of preserved scleral, corneal and amniotic membrane graft for the surgical repair of scleral thinning of different sizes in patients underwent surgery of pterygium with associated betatherapy.

METHODS: Prospective, comparative, randomized, interventional study of twenty nine eyes of twenty eight patients (one bilateral case) with scleral thinning after betatherapy. The mean age was 64,5 (47-82), 16 were female and 12 male. All patients were operated by the same surgeon and the surgical procedure was randomized in scleral, corneal or amniotic membrane graft. Nine patients underwent surgery with scleral graft that was covered by conjunctival flap; ten with corneal graft and ten with amniotic membrane transplantation. Patients were followed for 180 days.

RESULTS: All the eyes that received scleral and corneal grafts presented stability of ocular surface with rapid reepithelialization and recovery of tissue thickness without recurrence of the thinning ($p<0,05$); on the other hand, the eyes that received the amniotic membrane grafts had the transplanted tissue absorbed on average after 30 d of follow up. There were a few complications related to the procedures: two patients developed fornix foreshortening, one patient had a scleral perforation, one patient had a small laceration of the choroid and two patients had corneal melting after 15 days of post-operative, probably due to rheumatologic disease.

CONCLUSION: Our results suggest that both scleral and corneal grafts are good options to be used for restoring scleral defects with thinning.

Keywords: cornea, scleral, corneal transplantation, amnion.

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Last Name: QUINTO
First Name: GUILHERME
Middle: GOULART

Service (Sector): CO

CEP Number: **0737/08**

5. ABSTRACT (REQUIRED):

Effects of Topical Human Amniotic Fluid and Human Serum in a Mouse Model of Keratoconjunctivitis Sicca

Author and Co-authors: Quinto GG, Behrens A, Campos MSQ.
Federal University of Sao Paulo – Ophthalmology Department

Purpose: To compare the effects of topical human amniotic fluid (HAF), topical human serum (HS), and topical artificial tears for the treatment of ocular surface disease in a dry eye model.
Methods: Thirty C57BL/6 mice were divided into 3 treatment groups: HAF, HS or preservative-free artificial tears. Under direct visualization with an operating microscope, mice received a transconjunctival injection of 0.05mL of botulinum toxin B (BTX-B) solution into the left lacrimal gland. Tear production and ocular surface fluorescein staining were evaluated in each mouse in 6 time points during a 4-week experiment period. **Results:** No differences among groups were found at baseline. Significant decrease in tear production was observed 3 days after BTX-B injection in all groups. At week 1, HAF and HS groups were able to improve tear production compared to control group (P <0.001 and P=0.003, respectively). The control group never reached its tear production baseline values in 4 weeks of therapy. The fluorescein staining started appearing noticeably at day 3. At week 2, HAF improved significantly the staining score compared to HS (P=0.043) and control (P=0.007) groups. HS group demonstrated statistically significant difference when compared to control group only at week 4 (P=0.047).
Conclusion: HAF was superior to HS and artificial tears to improve corneal staining within 2 weeks of therapy in this induced mouse model of KCS. Further studies need to be performed to validate the efficacy of these promising medications and to ascertain whether the findings of this study can translate into a clinical benefit to patients with ocular surface epithelial disorders associated with dry eye.

Keywords: dry eye disease; animal model; amniotic fluid; human serum

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Last Name: Grottone
First Name: Gustavo
Middle:Teixeira

Service (e.g. Glaucoma): Cornea/CASO

CEP Number:276/08

5. ABSTRACT

USEFULNESS OF MAGNETIC NANOPARTICLES ON OCULAR CELL THERAPIES

Author and Co-authors. Grottone,GT; Cristovam,P; Loureiro,RR; Joyce,N; Sogayar,MC; Gomes,JAP

Purpose. Innovate ocular cell therapy treatments using magnetic nanoparticles based methods in ex-vivo eye tissue.
Methods. Twelve corneas were obtained from Sorocaba Eye Bank, from patients with ages ranging from 28 y.o. to 43 y.o. Endothelial cells and Descemet's membrane were peeled with forceps and kept overnight at digestion solution. Cells were recovered and plated in 6-well plates. Endothelial cell were cultured and passage was done when cells reached confluency. At passage three, superparamagnetic nanoparticles were mixed to culture media and incubated overnight. Next day cells were resuspended in cluster and used at the ex-vivo model with a magnetic field applied to the corneal tissue. Ex-vivo tissue was sustained in culture for 14 days and the material was fixated and stained for further analysis. ARPE-19 cells were seeded in culture dishes and proceeded to the same methods used to endothelial cells. ARPE-19 cells were then challenged to adhere at scleral tissue using the same techniques described above. Mesenchymal stem cells(MSC) were innoculated to Descemet stripped corneas using the same magnetic method described anteriorly and were tested for ZO-1 and NA/K ATPase markers.
Results. The isolation protocol created to achieve primary culture of human corneal endothelial cells was consistent and reproducible. The backdraws of enzymatic-only and mechanical-only dissociation methods were not seen using this new optimized method. The three different cell types became magnetic responsive using our "wrapping" method. The overall number of cells magnetized with this method is higher than any other previous published study. Toxicity among cells tested was not statiscally different between test groups and controls.
Conclusion.The isolation of human corneal endothelial cells became less susceptible to low yields after optimizing digestion protocols. Superparamagnetic nanoparticles provided new means to deliver and integrate cells to host tissues. Further studies should be performed in vivo to certify safety and efficacy of this new cell therapy strategy.

Keywords

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José Bonifácio Barbosa Jr

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Last Name: Barbosa Jr.
First Name: José Bonifácio
Middle:

Service (e.g. Glaucoma): Cornea and external Disease

CEP Number: 0616/04

5. ABSTRACT (REQUIRED):

Title **AMNIOTIC MEMBRANE ASSOCIATED WITH CONJUNCTIVAL AUTOGRAFT vs. CONJUNCTIVAL AUTOGRAFT FOR RECURRENT PTERYGIUM**

Author and Co-authors (maximum 6): José Bonifácio Barbosa Jr, Luciene Barbosa, Denise de Freitas, José Álvaro Pereira Gomes

Purpose: To compare amniotic membrane associated with conjunctival autograft versus conjunctival autograft alone in the treatment of recurrent pterygium.
Methods: Patients with recurrent pterygium without symblepharon were randomly assigned to undertake pterygium exicision followed by amniotic membrane associated with a small conjunctival autograft (2x3mm) or conjunctival autograft (approximately 5x8mm) alone. The patients were examined after 1, 7, 30, 90, 180 and 360 days after the surgery. Recurrence was considered as a fibrovascular ingrowth of 1.5 mm or more beyond the limbus with conjunctival drag.
Results: Eighty eyes of 80 patients with recurrent pterygium were included. Fourty six patients (57,5%) were female and thirty four (42,5%) were male. The mean patients' age was 48,8 years (range between 23 and 82 years). Thirty eight patients underwent amniotic membrane associated with conjunctival autograft and fourty two patients underwent conjunctival autograft alone. All patients were treated by the same surgeon. The follow up time was 6 months in all patients. Recurrence was diagnosed in 11 patients [7 in the amniotic membrane group (17,9%) and 4 in the conjunctival autograft group (9,8%)]. Complication (conjuntival granuloma) was observed in one case after 14 days of the surgery.
Conclusion: Our results showed that both, amniotic membrane associated with conjunctival autograft and conjunctival autograft alone, presented low rate of recurrence and complications and are good treatment options for the treatment of recurrent pterygium.

Keywords: pterygium, amniotic membrane, surgery

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Last Name: MACEDO
First Name: JARBAS
Middle: PEREIRA

Service (e.g. Glaucoma): cornea and external diseases

CEP Number: 1108/09

5. ABSTRACT (REQUIRED):

COMPARATION BETWEEN MANUAL DEEP ANTERIOR LAMELLAR KERATOPLASTY AND THE AUTOMATED TECHNIQUE WITH FEMTOSECOND LASER ASSOCIATED WITH EXCIMER LASER PHOTOTHERAPEUTIC KERATECTOMY IN KERATOCONUS

Author and Co-authors: Macedo JP, Sakai V, Tonin C, Bertin P, Pereira N, Sousa LB

Purpose: To evaluate and compare the efficacy of deep anterior lamellar keratoplasty (DALK) performed with femtosecond laser (FS-laser) associated with phototherapeutic keratectomy (PTK) by excimer laser and associated with stromal air injection (big-bubble) in patients with keratoconus, based on best spectacle corrected visual acuity (BSCVA), OCT Visante and confocal microscopy.
Methods: Randomized, clinical trial, keratoconus patients
Group I: manual DALK + FS-laser-Intralase® 60mHZ : Recipient cornea: DALK up to 120µm of residual bed; Z pattern at anterior side cut + air injection (big-bubble) in the residual stromal bed: 15 eyes.
Group II: FS - laser DALK + PTK Excimer z100BL®: Recipient cornea: DALK up to 120µm of residual bed; Z pattern at anterior side cut + PTK application in the residual stromal bed (50µm): 16eyes; Group III: recipient cornea: manual DALK (big-bubble technique): 14 eyes.
Results: BSCVA (Logmar) 1 year follow-up: Group I: 0,47 Logmar, Group II: 0,71 Logmar; Group III: 0,39 Logmar. OCT Visante (residual stromal bed): Group I: 58,4 µm; Group II: 159,5 µm; Group III: 65 µm
Confocal micrsocopy: group I and III: showed normal epithelial layer, hiperreflectivity in keratocites and endothelial cells without abnormalities. Group II: showed normal epithelial layer, hiperreflectivity in keratocites, endothelial cells without abnormalities and irregularity in the interface
Conclusion: although there is not statistical analysis, manual DALK seems to be superior than DALK with FS-laser and DALK with FS-laser + PTK, based on BSCVA.

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Last Name: Ricardo
First Name: Jose
Middle:RS

Service (e.g. Glaucoma): Cornea

CEP Number:908/08

5. ABSTRACT (REQUIRED):

TRANSPLANTATION OF CONJUNCTIVAL EPITHELIAL CELLS CULTIVATED EX VIVO IN PATIENTS WITH TOTAL LIMBAL STEM CELL DEFICIENCY

Author and Co-authors (maximum 6):Jose Reinaldo S Ricardo[1,2], Priscila Cardoso Cristovam[2], Aline Lutz de Araujo[1], Telma Pereira Barreiro[1,2], Myrna Serapião dos Santos[1,2], Jose Alvaro Pereira Gomes[1,2].

Purpose: To report the clinical and anatomopathological results of transplantation of conjunctival epithelial cells cultivated ex vivo in patients with total limbal stem cell deficiency (TLSCD).
Methods: Twelve eyes of 10 patients with TLSCD were submitted to autologous conjunctival epithelial cells transplantation cultured ex vivo in amniotic membrane. The cultivated tissue was transplanted to the recipient eye after superficial keratectomy. Impression cytology, immunocytochemistry and confocal microscopy were performed in the preoperatively and 6 months postoperatively. Complete success was defined as improvement in clinical parameters (corneal opacity, epithelial integrity and surperficial neovascularization) and cytological findings. Main Outcome Measures: clinical parameters of TLSCD (cornea opacity, superficial corneal neovascularization, epithelial integrity), visual acuity, impression cytology and cytokeratin profiles, and in vivo corneal confocal microscopy. Three patients were submitted to penetrating keratoplasty and histopathologic features of the recipient corneal buttons were studied with special attention to epithelial status.
Results: The overall success rate for this treatment in our cohort was 10/12 (83.3%), where complete success was achieved in 8 patients (66.7%) in a mean follow-up time of 18.5 months (range, 12-26 months). Visual acuity improved in 7 of 12 eyes (58.3 %) to the range of hand movements to 0.5. Clinical outcomes (corneal opacity, epithelial integrity and surperficial neovascularization) improved respectively from 3.67 ± 0.49 to 2.42 ± 0.79 ($p<0.01$), 3.67± 0.49 to 1.67 ± 0.98 ($p<0.01$) and 3.67 ± 0.49 to 1.83 ± 0.57 ($p<0.01$). In postoperative evaluation, 2/8 eyes (25%) showed the corneal phenotype and 6/8 (75%) displayed a mixture of both conjunctival and corneal phenotypes. CK3 expression was positive in 38.27% preoperatively and 50.97% postoperatively, and CK19 expression in 46.58% preoperatively and in 41.61% postoperatively. In vivo confocal analysis and anatomopathologic features confirmed the clinical and cytological findings.
Conclusion: We demonstrated the preliminary results of transplantation of conjunctival epithelial cells cultivated ex vivo for corneal surface reconstruction in cases with TLSCD. Future studies are needed to further assess the long-term efficacy of this procedure.

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_____*Kátia M Bottós*_____

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Middle: Kátia

Service: Cornea and External Disease

CEP Number: 1970/07

TRANSESPITHELIAL COLLAGEN CROSS-LINKING: STROMAL CONCENTRATION OF AN AMPHIPHILIC RIBOFLAVIN

Kátia M Bottós, Paulo Schor, Acácio Lima-Filho, Anselmo Gomes de Oliveira, Juliana M Bottós, José Reinaldo S. Ricardo, Eduardo de Farias, Helena B. Nader, José Augusto Cardillo, Wallace Chamon

Purpose: To evaluate the stromal diffusion of a new amphiphilic riboflavin in porcine corneas. We have developed a new drug, with both hydrophilic and lipophilic characteristics, in order to increase riboflavin penetration through the corneal epithelium. **Methods:** Twenty-four fresh porcine corneas were divided into 6 groups. Two groups did not receive riboflavin drops and served as controls, one group with the epithelium and the other without. Hydrophilic riboflavin 0.1% solution (10 mg riboflavin-5-phosphate in 10 mL dextran T-500 20%) was applied at 2 minutes intervals for 30 minutes to corneas with intact epithelium (group 3) and to debrided corneas (group 4). Group 5 (with epithelium) and 6 (scrapped epithelium) received amphiphilic riboflavin at the same fashion. The light absorbance spectra of the corneas were analyzed with a spectrophotometer.**Results:** Corneas without the epithelium receiving hydrophilic riboflavin had a higher light absorbance than those receiving amphiphilic riboflavin (5.09% vs 1.04%, P<.001). However, when the epithelium was kept intact, the stromal concentration of the amphiphilic riboflavin was greater than the hydrophilic drug (1.82% vs 0.37%, P<.001).**Conclusion:** Our study showed that the new amphiphilic riboflavin was able to penetrate the intact epithelium. This finding may have significant implications for the optimization of cross-linking technique.

Keywords: Cross-linking, Transepithelial, Riboflavin, Amphiphilic

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Last Name: Moreno
First Name: Natalia
Middle: Pimentel

Service (e.g. Glaucoma): CO

CEP Number: 115-09

Conjuctival bacterial microbiota changes in diabetics patients with normal and abnormal glycosylated hemoglobin in two brazilian regions

Natália Pimentel Moreno, Luciene Barbosa de Sousa

Objective: Study the conjunctival bacteria flora of diabetics with normal and abnormal glycosylated hemoglobin and association with different environments.
Methods: Transversal study that conjuctival samples were obtained of 120 eyes of diabetics with normal and abnormal glycosylated hemoglobin and no diabetics who were control group in Sorocoba (SP) e Rio Branco (AC). The sample was inoculated into blood and chocolate agars and thioglycolate broth.
Results: The positive culture of bacteria in the conjunctiva of diabetic with normal and abnormal glycosylated hemoglobin was more frequent when compared with in control group in two regions. The difference between diabetics with normal and abnormal glycosylated hemoglobin in two regions and between diabetics and no diabetics in two regions was no statistically significant. *Staphylococcus epidermides* was the most frequent isolated from the conjunctiva of diabetics, following *Streptococcus sp, Staphylococcus aureus* and *Escherichia coli* in two different regions
Conclusion: In spite of tendency positive culture of bacteria in diabetics when compared no diabetics, there was no significant statistical difference was found in two regions. *Staphylococcus epidermieis* was the most frequent bacteria isolated from the conjunctiva.
Keywords: Microbiology, conjunctiva, diabetes, glycosylated hemoglobin.

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Last Name: Silber
First Name: Paulo
Middle: Caldas

Service: Cornea

CEP Number: 0677/07

Human Conjuntival Epithelial Cells cultivated *ex vivo* on Amniotic Membrane

Silber PC, Cristovam PC, Dreyfuss JL, Ricardo JRS, Hazarbassanov R, Gomes JAP

Introduction: The conjunctiva plays an important role in the ocular surface physiology: it represents a physical barrier against microorganisms and prevents liquid loss. Besides, it has immune cells, special cicatricial mechanisms and produces mucins, an important component of the tear film. There are different ocular surface diseases that affect the conjunctiva, as pterygium, tumors and symblepharon. Classically, conjunctival auto or allografts have been performed to treat many of these diseases. However, there are some limitations regarding the availability of conjunctival donor tissue. **Purpose:** To establish human conjunctival epithelial cell culture on amniotic membrane. **Methods:** A conjunctival fragment of approximately 2x5mm was harvested from different living donors who underwent cataract or pterygium surgery. All donors signed a inform consent prior to the procedure. The conjunctival fragment was sent to the laboratory. Under sterile conditions, the tissue was divided into an anterior and a posterior portion. The anterior portion was divided into two fragments. One was cultivated on denuded human amniotic membrane, and the other was placed on a culture plate. The cultures were incubated with a modified HEM media at 37ºC and 5% CO2. The culture medium was changed 3 times a week for 3 weeks. After this period, the cultures were evaluated for 3 days and fixed for immunocytochemical analysis for epithelial cytokeratins (K3, K19, MUC5) and proliferation markers (Ki-67, p63). We also performed impression cytology, electron microscopy and confocal microscopy analysis. **Results**: Conjunctival epithelial cells (n=9) expanded successfully either on culture plate or amniotic membrane. Impression cytology demonstrated the presence of compact conjunctival epithelium and goblet cells. Immunocytochemical analysis showed positivity for K3, K19, MUC5 and 20 to 30 % positivity for Ki-67 and p63. The comparison of cells proliferation between the plate and the AM showed a statistically difference with $p<0,05$. Our cultures on the amniotic membrane got confluence in three weeks with a steady growth of the tissue. **Conclusions**: Our results are compatible with Meller & Tseng study, demonstrating that it is possible to cultivate human conjunctival epithelial and goblet cells *ex vivo* on human amniotic membrane. This method may represent an important step to be used in the treatment of many ocular surface diseases.

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Oechsler
First Name: Rafael
Middle: Allan

Service (Sector): Cornea and external disease

CEP Number:

Title: **CORRELATION OF CLINICAL OUTCOMES AND ANTIFUNGAL SUSCEPTIBILITIES AMONG MOLECULARLY IDENTIFIED *FUSARIUM SPECIES* FROM OCULAR SOURCES IN BRAZIL AND USA**

Author and Co-authors : Rafael Allan Oechsler, Juliana Sartori, Michael Robert Feilmeier, Darlene Miller, Eduardo Clement Alfonso, Ana Luisa Höfling-Lima

Purpose: To determine differences in the clinical characteristics and antifungal susceptibility patterns among molecularly characterized ocular *Fusarium sp* isolates in Brazil and USA. **Methods:** 58 *Fusarium* isolates from ocular sources were retrieved at the Bascom Palmer Eye Institute (BPEI) and grown in pure culture. These isolates were genotyped and antifungal susceptibilities were determined. The corresponding medical records were reviewed to determine clinical outcomes. 52 isolates were selected at the Federal University of Sao Paulo (UNIFESP). **Results:** In the USA, *Fusarium (F.) solani* isolates were significantly more resistant to voriconazole compared to the *F. non-solani* isolates. *F. solani* isolates also exhibited a significantly longer time to cure, a worse follow up best corrected visual acuity (BCVA), and increased need for urgent surgical management when compared to *F. non-solani* isolates. In Brazil, only clinical data was reviewed so far. The mean age of the patients was 43 years, mean initial BCVA was LogMAR 1.3(20/400) and final was 0.60 (20/80). **Conclusions:** In the USA's study, it supports the overall worse prognosis for *F. solani* versus *F. non-solani* isolates. The unique species-specific antifungal susceptibility and clinical outcome profiles support the need for more accurate classification systems capable of reliable and rapid identification of organisms to the species level. In Brazil, the clinical data showed the BCVA improved 0.7 LogMAR after treatment. The genotyping and antifungal susceptibility tests are the next steps to be performed.
Keywords: *Fusarium sp*, keratitis, antifungals, clinical outcomes, genotyping.

Abstract Form

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Kashiwabuchi
First Name: Renata
Middle: Tiemi

Service (e.g. Glaucoma): Cornea

CEP Number:

5. ABSTRACT (REQUIRED):

Antimicrobial effect of Riboflavin/UVA Light Combination (365 nm) in vitro

Author and Co-authors (maximum 6): Kashiwabuchi RT, Carvalho FRS, Khan YA, Behrens A, McDonnell JP, Campos M.

Purpose: to assess the antimicrobial effect of Riboflavin 0.1% and UVA Light exposure for 30 minutes, in common infectious keratitis agents.
Methods: The LIVE/DEAD® BacLight Bacterial Viability (Invitrogen) was used to assess the *S.aureus* viability after the treatment Riboflavin0.1% and UVA light for 30 minutes. In order to evaluate cell viability of *Fusarium solani, Candida albicans and Acanthamoeba* trophozoites, the trypan blue dye, was employed after the treatment. For all microbial species the control samples were prepared. The cell viability of each species was compared among the treatment group (Riboflavin 0.1% and UVA Light 30 minutes) and the control samples. Treated sample of *S.aureus*, *Fusarium solani and Candida albicans* were placed in growth media plates by spread plate technique for 24h and 48h as well as control samples.
Results: No difference was observed among the treatment group and the control samples in all species treated.
Conclusion: the combination of Riboflavin0.1% and UVA Light at 365 nm has no bactericidal, fungicide or anti-trophozoite effects. (p?0.001)
Keywords: Riboflavin, UVA light, corneal keratitis

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Middle:

Service (e.g. Glaucoma): CO and RS

CEP Number: 1346/08

5. ABSTRACT (REQUIRED):

Immunocytochemical analysis after treatment with osmoprotective lubricant in patients with dysfunctional tear syndrome

Hazarbassanov, RM;Loureiro, RR;Covre, JL; Barros J;Hofling Lima AL; Gomes, JAP.

Purpose: To evaluate immunostaining patterns of inflammation and osmoprotection markers after treatment with osmoprotective lubricant compared to a lubricant without osmoprotective effect, in patients with evaporative dysfunctional tear syndrome (EDTS).Methods: 35 patients (74,28% female)(Mean ± SD age 32.5 ±10.35) were enrolled in this study. The participants of each condition group were randomized to receive topical drops 4 times a day (qid) for the 1st month and 2 times a day (bid) for the following 2 months of either osmoprotective effect Optive® or without osmoprotective effect FreshTears® (Allergan, Inc., Irvine, California).They were divided into 2 groups, first (A) 15 patients with EDTS (mild to moderate stage) and second (B) (20 patients) without EDTS who were referred to either LASIK (10) or PRK (10). In group A, 10 patients (20 eyes) were treated with Optive, as well as 4 patients (8 eyes) from group B/PRK and 6 patients (12 eyes) from group B/LASIK. All the patients were submitted to the following tests, for EDTS diagnose: Ocular Surface Disease Index (OSDI), patient symptomatology questionnaire, visual acuity (VA), biomicroscopy, Schirmer I test without anesthesia, tear film osmolarity, fluorescein break up time (FBUT), staining with fluorescein and lissamine green 1% (Oxford grading); plus impression cytology (IC). IC of conjunctiva samples were directed to immunocytochemistry (ICC) for an inflammation marker (HLA-DR) and L-carnitine, as osmoprotective component. **Results:** All exams pre-treatment were performed and 3 months follow-up is 62% (group A) and 56 % (group B) completed. ICC of conjunctiva samples showed 42.86% positivity for HLA-DR staining, on group A and 20% for group B/LASIK, 30% for PRK, before treatment (p=0.4896, $\chi 2$ test). ICC for L-carnitine staining was 53.33% positive for A, 22% for LASIK and10% for PRK subgroup, before treatment (p=0.0572, $\chi 2$ test).**Conclusion:** Conjunctival cells showed a tendency of higher expression of inflammation marker HLA-DR on EDTS patients, and, interestingly, for L-carnitine as well. Those markers could be used to detect EDTS in early stage and as prognostic tool for EDTS treatment.

Key words: osmoprotective lubricant, Immunocytochemical analysis, evaporative dysfunctional tear syndrome

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Last Name: Cariello
First Name: Angelino
Middle: Julio

Service: (LA) LABORATORY

CEP Number: **1243/09**

Bactericidal effect of nitric oxide donors against clinical isolates from keratitis

Author: Cariello AJ, Bispo PJM, de Souza GFP, Pignatari ACC, de Oliveira MG, Hofling-Lima AL.

Purpose: To evaluate the antimicrobial activity of two nitric oxide (NO) donors: S-nitrosoglutathione (GSNO) and S-nitroso-N-acetylcysteine (SNAC) against clinical isolates from patients with infectious keratitis.

Methods: Reference microbroth dilution assays were performed to determine minimal inhibitory (MIC) and bactericidal (MBC) concentrations of GSNO and SNAC against 52 clinical isolates from patients with infectious keratitis. Fifty microliters of a bacterial suspension (7,5 x 10^5 cells per ml) was added to microtiter plate wells containing 50 microliters of Mueller-Hinton Broth medium in pH 5 with 2-fold dilutions of GSNO and SNAC at a final concentration ranging from 0,31mM to 40mM. The plates were sealed and incubated at 37º and after 24h the MIC results were obtained (the lowest concentration without visible growth). Three microliters from each well were cultured onto Tryptic Soy Agar and bacterial counting performed after an overnight incubation to determine the MBC. Mueller-Hinton Broth medium without bacteria and ATCC strains (*S. aureus*, *S. epidermidis*, *P. aeruginosa* and *E. aerogenes*) were also tested as negative and positive control, respectively.

Results: The 52 clinical isolates included 13(25.0%) coagulase-negative *Staphylococcus*, 11(21.1%) *Pseudomonas aeruginosa*, 10(19.2%) *Staphylococcus aureus*, 9(17.3%) *Serratia marcescens*, 6(11.5%) *Enterobacter aerogenes* and 3 (5.8%) *Pseudomonas pseudoalcaligenes*. For Gram-positive bacteria, the MIC and MBC mean of SNAC were 2.1±1.3 and 8.6±3.8 mM, and, the MIC and MBC mean of GSNO were 4.6±3.2 and 21.4±12.5 mM, respectively. For Gram-negative bacteria, the MIC and MBC mean of SNAC were 3.3±1.4 and 6.1±3.4 mM and, the MIC and MBC mean of GSNO were 12.4±5.4 and 26.5±10.1 mM, respectively.

Conclusion: SNAC showed greater antimicrobial activity than GSNO against all bacteria. Gram positive bacteria showed to be more susceptive to bactericidal effect of NO-donors. These S-nitrosothiols showed to be potential ocular bactericidal drugs.

Keywords: Antimicrobial activity; S-nitroso-N-acetylcysteine; S-nitrosoglutathione; Nitric oxide donors; Infectious Keratitis

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Last Name: Pereira
First Name: Mário
Middle: Bomfim

Service (e.g. Glaucoma): CASO

CEP Number: 47702

5. ABSTRACT

Growth Factors Dosage in Fresh and Preserved Amniotic Membrane in Different Medium and at Different Temperatures

Mario Genilhu Bomfim Pereira, José Álvaro Pereira Gomes, Luís Vicente Rizzo

Purpose: There are different forms to preserve amniotic membrane. The purpose of this paper is to compare the concentration of different growth factors (EGF, NGF, FGF-b,FGF-4, TGF-B, HGF, IL-4, IL-10) in fresh and preserved amniotic membranes during different periods of storage at different temperatures in order to determine which type of preservation is better.
Methods: Eight amniotic membranes were retrieved from eight placentas of cesarean deliveries at term. Informed consent previously approved by the ethics committee of UNIFESP was obtained from the donors.
Each amniotic membrane was divided in seventeen pieces and preserved at saline solution 0,9% (1), DMSO 12%(8) and modified TC 199 preservation medium / glycerol (Ophthalmos) (8). One sample of each membrane in the saline solution was put in serum free and protein free hybridroma medium for 24 hours. The supernatant was retrieved and submitted to ELISA. After 24 hours preserved at -80º C and 0º C, one sample of each membrane was placed in serum free and protein free hybridroma medium for 24 hours. The supernatant was retrieved and submitted to ELISA. The procedure was repeated after being preserved at -80º C and 0º C for two months and for 6 months.
Results: EGF was undetectable in fresh membrane, so we could not compare with the preserved samples. TGF-beta concentration decreased in 24 hours, 7 days, 2 months and become undetectable after 6 months. IL-4 showed low concentrations in fresh membrane, and concentration below detectable level in the preserved samples, but the ones preserved at Ophthalmos medium at -80º, the larger the interval, the smaller the concentration. HGF concentration decreased in all interval, but it decreased less in the membranes preserved at -80º at both medium (DMSO and Ophthalmos) compared with fresh membrane. IL-10 concentrations decreased throughout time of preservation, but it decreased less in membranes preserved at -80 at both medium, and has better results in the Ophthalmos medium. FGF-4 concentrations decreased in all periods of time but become undetectable after 2 and 6 months only at Ophthalmos medium, both at 0º and -80º. Basic FGF and KGF decreased in all media in 24 hours, 7days, 2 months and 6 months.
Conclusion: It looks like that both preservation medium and both temperatures preserve well the amniotic membrane for at least two months. At 6 months most of the citokines are in a concentration below detectable level. It seems that preservation at -80º C at Ophthalmos medium is slightly better that DMSO and at 0º C.

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Sergio Felberg

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Last Name: **Felberg**
First Name: **Sergio**
Middle:

Service (Sector): **External and Cornea Diseases**

CEP Number: **492/07**

5. ABSTRACT (REQUIRED):

Ocular surface and hepatitis C virus infection

Author: *Sergio Felberg, Rachel G. Nery and Paulo Elias Correa Dantas*

Purpose: To evaluate the outcome of tests used for diagnosis of dry eye in patients with hepatitis C virus. **Methods:** 25 both gender patients with positive serologic tests for the hepatitis C virus (HCV) were selected, with no contact lens wear at least one week before the beginning of the study, legal majority and the ability to read and understand the formed consent. Were excluded patients with negative serologic tests for the acquired immunodeficiency virus (HIV) and patients taking systemic medications that may influence the tear flow. Patients in pregnancy or breastfeeding periods were also excluded. A control group was also formed with 29 patients negative for hepatitis C and without ocular surface diseases. All patients were evaluated with the same sequence of tests that comprised slit lamp exam, crystallization of the tear film, tear film break-up time, evaluation of the corneal surface with fluorescein and rose bengal staining, Schirmer I test and corneal esthesiometry. The collected data were analyzed statistically and a significance level of 5% was considered. **Results:** Regarding the Schirmer I test was observed that patients with hepatitis C displayed lowest values when compared to the control group. The breakup time was lower in the study group but the difference was statistically significant only in the left eye. The damage of the ocular surface analyzed with rose bengal staining score, showed higher values in the hepatitis group, but when fluorescein was considered no statistical difference was verified. There was difference in the corneal sensitivity between groups, being the average lower in infected patients. And finally the tear ferning test score demonstrated no significant differences between groups. **Conclusion:** Patients infected with the hepatitis C virus can present changes in the tear flow and at the ocular surface. Because of that, they should be evaluated periodically in relation to their lachrymal function and ocular surface status. We also recommend that patients with aqueous deficient dry eye without a defined cause should be serologically investigated for possible association with HCV.

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Last Name: **Barboza**
First Name: **Marcello**
Middle: **Novoa Colombo**

Service (e.g. Glaucoma): **CO**

CEP Number: **1476/09**

5. ABSTRACT (REQUIRED):

STUDY OF THE THERAPEUTIC ACTION OF 0.1% RIBOFLAVIN/ ULTRAVIOLET RADIATION ON THE EXPERIMENTAL EYE BURN IN RABBITS

Barboza, MNCB; Felberg, S.; Dantas, PEC.; Barboza, GNC.; Sato, E.

Purpose: To evaluate the effect of riboflavin/ultraviolet radiation (collagen crosslinking) after ocular alkali burn in rabbits
Methods: Ten rabbits had the right corneal limbal structure burned with NaOH 4N and were divided in two groups. Control group was treated with clinical therapy and Case Group was treated with clinical therapy plus riboflavin/ultraviolet radiation (collagen crosslinking) after one hour.
Clinical parameters were evaluated at 1, 7, 15, 30 days. All animals were sacrificed after 30 days and the corneas were evaluated by a pathologist.
Results: In the preliminary study, two corneas in the Case group and one cornea in the Control group were analyzed until now. There was no difference in clinical parameters. The histopathology exam showed more organized collagen fibers and more bridges linking collagens fibers in case group than group control.
Conclusion: Pilot study suggests that anatomical changes seem to occur in the collagen fibers after riboflavin/ultraviolet light (collagen crosslinking) in corneas with acute alkali ocular burn.

Keywords: Alkali ocular burn, riboflavin , collagen crosslinking

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1. FIRST (PRESENTING) AUTHOR (REQUIRED): MARISA FLORENCE
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Last Name: FLORENCE
First Name: MARISA
Middle: -

Service (e.g. Glaucoma): CORNEA AND EXTERNAL DISEASES

CEP Number:

5. ABSTRACT (REQUIRED):

Title: **Indications for Penetrating Keratoplasty:The Epidemiological Chaos in Brazil (Part of a National Epidemiological Study)**

Author and Co-authors: Florence, M; Regis-Pacheco, LF; Freitas, D

Purpose: To identify the current indications and the changing trends for corneal transplantation in São Paulo, Brazil (SP) and to compare it to other states of the southeast region (Espirito Santo-ES; Rio de Janeiro-RJ; Minas Gerais-MG).
Methods: The official national list of patients registered for corneal transplant (SNT- 2000-2008) and the official list of State of São Paulo (SES – SP – 2000-2008) were retrospectively reviewed. Indications were tabulated according to each State and divided into 15 diagnostic related groups (DRG). The indications were evaluated and tabulated according to the classification of the Eye Bank Association of America (EBAA).
Results: There are 47.820 patients registered in SP. The main indication was Keratoconus (41,3%). While comparing this data to that of other states in southeast region, a similar finding was seen in MG, where the main indication is also Keratoconus (31%). In RJ, as presented last year, the main indication is Chronic Edema (33%), and in ES the main indication for PK is Unknown Causes (40%). There are 43.601 patients registered in the official national list (SNT), while in the official list of SP there are 47.820 registered patients.
Conclusion: There is an abnormal pattern of registrations in the two official lists of Brazil. There probably is a double registration, once it's not possible to have a greater number of patients in one state of the federation, comparing to the total number of patients in the whole country. The epidemiologic study in Brazil was transformed into a true chaos.

Keywords: indications; keratoplasty; chronic edema; keratoconus

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(X) PG0	( ) PG1	( ) Fellow	( ) Technician

Last Name: Dal Pizzol
First Name: Melissa
Middle:Manfroi

Service (e.g. Glaucoma): Cornea and External Disease

CEP Number: 485/01

5. ABSTRACT (REQUIRED):

Optimization and characterization of human limbal stem cell culture

Melissa Manfroi Dal Pizzol, José Álvaro Pereira Gomes, Diane Marinho, Mauro Nishi

Purpose: To evaluate the growth potential, morphology and phenotypes of corneal epithelial cells ex vivo expanded in two culture techniques: limbal biopsy explant or single cell suspension In addition, to compare, in these techniques, two different culture conditions, one with xenobiotic system and other free of xenologic products.
Methods: Cadaveric donor limbal corneal epithelial cells will be expanded on denuded amniotic membranes using two different techniques: explant and single cell suspension culture. Explant culture will consist in placing a piece of corneoescleral rim with the epithelium side down directly on denuded amniotic membrane. For cell-suspension culture, half of limbal ring will be cut into two to three pieces, and incubated at 37°C for 1 hour with 1.2 IU dispase. These cells will be suspended in 3 mL medium (5–10 x 10^4 cells/3 mL medium), seeded onto four sets of denuded amniotic membrane spread on the bottom of culture inserts. Two inserts will be cocultured with MMC-inactivated 3T3 fibroblasts and two inserts will be cocultured with human mesenchymal stem cells. All cultures, in both techniques, will be submerged into two different SHEM medium, one supplemented by fetal calf serum and other supplemented by human serum for 2 weeks and then will be exposed to air by lowering the medium level (airlifting) for 2 weeks to promote corneal epithelial differentiation. The phenotypes of primary cultured cells will be evaluated by morphology and immunohistochemical staining with antibodies for proposed keratinocyte stem cell markers (p63, EGFR, K19 and integrin b1) and differentiation markers (K3, involucrin and gap junction protein connexin 43). BrdU labeling will be performed to identify the label-retaining cells. The samples will be fixed and examined after hematoxylin and eosin staining with light microscopy.
Results: on going

Keywords: limbal stem cell, explant, single cell suspension, feeder layer

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(X) PG0	( ) PG1	( ) Fellow	( ) Technician

Last Name: Oliveira
First Name: Renato
Middle: Souza

Service (e.g. Glaucoma): Cornea

CEP Number: 1598/07

5. ABSTRACT (REQUIRED):

Effects of Different Blood-Derived Preparations on cultured corneal cells – Final Results

Author and Co-authors (maximum 6) Renato Souza Oliveira, Priscila Cristovam, Jose Alvaro Pereira Gomes, Luciene Barbosa Sousa

Purpose: Compare cell proliferation, migration and differentiation on a stem cell cultured model between autologous serum (AS), umbilical cord serum (UCS) and platelet release (PR). We also compared growth factors and vitamin A concentration on these serum samples.
Methods: Cultured corneal epithelial cell were incubated with the three different serum samples and were measured proliferation, migration and differentiation. Growth factors and vitamin A were measured by ELISA kit tests
Results: PDGF, EGF and TGFb were higher on platelet release. HGF was higher on umbilical cord serum. Migration was better on platelet release.
Conclusion: The mean concentration of the epitheliotrophic factors was higher in PR than UCS and AS except for HGF. Platelet release promoted better migration on cells cultured model than UCS, AS.

Keywords

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Daniel Meira Freitas

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Last Name: Meira-Freitas
First Name: Daniel
Middle:

Service (e.g. Glaucoma): Glaucoma

CEP Number: 0812/07

5. ABSTRACT (REQUIRED):

Evaluation of the Optic Nerve Head in Patients with Chronic Heart Failure

Daniel Meira-Freitas, Luiz Alberto S. Melo Jr., Augusto Paranhos Jr.

PURPOSE: To evaluate the association between chronic heart failure (CHF) and optic nerve head alterations. **METHODS:** A case-control study was carried. Heart failure patients with recent echocardiogram were submitted to ophthalmic examination including intraocular pressure, optic nerve head and retinal nerve fiber layer (RNFL) evaluation using Heidelberg Retina Tomography and standard automated perimetry (SAP). The ocular findings were correlated with the cardiological evaluation, and compared with a control group of individuals without cardiopathy. **RESULTS:** A total of 29 patients with heart failure and 30 individuals without cardiopathy were enrolled in this study. The mean (SD) ocular perfusion pressure was 45.8 (11.28) mmHg in the CHF group and 54.4 (10.4) mmHg in the control group (p=0.002). The mean (SD) arterial blood pressure was 87.4 (17.26) mmHg in the CHF group and 103.61 (15.17) mmHg in the control group (p < 0.001). The mean (SD) rim area was 1.41 (0.3) mm^2 in the CHF group and 1.59 (0.26) mm^2 in the control group (p=0.005). The mean (SD) linear cup to disc ratio was 0.51 (0.17) in the CHF group and 0.41 (0.18) in the control group (p=0.02). The mean (SD) RNFL height variation contour was 0.39 (0.07) in the CHF group and 0.42 (0.11) in the control group (p=0.07). The mean (SD) RNFL thickness was 0.25 (0.08) μ in the CHF group and 0.26 (0.07)μ in the control group (p=0.34). The Moorfields regression analysis was outside normal limits in 31% (9/29) of the heart failure subjects and in 10% (3/30) of the control subjects (p=0.008). The mean (SD) deviation of the SAP was -2.68 (2.89) dB in the CHF group and -1.53 (1.08) dB in the control group (p=0.02). The mean (SD) pattern standard deviation of the SAP was 2.31 (1.70) dB in the CHF group and 1.83 (0.45) dB in the control group (p=0.12). **CONCLUSION:** Heart failure is associated with alterations of the optic nerve head. The low cardiac output, the reduced ocular perfusion pressure, and the decreased systemic blood pressure in these patients might be related to a vascular pathogenesis of the optic nerve head alterations.

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Last Name: KANADANI
First Name: Fabio
Middle: N

Service: GL

CEP Number:

"Does Ganglion Cell Complex Scan predicts glaucoma earlier than Retinal Fiber Layer Thickness Map in Suspects and Glaucoma patients using Fourier Domain OCT?"

Fabio N. Kanadani, Tereza C. M. Kanadani

Purpose: To compare the ganglion cell complex scan (GCC) with retinal fiber layer thickness map (RNFL) in suspects and glaucoma patients.

Methods: 40 patients [20 glaucoma suspects (GS; normal SAP, C/D ratio > 0.5 or asymmetry > 0.2 and/or ocular hypertension), and 20 glaucoma patients (MD < -12 dB, glaucomatous optic neuropathy)] were prospectively enrolled. GCC and RNFL map protocols [Fourier Domain OCT,RT Vue, Optovue Inc.] were performed in both eyes of each patient in the same visit. Exclusion criteria SAP was performed with the Octopus 3.1.1 Dynamic 24-2 program. The statistical analysis was performed with the SPSS 10.1 (SPSS Inc. Chicago, IL, EUA). Results were expressed as mean ± standard deviation and a p value of 0.05 or less was considered significant.

Results: There was a statistical significant difference in average RNFL thickness (p=0.004), Superior RNFL thickness (p=0.006), Inferior RNFL thickness (p=0.0005) and average GCC (p=0.03) between suspects and glaucoma patients. There was no difference in Optic Disc area (p=0.35) and vertical Cup/Disc ration (0.234) comparing both groups. 15 of 40 (38%) eyes had an abnormal GCC and 5 of 40 eyes (13%) had an abnormal RNFL thickness in the suspect glaucoma group. 39 of 40 eyes (98%) had an abnormal GCC and 36 of 40 eyes had an abnormal RNFL thickness in the glaucoma group.

Conclusions:
Although RNFL thickness has been used for diagnose of glaucoma, the GCC protocol is indicative of earlier structural glaucoma damage. The GCC printout is comparable to the visual field defect in most of glaucoma patients.

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Last Name: Doi
First Name: Larissa
Middle: Morimoto

Service (e.g. Glaucoma): Glaucoma

CEP Number: 0605/06

5. ABSTRACT (REQUIRED)

Influence of age, race and corneal biomechanical properties on intraocular pressure by Goldmann, Ocular Response Analyser and Pascal tonometers.

L.M. Doi , L.A.S. Melo Jr, A.C.S.V. Oshima, S.K. Hossaka, E.T. Sato, A. Paranhos Jr., J.A. Prata Jr.

Purpose: To evaluate the influence of age and race on intraocular pressure (IOP) measurements, central corneal thickness (CCT), and corneal hysteresis.

Methods: A cross-sectional study including 179 eyes of 93 healthy volunteers was performed. The race was recorded according to the IBGE classification. Ultrasonic pachymetry was used to obtain CCT. Corneal hysteresis was evaluated by Ocular Response Analyzer (ORA). IOP measurements were obtained by Goldmann applanation tonometry (GAT), dynamic contour tonometry (DCT) and ORA. IOP was taken in a random order among the devices. The median of three readings by the same examiner was used for analysis. The median of five CCT readings was used for the analysis.

Results: There were no statistically significant correlations between GAT, DCT and CCT, and age within each race. The corneal hysteresis reduced with increasing age at a mean rate of 0.04 mm Hg/ year (95% confidence interval [CI], 0.02 to 0.07; *P*=0.001) in the Asian race. There were no statistically significant differences in GAT (*P*=0.15), DCT (*P*=0.33) and CCT (*P*=0.08) measurements between the races. The corneal hysteresis was lower in the Black race (mean difference, 0.72 mm Hg; 95% CI, 0.05 to 1.38 mmHg; *P*=0.03) and Asians (mean difference, 0.74 mm Hg; 95% CI, 0.10 to 1.38 mmHg; *P*=0.02) when compared with Whites.

Conclusions: Age and race did not influence IOP and CCT measurements. Asians showed lower hysteresis with increasing age. Blacks and Asians had lower hysteresis than whites.

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Luciano Moreira Pinto

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Last Name: Pinto
First Name: Luciano
Middle: Moreira

Service: Glaucoma

CEP Number: 1556/07

EVALUATION OF MACULAR STRUCTURE AND FUNCTION IN GLAUCOMA

Pinto LM, Costa EPF, Melo Jr. LAS, Sato E, Maia A, Paranhos Jr. A
Federal University of Sao Paulo – Ophthalmology Department

Purpose: To investigate and correlate the structural and functional macular changes in glaucoma using Time-Domain (TD-OCT), Fourier-Domain Optical Coherence Tomography (FD-OCT), Standard Automated Perimetry (SAP), and Frequency-Doubling Technology Perimetry (FDT Matrix).
Methods: Healthy and primary open-angle glaucoma individuals were enrolled in this observational, cross-sectional study. Macular structure was assessed with the Stratus OCT Fast Macular Thickness Scan, Cirrus OCT Macular Cube 512x128 and Spectralis OCT Macular Volume 20° x 20°. Macular function was assessed with the 10-2 Humphrey SAP and the 10.2 FDT Matrix. To make regional comparisons of these techniques each quadrant on the OCT macular thickness map were compared to the correspondent region on the visual field test. Correlation between macular OCT and visual field measurements were evaluated by Spearman's rank correlation test.
Results: Eight-one eyes of 41 patients (8 normal, 33 glaucoma) were enrolled in the study (mean age 62.2 years, range 43-80).The mean (SD) values of the SAP in the superior, inferior, nasal and temporal regions were 25.6 (9.2), 28.6 (7.2), 27.3 (7.9) and 29.0 (6.0), respectively. The mean (SD) values of the FDT in the superior, inferior, nasal and temporal regions were 22.2 (8.5), 23.6 (7.2), 22.8 (7.9) and 24.7 (6.5), respectively. The macular thickness showed similar measurements in all regions for FD-OCTs. However the TD-OCT values were significantly thinner when compared to FD-OCTs. The correlation coefficients between OCTs and visual fields ranged from 0.40 and 0.73.
Conclusions: TD-OCT and FD-OCT results showed different correlation with visual field, which depended on the macular region evaluated. The strongest correlation was found between the inferior region on the OCTs and superior region in visual fields.
Keywords: Macula Lutea, Open-Angle Glaucoma, Optical Coherence Tomography, Perimetry

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Mauro T. Leite

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Last Name: Leite
First Name: Mauro
Middle: T

Service (e.g. Glaucoma): Glaucoma

CEP Number: 1438/05

5. ABSTRACT (REQUIRED):

Comparison of the diagnostic abilities of Spectralis, Cirrus and RTVue optical coherence tomography devices for detecting glaucoma

Author: Mauro T. Leite, Linda M. Zangwill, Robert N. Weinreb, Luiz A. Melo Jr., Ivan M. Tavares, Felipe A. Medeiros

Purpose: To compare the diagnostic accuracies of retinal nerve fiber layer (RNFL) thickness measurements obtained with Spectralis (Heidelberg Engineering, Dossenheim, Germany), Cirrus (Carl Zeiss Meditec, Dublin, CA) and RTVue (Optovue Inc, Fremont, CA) for the detection of glaucoma.
Methods: Two hundred thirty three eyes (107 healthy, 126 glaucomatous) of 149 participants from the Diagnostic Innovations in Glaucoma Study (DIGS) were included in this cross-sectional study. All participants underwent retinal nerve fiber layer (RNFL) thickness imaging with Spectralis, Cirrus and RTVue in the same visit. Receiver operating characteristic (ROC) curves adjusted for age and race were obtained for quadrants (superior, nasal, inferior, temporal) and global RNFL thickness for all instruments. Areas under ROC (AUC) and sensitivities at fixed specificities (80% and 95%) were calculated and compared.
Results: The RNFL thickness parameter with the largest AUCs was the superior quadrant for the Spectralis (0.884) and the global RNFL thickness for the Cirrus (0.881) and the RTVue (0.867). The pair-wise comparison among the ROC curves showed no statistical difference for all parameters except for the nasal quadrant, which had significantly larger AUC in Spectralis and RTVue compared to Cirrus ($P<0.03$ for both comparisons). The superior quadrant thickness measured with Spectralis had sensitivity of 81.9% at a fixed specificity of 80% and 70% at a fixed specificity of 95%. The global thickness measured by the Cirrus had a sensitivity of 80.3% at a fixed specificity of 80% and 65.6% at a fixed specificity of 95%. For the RTVue, the global thickness had a sensitivity of 77.9% at a fixed specificity of 80% and 62.1% at a fixed specificity of 95%.
Conclusion: Although the spectral-domain OCT has different resolution and acquisition rates, their ability to detect glaucoma was similar.
Keywords: Glaucoma, imaging, Spectral-Domain OCT

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(US) OCULAR ULTRASOUND

Deadline: Sep 24, 2010

FORMAT:
Abstract should contain:
Title
Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.

Poster guidelines:
ARVO Abstract Book (1.10 x 1.70m)

1. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Ventura
First Name: Marcelo
Middle: Carvalho

Service (e.g. Glaucoma): Cataract

CEP Number:

5. ABSTRACT (REQUIRED):

INTRACAMERULAR TRIAMCINOLONE IN CONGENITAL CATARACT SURGERY IN CHILDREN UNDER TWO YEARS OF AGE AND ITS RELATION WITH INTRAOCULAR PRESSURE AND CENTRAL CORNEAL THICKNESS

Marcelo Carvalho Ventura, Walton Nosé, Bruna Vieira Ventura, Liana Oliveira Ventura, Carlos Brandt

Purpose: To evaluate the effects in IOP and central corneal thickness of intracamerular corticosteroid (4mg of triamcinolone acetonide) used in congenital cataract surgery with intraocular lens in children under two years of age. **Methods:** Twenty one children underwent cataract surgery, with foldable AcrySof hydrophobic acrylic IOL, in whom intracamerular triamcinolone acetonide was used (GI). Nine children matched for age and gender received 1 ml/kg/day of prednisolone syrup for 15 days, half the dose on the third week and one fourth of the dose on the fourth week. (GII). Mean follow-up was 12.0 ± 4.6 months. **Results:** There were no significant ($p > 0.05$) changes of the mean IOP regarding the two groups: (Preoperative – GI 8.3±1.0 versus GII 7.4±0.8); (Postoperative – GI 9.3±2.4 versus GII 9.6±2.4). Furthermore, there were no significant change of the mean central corneal thickness (Preoperative – GI 564.0±53.5µm versus GII 567.2±57.2 µm); (Postoperative – GI 566.4±63.4µm versus GII 570±64.7). **Conclusion:** There were no significant changes in the mean IOL and central corneal thickness between the groups. The findings give support to the hypothesis that the intracamerular use of triancinolone acetonide does not increase the side effects in children that undergo congenital cataract surgery under two years of age.

Keywords: Congenital cataract; Cataract surgery; Triancinolone acetonide; Intraocular pressure; Central corneal thickness

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): GL

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

3. PRESENTATION PREFERENCE (REQUIRED) Check one:
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( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Rossin
First Name: Reginaldo
Middle: Alexandre

Service (Sector): Centro de Oftalmologia Esportiva – Instituto da Visão

CEP Number:

Title: **ASSOCIATION BETWEEN TWO DIFFERENT EXERCISE INTENSITIES AND INTRAOCULAR PRESSURE**

Reginaldo Alexandre Rossin; Guilherme Ramos Pinto; Haroldo Leão Marcos; Marcelo Conte; Antonio Carlos da Silva; Marinho Jorge Scarpi

Purpose: To verify the association between two different exercise intensities and the intraocular pressure (IOP) variation. Methods: An observational study was conducted on 9 athletes (sample by accessibility) selected according to the following inclusion criteria: i) 10 km runners up to 45' (at least 5 years training); ii) male; iii) aged 23 to 33 years; iv) no physical nor eyeball injury. Association between IOP and two different exercise intensity: PE1 (10% less than ventilatory threshold 1) and PE2 (ventilatory threshold 2). The physical exercise (PE) was performed on a treadmill and IOP was determined by using Perkins tonometer, at first in the absence of physical exercise over the last 24 hours and after each protocol. IOP measures were taken for 18 minutes during the recovery (R1 – 3' later; R2 – 6' later; R3 – 9' later; R4 – 18' later), on a sitting position. Statistical analyses were obtained through ANOVA test and Bonferroni post-test. Results: 7 athletes completed PE1 situation and 9 athletes completed the PE2. The results showed reduction of both eyes IOP at REST comparing to the R1 situation of both exercise intensities. However, considering the whole recovery period, it was observed a significant IOP reduction at R1 and R2 moments of PE1; R1, R2 and R3 moments of PE2: R1(PE1) (LE: 11,71 ± 1,38 vs. 10,00 ± 2,58), R2(PE1) (LE: 11,71 ± 1,38 vs. 9,57 ± 1,27); R1(PE2) (RE: 13,00 ± 1,94 vs. 10,33 ± 1,94), R2(PE2) (RE: 13,00 ± 1,94 vs. 10,89 ± 1,54), R3(PE2) (RE: 13,00 ± 1,94 vs. 10,44 ± 1,59). Conclusion: there was association between IOP and different exercise intensities, after performing the two protocols the IOP reduced.

Keywords: Intraocular pressure/etiology; Exercise/physiology; Ocular hypotension.

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 (**X**) PG1 ( ) Fellow ( ) Technician

Last Name: Lopes
First Name: Rodrigo
Middle: Gustavo

Service (e.g. Glaucoma): Ophthalmology Sport

CEP Number: 0128.10

5. ABSTRACT (REQUIRED):

INTRA-OCULAR PRESSURE RESPONSE IN SWIMMERS AFTER PHYSICAL EFFORT IN WARM SWIMMING POOL

Rodrigo Gustavo Lopes[1,2], Marcelo Conte[1,2], Rudolf Eberhard Lenk[1,2] Marinho Jorge Scarpi[1,2]
(1) Federal University of São Paulo, (2) Superior School of Physical Education of Jundiaí

Purpose: To verify the intra-ocular pressure (IOP) of high level swimmers after the swim in warm swimming pool. **Method:** An observational study, almost experimental, was developed with 17 volunteers (8 women and 9 men), chosen in accordance with the following criteria of inclusion: i) age: more then 18 years; ii) asset physically: practitioners of the modality swimming with minimum training time of 1 (one) year; iii) apt to carry through the swim tests: negative reference to the presence of muscular injuries; iv) absence of ocular disorders of the outereye segment in the ectoscopia. The swimming pool temperature was kept by 32°C. All the IOP measures were taken using Perkins® tonometer, by the same ophthalmologist, in 4 moments: i) immediately before the swim; ii) immediately after the 400 meters swim; iii) 3 minutes after the swim, indicating the recovering time at rest condition; iv) 12 minutes after the swim, indicating the recovering time at rest condition. Statistical analysis was done using *ANOVA* test and *post test tukey*. **Results:** The results are expressed in the table 1. **Conclusion:** A significant IOP reduction occurred immediately after the 400 meters in both eyes of men ($p<0,001$*) and women ($p<0,05$†), and staying significant after 3 minutes of recovering condition in men.

Table 1

	Pass.time	rest		Immed.after swim		3 min.recov		12 min.recov	
		(RE)	(LE)	(RE)	(LE)	(RE)	(LE)	(RE)	(LE)
female									
average	07:26	15,3	14,5	10,5†	10,9†	12,3	10,8	11,6	11
s.line stand.	01:04	4,2	3,4	2,8	4,6	1,9	1,7	1,8	1,6
male									
average	08:04	15,33	14,44	11,11*	10,67*	11,89*	11,67*	13,33	13,11
s.line stand.	01:55	2,5	1,9	3,3	2,4	1,8	2,2	2,6	2,5

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): GL

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Prata
First Name: Tiago
Middle: Santos

Service: Glaucoma

CEP Number: CEP is being processed.

5. ABSTRACT:

ASSOCIATION BETWEEN CORNEAL BIOMECHANICAL PROPERTIES AND OPTIC NERVE HEAD MORPHOLOGY IN NEWLY DIAGNOSED GLAUCOMA PATIENTS

Tiago Santos Prata, MD[1]; Verônica Castro Lima, MD[1]; Lia Manis Guedes[1]; Fernanda Pedreira Magalhães, MD[1]; Luis Biteli, MD[1]; Sergio Henrique Teixeira, MD[1]; Robert Ritch, MD[2]; Augusto Paranhos Jr, MD,PhD[1].

[1]Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil.
[2]Einhorn Clinical Research Center, The New York Eye and Ear Infirmary, New York, NY.

Objective: To investigate factors associated with optic nerve head (ONH) topography in newly diagnosed primary open-angle glaucoma (POAG) patients. **Methods:** We prospectively enrolled consecutive patients with newly diagnosed POAG without glaucoma treatment [intraocular pressure (IOP) >21 mmHg]. After a complete ophthalmological examination, those with any ocular disease other than glaucoma were excluded. Data collected included age, race, gender, IOP and central corneal thickness (CCT). All patients underwent corneal hysteresis (CH) measurement using the Ocular Response Analyzer and confocal scanning laser ophthalmoscopy for ONH topography evaluation. The mean of three measurements was considered for analysis. Multiple regression analysis (controlling for baseline IOP and disc area) was used to investigate factors associated with the following ONH topographic parameters: cup-to-disc ratio (CDR) and mean cup depth (MCD). **Results:** Forty-two patients (42 eyes) were included (mean age, 66.7±11.8 years; mean IOP, 27.9±8.1). The only factor significantly associated with both CDR (r=-0.41, p=0.01) and MCD (r=-0.34, p=0.04) was CH. Central corneal thickness was significantly associated with MCD (r=-0.35, p=0.01), but not with CDR (r=-0.25, p=0.13). Although marginally significantly associated with CDR (r=0.26, p=0.08), age was not associated with MCD (r=0.06, p=0.74). No significant associations were found for race (p? 0.62). When comparing eyes of patients with bilateral POAG (n=20), those with higher CH had smaller CDR in 80% of the cases. **Conclusions:** In untreated newly diagnosed patients with POAG, those with thinner corneas and mainly lower corneal hysteresis values seem to have a larger cup-to-disc ratio and deeper cup (independently of IOP values and disc area size). This association was significant for both corneal parameters only when cup depth (but not cup-to-disc ratio) was considered. Whether these observations imply in a direct relationship between these corneal parameters and ONH susceptibility to glaucomatous damage deserves further investigation.

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):
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Review the Scientific section Descriptions. Select and enter the two-letter Code for the one (1) Section best sullied to review your abstract.

3. PRESENTATION PREFERENCE (REQUIRED): Check one (1).
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Deadline: 24/09/2010

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Example: ARVO (1.10 x 1.70) Abstract Book

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 (x) PG1 ( ) Estagiário ( ) Tecnólogo

Last Name: Russ
First Name: Heloisa
Middle:
Helena Abil
Service (sector): GLAUCOMA

Nº CEP: 0954/06

5. ABSTRACT (REQUIRED):

OCULAR SURFACE CHANGES IN GLAUCOMA PATIENTS TREATED WITH FIXED COMBINATIONS OF PROSTAGLANDINES/TIMOLOL. 0,5%

Authors: Russ, Heloisa HA; Nogueira Filho,Pedro A;Barros, Jeison; Gomes,José Alvaro P ;Mello, Paulo Augusto

Purpose: To compare ocular surface changes induced by glaucoma treatment in patients using fixed combination of prostaglandine analogues (latanoprost, travoprost and bimatoprost) and timolol maleate 0,5%.
Methods: 33 patients with ocular hipertension or open angle glaucoma and also without treatment were included. Exclusion criteria: previous ocular surgeries, ocular inflammation, dry eye or multiple glaucoma treatment. Ocular surface evaluation was done before fixed combination treatment and after 3 months of it. All patients had biomicroscopic examination of lids and anterior segment, and they performed tests as Break up time, Schirmer and Green Lisamine 1% quantifying by Bijsterveld scale. After the ophthalmologic examination, impression citology was done and the samples underwent HE and PAS staining and also imunohistochemistry evaluation with antibodies IL-6 and HLA-DR.
Results: Immunohistochemistry results showed over-expression of inflammatory cells (IL-6 and HLA-DR) in all treated groups comparing to controls. Xalacom group showed an increase of HLA expression of 25.11%, Ganfort 1.26% and Duo-Travatan 13.67%. IL-6 expression increased 17.17% in Xalacom group, 7.95% in Ganfort group and 15.59% in Duo-Travatan group. HE and PAS staining samples are being analyzed.
Conclusions: Fixed combinations increases expression of inflammatory markers as HLA-DR and IL-6. Some drugs may induce fewer changes than others but all data is not available yet to confirm this statement.

Key words: Glaucoma treatment; fixed combinations; ocular surface changes

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Lavinsky
First Name: Daniel
Middle:

Service (e.g. Glaucoma): Retina

CEP Number: 0855/07

5. ABSTRACT (REQUIRED):

Title: Randomized Clinical Trial Evaluating Modified ETDRS Focal/Grid Laser Photocoagulation versus Normal-Density or High-Density Micropulse Photocoagulation for Diabetic Macular Edema

Author and Co-authors (maximum 6) Daniel Lavinsky, Jose A. Cardillo, Luiz A. S. Melo Jr. Alessandro Dare[2], , Michel E. Farah, Rubens Belfort Jr.

Purpose: To compare modified Early Treatment Diabetic Retinopathy Study (ETDRS) focal/grid laser photocoagulation with normal-density (ND-SDM) or high-density (HD-SDM) subthreshold diode-laser micropulse photocoagulation for the treatment diabetic macular edema (DME).
Methods: We conducted a prospective, randomized, controlled, double-masked clinical Trial with a total of 123 eyes of 123 patients with previously untreated DME and best corrected visual acuity (BCVA) worse than 20/40 and better than 20/400 were included in this study. Patients were randomized to receive either modified ETDRS focal / grid photocoagulation (42 patients), ND-SDM (39 patients) or HD-SDM (42 patients). Before treatment and 1, 3, 6 and 12 months after treatment, all patients underwent ophthalmic examinations, BCVA, color fundus photography, fluorescein angiography and optical coherence tomography (OCT).
Results: There were no statistically significant differences regarding baseline characteristics. At 12 months, the HD-SDM group had the best improvement in BCVA (0.25 logMAR), followed by the modified ETDRS group (0.08 logMAR), while no improvements were seen in the ND-SDM group (0.03 logMAR). All groups showed statistically significant progressive reduction of CMT throughout the study ($p<0.001$). The HD-SDM group exhibited the greatest CMT reduction (154 µm), which was not significantly different from that of the modified ETDRS group (126 µm; $p=0.75$). There were no adverse events and no serious collateral effects, other than the expected occurrence of laser scars in the eyes treated with the modified ETDRS technique.
Conclusions: At 1 year, the clinical performance of HD-SDM was superior to that of the modified ETDRS photocoagulation technique based on the anatomic and functional measures of improvement used in this investigation. A rationale for this treatment modality as a preferable approach is suggested, and the precise role of sub-threshold micropulse laser treatment may become more defined as experience grows, guided by optimized treatment guidelines and more comprehensive trials.

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2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
(x) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Castro
First Name: Dinorah
Middle: Piacentini Engel

Service (e.g. Glaucoma): Glaucoma

CEP Number: 0111/07

5. ABSTRACT (REQUIRED):

Title: **Glaucoma detection ability of 3 Spectral-domain OCT devices and Stratus OCT**

Author and Co-authors (maximum 6): Dinorah P E Castro; Leonardo C Castro; Cynthia Mattox, MD[1]

Purpose: Comparison of glaucoma detection between 3 Spectral-domain OCTs (SD-OCTs)and Stratus OCT.
Methods: Cross sectional study. Clinically diagnosed, 189 glaucoma, 127 glaucoma suspects and 58 healthy eyes scanned with Stratus, Cirrus, Topcon, and RTVue retinal nerve fiber layer (RNFL) scan. ROC (specificity fixed at 80%) and AUC were compared.
Results: Average RNFL, superior and inferior sectors were more predictive than nasal and temporal sectors. The AUCs from the four devices were not statistically significant different among each other. Exceptions were between RTVue and Stratus for moderate glaucoma for the temporal subfield (RTVue = 0.98 vs Stratus = 0.69; p = 0.006), for mild glaucoma (RTVue = 0.93 vs Stratus = 0.79; p = 0.05) and glaucoma with no defect groups (RTVue = 0.893 vs Stratus = 0.67; p = 0.03) on the nasal subfield; between RTVue and Topcon for mild glaucoma on the nasal subfield (RTVue = 0.93 vs Topcon = 0.77; p = 0.03); and between Cirrus and Topcon OCT for mild glaucoma group on the superior subfield (Cirrus = 0.98 vs Topcon = 0.88; p = 0.04).
Conclusion: In conclusion: All three SD-OCT devices analyzed in our study had comparable diagnostic performance for detection of all stages of glaucoma and did not significantly differ from the Stratus OCT.

Keywords: Glaucoma; Diagnostic; OCT

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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1. FIRST (PRESENTING) AUTHOR (REQUIRED):
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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
(x) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Brasil
First Name: Maria Vitoria
Middle: Moura

Service (e.g. Glaucoma): Glaucoma

CEP Number:

5. ABSTRACT (REQUIRED)

Comparison of silicone Ahmed and Baerveldt glaucoma implants in refractory glaucoma

Brasil MV, Rockwood EJ, Mello PA, Smith SD

Purpose: To compare the safety and efficacy of the silicone Ahmed glaucoma implant (S-AGI) and Baerveldt glaucoma implant in the treatment of refractory glaucoma

Methods: 140 eyes of 139 patients who underwent either BGI (350 mm^2) or S-AGI (model FP-7) implantation with follow-up of ≥6 months were included. Primary outcome measures were intraocular pressure (IOP), the rate of postoperative complications, and surgical success (IOP reduction of ≥20% from baseline and IOP >5mmHg and <22 mmHg).

Results: 73 eyes receiving BGIs and 67 eyes receiving S-AGIs were included. The mean postoperative IOP was lower in the S-AGI group at 1-day follow-up (10.4 vs. 14.9 mmHg, p=0.04) and was lower in the BGI group at 1-year follow-up (11.6 vs. 16.0 mmHg, p=0.001). The cumulative probability of success over 5 years estimated by Kaplan-Meyer survival analyses did not differ between the two groups (p=0.82). The number of postoperative glaucoma medications was greater in the S-AGI group, but the difference was not statistically significant (all p>0.3). The occurrence of hypotony (IOP ?5 mmHg) was significantly greater in the BGI group (63.0% vs. 37.3%, p=0.004). Patients in the BGI group also more commonly experienced serious postoperative complications (22.3% vs. 7.5%, p=0.01).

Conclusion: Similar rates of surgical success were achieved with the BGI and the S-AGI. The BGI yielded a lower 12-month postoperative IOP. However, hypotony and other postoperative complications occurred more frequently with the BGI.

Keywords: Glaucoma, Ahmed Implant, Baerveldt Implant

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): GL

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

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Deadline: Sep 24, 2010

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1. FIRST (PRESENTING) AUTHOR (REQUIRED):
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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
(X) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Lisboa
First Name: Renato
Middle: Dichetti dos Reis

Service: Glaucoma

CEP Number: CEP is being processed

5. ABSTRACT (REQUIRED):

Regional Age-related Changes on Retinal Nerve Fiber Layer Thickness as Measured by Spectral Domain Optical Coherence Tomography

Author and Co-authors: Renato Dichetti Reis Lisboa[1], Tiago Santos Prata[1], Verônica C Lima[1], Carlos Gustavo V de Moraes[2], Richard B Rosen[2], Robert Ritch[2]

Purpose: To evaluate the relationship between age and peripapillary retinal nerve fiber layer (RNFL) thickness in normal subjects, as determined by spectral domain optical coherence tomography (SD-OCT).
Methods: We prospectively enrolled 144 normal subjects (144 eyes), ranging from 21 to 85 years of age. After a complete ophthalmological examination, all patients underwent RNFL thickness measurement using SD-OCT (Spectral OCT/SLO, OPKO-OTI, Miami, FL). Two scans were performed per eye, each with 3 images analyzed (automatic tracking of the optic disc; diameter of 3.4 mm; resolution of 6 µm). The correlation between age and RNFL parameters (global and sectoral) was analyzed using linear regression analysis. The slope for each parameter was also calculated.
Results: The average RNFL thickness decreased significantly with increasing age, with a slope of -0.14 µm/year (r^2=0.04, p<0.01). Six of the 30-degree sectors (12 clock hours) were significantly and inversely correlated with age, with slopes ranging from -0.10 to -0.23 µm/year (r^2? 0.02, p? 0.04). While most (5/6) were localized in the inferior and temporal sectors, none of the nasal sectors correlated significantly with age (p? 0.06).
Conclusion: Our data suggest that both global and regional RNFL thickness, as assessed by SD-OCT, decrease with age. This reduction seems to be more pronounced in the infero-temporal sectors, resembling that found in glaucomatous eyes. It suggests a possible age-related pattern of regional susceptibility that should be considered when assessing eyes over time.

Keywords: retinal nerve fiber layer loss; aging; glaucoma.

Abstract Form

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
(X) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Lenk
First Name: Rudolf
Middle: Eberhard

Service (e.g. Glaucoma): GLAUCOMA

CEP Number:13.232.030

5. ABSTRACT (REQUIRED):

VARIATION OF INTRAOCULAR PRESSURE RESULTING FROM THE USE OF SWIMMING GOGGLES

Author and Co-authors (maximum 6): Rudolf Eberhard Lenk, Marcelo Conte, Marinho Jorge Scarpi

Purpose: to verify the IOP variation in swimmers as a result of the use of swimming goggles.
Methods: eight male swimmers between the ages of 18 and 24 years were assessed IOP on eight different times: in the first day before test, after 10 minutes permanence inside the swimming pool without swimming goggles, immediately after swimming 1000 meters, 15 minutes after swimming effort; in the second day before test, 10 minutes after permanence inside the swimming pool with swimming goggles; and in the third day before test, after 15 minutes sitting down wearing swimming goggles. The statistical procedures used were ANOVA and Bonferroni's post test
Results: IOP increased after 10 minutes permanence inside the swimming pool without swimming goggles; there was a significant IOP reduction ($p < 0.01$) immediately after swimming; and 15 minutes after concluding the physical effort the IOP values returned close to those initially recorded.
Conclusion: after swimming 1,000 meters, wearing swimming goggles, there was a reduction in IOP, which returned to the initial results after 15 minutes.

Keywords: Intraocular pressure. Swimming goggles. Swimming. Glaucoma

Abstract Form

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( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Gerente
First Name: Vanessa
Middle: Miroski

Service (Sector): Glaucoma

CEP Number: 1984/07

5. ABSTRACT (REQUIRED):

Evaluation of the glaucomatous lesion on the central nervous system by functional magnetic resonance imaging (fMRI) and the correlation with psychophysics and anatomical retinal findings

Author and Co-authors (maximum 6): Vanessa M. Gerente, Ruth Schor, Dora Fix Ventura, Sérgio Teixeira, Cláudio Luiz Lottenberg, Edson Amaro Jr, Augusto Paranhos Jr.

Purpose: To evaluate the results of fMRI in patients with glaucoma and localized retinal nerve fiber layer defect and to evaluate anatomically the calcarine cortex in advanced glaucoma.

Methods: Patients with glaucoma and controls performed functional magnetic resonance with visual stimuli and a complete ocular examination, including standard automated perimetry, FDT, OCT, GDx VCC, HRT and retinography. The stimuli of fMRI were presented bilaterally in a rotating wedge (polar angle) and expanding ring (eccentricity) reversing checkerboard. Parvo and magno pattern stimuli were also presented. Visual cortex response to visual stimuli was observed by changes in blood flow and oxygenation, represented by the blood oxygen level dependent (BOLD) signal.

Results: 20 individuals performed the exams and were included in this study, 14 with glaucoma and 6 controls. Data are in analysis at the moment of deadline.

Conclusion: Study in progress.

Keywords: glaucoma, functional magnetic resonance imaging

Abstract Form

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( ) PG0 (**X**) PG1 ( ) Fellow ( ) Technician

Last Name: KRONBAUER
First Name: AIRTON LEITE

Service : OCULAR BIOENGINEERING

CEP Number: 1102/06

THE SIGHT MEASUREMENT WITH PSYCHOPHYSICAL TESTS: STUDY, DEVELOPMENT AND STANDARDIZATION OF NEW METHOD AND DIGITAL EQUIPMENT

Authors: Airton Leite Kronbauer; Paulo Schor; Luis Alberto Vieira de Carvalho; Luciana de Matos; Wallace Chamon

Purpose: The objectives are (1) develop psychophysical test for easy and accurate sight measurement, (2) use the international system of units, (3) and compare the results between standardized objective and subjective methods.
Methods: First stage:(1) based on concept of minimum visible, a psychophysical test was developed using a digital device and based on the principle of photometry with photodiodes, this digital device was calibrated. Second stage: (2) subjective measurements of visual acuity were compared with different methods in normal individuals. Third stage: (3) objective and subjective measurements between patients in pre and postoperative refractive surgery were also implemented. Objective measurements were performed by wavefront analysis. Subjective measurements were made using standard ETDRS logMAR and proposed method logCandela.
Results: The mathematical correlation between logMAR and proposed tests was 84,14%, calculated by exponential correlation of Pearson and t test ($p<0,001$). The variability of measurements in examined volunteers and examiners was narrower in luminous intensity method than visual angle method. The Pearson linear correlation between objective (RMS) and subjective measures (logCandela, logMAR) was 88 until 96%. The wavefront graphs, PSF graphs, RMS, logMAR and logCandela improved when comparing pre and post-surgery.
Conclusion: There is correlation between subjective visual (logMAR and logCandela) and objective measurements of wavefront analysis, when only refractive eye problems are considered. This psychophysical test of luminous intensity with logCandela unit may be used in the daily practice for evaluation of sight.

Keywords
Vision, Vision Tests, Visual Acuity, Optics, Refraction, Ocular, International System of Units, Form Perception, Visual Perception, Pattern Recognition, Visual

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Luciana de Matos
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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: de Matos
First Name: Luciana
Middle:

Service: (BE) Ocular Bioengineering

CEP Number: 1914/07

5. ABSTRACT:

COMPARISON BETWEEN SIMULATED AND REAL ABLATIONS IN CUSTOMIZED CONTACT LENS

Luciana de Matos [1,2], Enos de Oliveira [1], Claudia Francesconi [1], Paulo Schor [1], Luis Alberto de Carvalho [1,2].

1 Ocular Bioengineering Sector, Department of Ophthalmology, Paulista School of Medicine, Federal University of São Paulo (UNIFESP).
2 Ophthalmic Optic Group, Physics Institute of São Carlos, University of São Paulo (USP).

PROPOSE: We aim to compare computational simulation that produce ablation in customized contact lens with real ablation realized with excimer laser in soft contact lens, in order to confirm construction a micro controlled system.
METHODS: Using real data from a patient with high-order aberrations (HOAs), which were measured using a Hartmann-Shack wave front sensor LADARWAVE® (Alcon Laboratories, Inc.), we determined the thickness of the contact lenses that compensate these aberrations as well the numbers of pulses required to ablate the lenses, using a 0.75 mm beam width – minimum width LADARVISION and a 0.3 μm ablation depth. The maps of correction and the residuals generated from this theoretical ablation were calculated. Using a performed real ablation, we used the same procedure of customized refractive surgery to ablate soft contact lens. In this case, the instrument LADARVISION® (Alcon Laboratories, Inc) was applied to the same patient.
RESULTS: The residuals maps of the two methods were compared and demonstrated reduction in HOAs.
CONCLUSION: The algorithm is effective and it has being improved in order to reach the expected accuracy and to construct a computer controlled laser system.

Keywords: Aberrations of Higher Order, Algorithms, Computer Simulation, Ablation, Contact Lenses.

Fellowship: FAPESP No. 07/54195-6

Abstract Form

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( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Lorena
First Name: Silvia Helena
Middle: Tavares

Service (Sector): Lacrimal System

CEP Number: 2001/09

5. ABSTRACT (REQUIRED):

Congenital Nasolacrimal Duct Obstruction in Premature Children

Author and Co-authors : Silvia Helena Tavares Lorena, Marinho Jorge Scarpi

Purpose: To determine the incidence of congenital nasolacrimal duct obstruction in pre-term children compared with term children, and the percentage of success related to the different types of treatment employed
Methods: Retrospective study. Medical charts of 200 pre-term and 200 term children attended in the Peri-Peri Ambulatory were followed for 4 years (July 2004 to November 2009). The follow-up consisted of different methods of evaluation with 2 months of interval beginning at age of 1 month: ocular inspection, biomicroscopy, milder test and tofo.
Results: From the 200 premature children, 32 (16%) had congenital lacrimal duct obstruction, and among the 200 terms only 7 (3.5%) had the event. From the premature children with congenital obstruction, 14 (43.75%) were male and 18 (56.25%) female. From the 32 patients 30 (93.75%) were treated conservatively and 2 (6.25%) were operated on. The success of the treatment did not depend on the sex. From the 200 premature children 148 (74%) had moderated prematureness, 49 (24.5%) were accentuated, and 3 (1.5%) were extreme. In the moderated prematureness 7 (4.72%) children had obstruction in one of the sides and 9 (6.08%) children had bilateral obstruction. On the other hand, in the group that had extreme prematureness all 3 (100%) children had bilateral obstruction. From the group that had accentuated prematureness 4 (8.16%) had obstruction in one of the sides and 9 (18.36%) had bilateral obstruction.
Conclusion: There was a significant relationship between prematureness and congenital nasolacrimal duct obstruction, prevailing the bilaterality and without association with the gender. The conservative treatment should start as early as possible to achieve the best result

Keywords : Prematureness, Lacrimal Duct Obstruction/Congenital, Treatment, Retrospective Studies

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): **LV**

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
(**x**) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Messa
First Name: Alcione
Middle: Aparecida

Service: Low Vision Sector and Visual Rehabilitation. Early Visual Stimulation Ambulatory

CEP Number:

5. ABSTRACT (REQUIRED):

Title: Quality of Life and Psychological Aspects related to Retinopathy of Prematurity

Author and Co-authors: Messa, Alcione Aparecida; Belfort, Ricardo; Sallum, Juliana

Purpose: To assess psychological aspects in parents of children with Retinopathy of Prematurity (ROP) and compare quality of life related to vision on these families.

Methods: To collect quantitative data, will be used the Children's Visual Function Questionnaire (CVFQ) a validated questionnaire to assess quality of life, divided in six subscales: general health, general vision health, competence, personality, family impact and treatment. The CVFQ has two different presentations, one for children younger than 3 years old and another for children older than 3 years. The other instrument, a qualitative method, is a semi-directed psychological interview, which brings up information about emotional experience concerned raising a child with RP. Both instruments will be performed in parents of children with Retinopathy of Prematurity. Included criteria: children under 4 years old with no other diagnoses than ROP.
Control Group: parents of premature children with normal vision and no other pathology associated.

Results: Data are being collected. The subscale family impact presented scores than 50% in quality of life of children with ROP. Most of the participants related strong emotional impact at the moment of the diagnoses and a poor comprehension about the pathology characteristics.

Conclusion: Until now, the statistical analysis was descriptive. The results shows an impact in Quality of life in families of children with ROP.

Keywords: Psychology, retinopathy of prematurity, quality of life, parents, caregivers, vision disorders, low vision.

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Last Name: Kirsch
First Name: David
Middle:

Service (e.g. Glaucoma): STRABISMUS AND PEDIATRIC OPHTPHALMOLOGY
CEP Number:

Treatment of ocular allergic disease with topical 0,05% cyclosporine

David Kirsch, Carolina Ayres V.C. Lima

Key Words: Chronic Conjunctivitis, Ocular Allergic Disease, Cyclosporine, Imunossupression

Purpose: To evaluate the evolution of the ocular signals with the use of the topical cyclosporine 0.05% and to compare to the use of alopatadina 0.1% in the treatment of patients with chronic ocular allergic disease. **Methods:** Ten patients were selected presenting severe chronic keratoconjunctivitis for 2 years or more, rebels to the conventional treatment. It was made the suspension of previously used topical medicines 7 days before the beginning of the treatment with cyclosporine. Each patient have used topic cyclosporine 0.05% (Restasis^{R}) in an eye and in the other Alopatadina(Patanol^{R}).The eye that would use each type of medication was chosen by the patient without the knowledge of the examinator. The patients were submitted to a complete ophthalmologic exam in the beginning of the treatment and returns in 15 days, 40 days, 90 days. **Results:** Of the studied patients, 80% are male, 20% are female.The age varied of 6 to 13 years, with average of 11 years and 4 months. There has been an important improvement of the ocular hiperemia, papila, gelatinous limbous and Trantas dots, with trend to become significant. **Conclusion:** In this study we judge that alopatadina 0.1% must be used for treatment of light and moderates allergic ocular disease. The cyclosporine revealed to be a good option for the treatment of severe allergic ocular diseases, for presenting few adverse effects and leaving the patient free of the use of corticoids.

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(X) PG0	( ) PG1	( ) Fellow	( ) Technician

Last Name: do Lago
First Name: Olival
Middle: Cardoso

Service: Ocular Bioengineering (BE)

CEP Number: 1630/09

5. ABSTRACT (REQUIRED):

Title: **Analysis of visual fixation, smooth pursuit and saccadic during observation of motor actions**

Author and Co-authors: Olival Cardoso do Lago; Paulo Schor

Human brain circuit specializes in observe, understand and execute motion actions. Continuous and complex tasks activate muscle contraction after motor planning. It is unknown whether the oculomotor control follows a pattern in a situation trained to perform saccades (rapid eye movements that correct for a position error between eye and target) and smooth pursuit eye movements (slow eye movements that stabilize the projection of the moving target onto the fovea). This study aims to analyze if a repeatable and specific visual sequence promotes a recognizable oculomotor pattern. Ocular movements produced by Professional (trained) athletes will be recorded and analyzed either in their specialty or in a correlated one, and compared to non athlete behavior. Addressed variables will be visual fixation, saccadic and smooth pursuit patterns during specific complex motor behavior observation.

Keywords: saccade; pursuit, tracking eye movements

Abstract Form

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Last Name: GARCIA
First Name: EDUARDO
Middle: ALONSO

Service (e.g. Glaucoma): LACRIMAL SYSTEM

CEP Number: 0463/10

5. ABSTRACT: **LACRIMAL RECANALIZER – Recanalization of the nasolacrimal duct with High Frequency**

Garcia, E A

PURPOSE: Analyze the possibility to restore lachrymal flow in dacriocistite with minimum interference in lachrymal bomb, scar absence, safe from injury of medial structures and without the necessity of carries through a by-pass (osteotomy) in the lachrymal system.

METHODS: Thirty patients with chronic dacriocistite will be selected in the clinic of Lacrimal System (LS) to carry through the recanalization of naso lacrimal duct (RNLD) with High frequency (HF). The inclusion factors will be patient with blockage low of the lachrymal way confirmed with radiological examination , older than 18 years .The exclusion factors will be patient with high blockage of the LS, previous surgical treatment , cases of trauma of the nasal region and sing medial, and carriers of pace maker. The procedures will be carried through by the same surgeon, with local anesthesia and probing bicanalicular with silastic . The postoperative control will be carried through in the clinic of Lacrimal System weekly in the first month (with irrigation of duct naso lachrymal), and later (without irrigation) with 60, 90 and 120 days, when silastic will be removed. The evaluation of the results will be divided in 3 groups, based in the symptoms after surgery: success (without symptoms, irrigation without resistance); partial success (epífora, irrigation with resistance) and failure (epífora and secretion, irrigation with reflux).

RESULTS: Thirteen patients did the procedure (3 male, 10 female) till now, 6 of them had already took out the silastic. Five (83,33%)have no symptoms (success group) and one (16,37%) have a epífora, but the irrigation is positive (partial success group).

CONCLUSION: It seems to be an interesting approach of the lachrymal obstruction, with low risk, no scar, no bleeding, day hospital procedure, with a short learning curve and good results

Key words: Lachimal system, high frequency, dacriocistitis

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Last Name: Sant´Anna
First Name: Ana Estela
Middle: Besteti

Service: Ocular Plastic Surgery

CEP Number: 0427/08

5. ABSTRACT (REQUIRED):

Salivary Gland and Labial Mucous Membrane Transplantation in the treatment of severe symblepharon and dry eye in patients with Stevens-Johnson Syndrome

Authors: Ana Estela BPP Sant´Anna; Rossen M Hazarbassanov; Denise de Freitas; José Álvaro P Gomes.

Purpose: To evaluate salivary gland and labial mucous membrane transplantation in patients with severe symblepharon and dry eye secondary to Stevens-Johnson syndrome (SJS).
Methods: Prospective, noncomparative, interventional case series. Nineteen patients with severe symblepharon and dry eye secondary to SJS underwent labial mucous membrane and salivary gland transplantation. Complete ophthalmic exam including Schirmer I test was performed before and after surgery. All patients had previous Schirmer I test equal to zero.
Results: Nineteen patients with severe symblepharon and dry eye secondary to SJS were included in the study. Best spectade corrected visual acuity (BSCVA) was statistically improved in 8 patients (t test; p = 0.0070). Schirmer I test values improved significantly in 14 eyes (73.68%) after 6 months post surgery ($?^2$ test; p=0.0094). Eyes that received more than 10 glands per graft presented a statistically significant increase in tear production (Schirmer I test) comparing to eyes that received less glands ($?^2$ test; p=0.0096). Corneal transparency and neovascularization improved significantly in 11 (72.2%) and 5 (29.4%) eyes that went to grade 3 (McNemar test; p=0.001 and p=0.0005). Symptoms questionnaire revealed improvement in 53.64% of the patients for FBS, 50.17% of the patients for FF and 54.78% of the patients for pain (Kruskal-Wallis test; p=0.0167).
Conclusion: Labial mucous membrane and salivary gland transplantation showed to be a good option in the treatment of severe symblepharon and dry eye secondary to Stevens-Johnson Syndrome. It might be considered as a prior step to limbal and corneal transplantation in these patients.

Keywords: mouth mucosa, salivary glands, entropion, transplantation.

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Last Name: SANTOS
First Name: BEOGIVAL
Middle: WAGNER LUCAS

Service (CA): CATARACT

CEP Number: 168504

EVALUATION OF QUALITY OF LIFE IN PATIENTS SUBMITTED TO CATARACT SURGERY WITH MULTIFOCAL AND MONOFOCAL LENSES ACCOMPANIED FOR 2 YEARS

Beogival Wagner Lucas Santos, José Eduardo Prata Cançado, Vauney Alves da Silva Ferraz

Purpose: Providing an objective and subjective evaluation of visual acuity, life quality, frequency of the wearing of glasses and satisfaction level of 171 patients who underwent cataract surgery with implant of multifocal and monofocal lenses.
Methods: Multifocal lenses Array SA40N (Allergan Optical inc.) were implanted in 72 patients, Tecnis ZM900 (Amo inc.) in 16 patients, Restor SA60D3 (Alcon inc.) in 20 patients and Monofocal Clariflex (Amo inc.) lenses were implanted in 63 patients.
The patients answered a 48-question questionnaire, whose results were evaluated and analyzed.
Results: The level of satisfaction of the patients implanted with multifocal lenses (Array, Tecnis and Restor) was significantly higher than of those with monofocal lenses (kruskal – Wallis test, $p < 0.001$ followed by the Dunn test, $p < 0.05$). Comparing the multifocal lenses, there was no difference regarding the level of satisfaction concerning global vision during day and night as well as near and far vision, without correction. (Dunn post-test $p > 0.05$). As to the comparison of monofocal lenses with multifocal lenses, the near vision was considerably lower in patients with monofocal lenses (Z test $p < 0.001$). The patients with monofocal lenses presented a much lower capacity of reading newspapers or books than the ones with multifocal lenses(Z test, $p < 0.001$). Comparing the multifocal lenses, there was no difference among them, without glasses ($p > 0.05$). As far as manual work is concerned, eg sewing and embroidery, the patients with monofocal lenses showed much lower ability than the ones with the multifocal techniques (Z test, $p < 0.001$).
Conclusion: The result of this study shows that the patients who received the multifocal lenses had a remarkable improvement in their visual acuity, being pleased with their general vision without wearing glasses. This is because they were able to read books and news papers, write checks, fill out forms, do sports, shave or put on make up, hence having high quality of life, which does not happen with patients implanted with monofocal lenses. Therefore, the multifocal lenses provide de patients with independence from glasses, which was confirmed through both objective and subjective evaluations.

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Paganelli
First Name: Fernando
Middle:

Service (e.g. Glaucoma): Cataract

CEP Number: 1052-2004

5. ABSTRACT (REQUIRED):

Subconjunctival Delivery of Antibiotics in a Controlled-Release System. A Novel Anti-infective Prophylaxis Approach for Cataract Surgery

Author and Co-authors: Fernando Paganelli, MD; Jose´ A. Cardillo, MD; Luiz A. S. Melo Jr, MD; Ana L. Höfling-Lima, MD; Antonio C. Pizzolitto, PharmD; Anselmo G. Oliveira, PharmD, PhD

Purpose: To compare the efficacy of subconjunctival injection of ciprofloxacin hydrochloride, 2 mg/0.1 mL in a controlled release system, with a subconjunctival injection of regular ciprofloxacin hydrochloride, 2 mg/0.1 mL and ciprofloxacin hydrochloride 0.3% eyedrops for infection prophylaxis.
Methods: Rabbit eyes were injected subconjunctivally with ciprofloxacin hydrochloride, 2mg/0.1 mL in a controlled release system, or regular ciprofloxacin hydrochloride, 2 mg/0.1 mL. The aqueous and vitreous humor pharmacokinetic profiles were compared with those of a single drop of ciprofloxacin hydrochloride, 0.3%, 6 times daily. In 45 rabbits, Staphylococcus aureus was injected into the anterior chamber: 15 randomly received 1 drop of ciprofloxacin hydrochloride, 0.3%, every 4 hours during 24 hours; 15 received drops of balanced salt solution; and 15 received a subconjunctival injection of ciprofloxacin hydrochloride, 2 mg/0.1 mL in a controlled release system. After 24 hours, endophthalmitis scores were recorded, aqueous and vitreous humors underwent culture, and histologic analysis was performed.
Results: The ciprofloxacin in a controlled release system treatment allowed higher intraocular levels of ciprofloxacin. The median endophthalmitis clinical scores for the ciprofloxacin in a controlled release system and ciprofloxacin eyedrop groups were equivalent (*P*=.42) and were significantly lower than those of the balanced salt solution group (*P*_.001). The culture was negative for *S aureus* in the ciprofloxacin in a controlled release system group and ciprofloxacin eyedrop regimens. No adverse effects were observed with either route.
Conclusion: Ciprofloxacin eyedrops and ciprofloxacin in a controlled release system were equally tolerated and efficacious. Ciprofloxacin in a controlled release system treatment may eliminate noncompliance issues and may prove to be a valuable clinical tool for surgical prophylaxis.

Keywords: ciprofloxacin, cataract, compliance, endophthalmitis

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Giovanni André Viana

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Last Name: Viana
First Name: Giovanni André
Middle: Pires

Service: OCULAR PLASTIC SURGERY (PL)

CEP Number: 1468/04

5. ABSTRACT (REQUIRED):

Title: **Comparison between two surgical techniques for lower eyelid rejuvenation: safety analysis and outcomes**

Author: Viana, GAP; Osaki MH, Nishi M.

Purpose: The purpose of this study was to analyze prospectively fifty patients submitted to lower blepharoplasty allocated in two surgical groups at Federal University of São Paulo, between April 2005 and May 2007.
Methods: Fifty patients were assigned to interventions into two surgical groups by using random allocation. The SG1 (control group) was composed of 25 patients who were submitted to conservatively standard fat-ressection lower blepharoplasty, and routine lateral canthal support. The SG2 (experimental group) was represented by 25 patients submitted to lower blepharoplasty with periorbital fat mobilization and arcus marginalis redrape, and routine lateral canthal support. Preoperative demographic and morphological data from patient charts and standardized photographs obtained before and after surgery were evaluated by an independent observer. Surgical techniques and management of complications were determined from operative reports and clinical notes.
Results: The median follow-up was 395 days (range 364 to 547 days). The mean age was 48.8 years, the population's gender was predominantly female (96%). Analysis of preoperative and postoperative photographs showed that all patients achieved significant improvement. Lateral canthal support was performed in all patients with statistically significant results.
Conclusion: The authors concluded that both procedures are safe and effective with low complication rates.

Keywords: Eyelid surgery - Transcutaneous lower blepharoplasty - Lateral canthal support - Canthopexy

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Last Name: Damasceno
First Name: Renato
Middle: Wendell

Service: Ocular Plastic Surgery

CEP Number: 1435/08

5. ABSTRACT (REQUIRED):

Lateral canthal tendon laxity in patients with involutional entropion or ectropion: the pathogenetic role of elastin and elastin-degrading enzymes

Author and Co-authors (maximum 6): RW Damasceno, LM Heindl, R Belfort Jr., U Schlötzer-Schrehardt, FE Kruse, LM Holbach.

Purpose: To investigate microscopic alterations of lower eyelid biopsy specimens from patients with lateral canthal tendon laxity and involutional entropion or ectropion with special regard to elastic fiber content and ultrastructure as well as to the expression of elastin-degrading enzymes matrix metalloproteinase (MMP)-7 and MMP-9.
Methods: Groups 1 and 2 included 20 full-thickness lower eyelid biopsy specimens from consecutive patients with lateral canthal tendon laxity and involutional entropion or ectropion obtained during the lateral tarsal strip procedure. Group 3 (control) included 20 full-thickness specimens from the lateral lower eyelid of consecutive patients with basal cell carcinoma. All specimens were examined by light and transmission electron microscopy, computerized morphometry of elastic fiber content, immunohistochemistry using antibodies against MMP-7 and MMP-9.
Results: Light microscopic examination and computerized morphometry showed a loss of elastic fibers in the eyelid skin, the pretarsal orbicularis oculi muscle and the tarsal stroma in groups 1 and 2 as compared with group 3 ($P < 0.001$). Residual elastic fibers revealed an abnormal ultrastructure with diminished elastin core and prominent microfibrillar bundles. Immunohistochemistry demonstrated an increased immunoreactivity for MMP-7 and MMP-9 in the eyelid skin, the pretarsal orbicularis oculi muscle, the tarsal stroma and the conjunctiva in groups 1 and 2 as compared with group 3 ($P < 0.001$).
Conclusion: The findings indicate that upregulation of elastolytic enzymes MMP-7 and MMP-9, probably induced by ischemia-reperfusion injury, inflammation and/or repeated mechanical stress, plays an important role in elastic fiber degradation in patients with lateral canthal tendon laxity and involutional entropion or ectropion of the lower eyelid.

Keywords: Aging, entropion, ectropion, elastin, matrix metalloproteinase.

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( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Osaki
First Name: Tammy
Middle: Hentona

Service (e.g. Glaucoma): Oculoplastic Surgery

CEP Number: 01484/10

5. ABSTRACT (REQUIRED):

INTRAOCULAR PRESSURE EVALUATION AFTER UPPER BLEPHAROPLASTY

Author and Co-authors (maximum 6): Tammy H. Osaki, Midori H. Osaki Lilian E. Ohkawara, Teissy Osaki, Luiz Alberto S. Melo Jr, Rubens Belfort Jr

Purpose: To evaluate if there are changes in the measurement of intraocular pressure after upper blepharoplasty
Methods: Dermatochalasis patients were recruited for this study. Glaucoma patients or patients with corneal alterations were excluded. The intraocular pressure was measured with Goldman aplanation tonometer one week before and six weeks after the surgical procedure.
esults: Nineteen patients (38 eyes) were included in this study. The mean intraocular pressure (standard deviation) in the pre and post operative periods were 14.0 (2.4) mmHg and 15.2 (2.6) mmHg, respectively. The mean (95% confidence interval) increase in the intraocular pressure between the pre and post operative periods was 1.2 mmHg (0.4 to 2.0 mmHg), p=0.003.
Conclusion: Blepharoplasty surgery promotes a slight increase in the measurement of intraocular pressure.

Keywords: intraocular pressure, upper blepharoplasty

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Nakanami
First Name: Célia
Middle: Regina

Service (e.g. Glaucoma): Epidemiology

CEP Number:

5. ABSTRACT:

"REFRACTION SERVICES OUTCOMES IN LOW-INCOME SCHOOL CHILDREN IN SÃO PAULO CITY"

Author and Co-authors: Célia R. Nakanami, Adriana Berezovsky, Nívea N. Cavascan, Márcia R. K. H. Mitsuhiro, Rubens Belfort Jr, Solange R. Salomão.

Purpose: To investigate refractive services outcomes in low-income school children, using visual acuity (VA) measurements and need/usage of glasses. **Methods**: A population-based study was performed in school children in São Paulo city in the year 2005. Cluster sampling was used to obtain a random sample of children ages 11 to 14 years from public schools (grades 5–8) in three districts. The examination included visual acuity testing, ocular motility, and examination of the external eye, anterior segment, and media.
Cycloplegic refraction and fundus examination were performed in children with uncorrected visual acuity 20/40 or worse in either eye. Participants were queried as to previous usage of glasses. Presenting VA (PVA) with or without glasses, UCVA and best-corrected VA (BCVA) was measured at 4 m distance with a logMAR chart with tumbling-E optotypes.
Results: A total of 2825 school children were enumerated with 2441 examined (86.4%). For the need of glasses analysis, 37 children with amblyopia were excluded, with 2404 cases included in the analysis, considering 102 (4.2%) with VI. Forty-seven children (1.9%) had UCVA of 20/40 or worse and PVA with glasses of 20/32 or better, showing that they need and wear appropriate correction, with 9 (0.4%) children with PVA with glasses<=20/40 and BCVA>=20/32 demonstrating that they need optical correction but their present correction was inappropriate. There was a group of 46 (1.9%) children who needed glasses but were not wearing them (PVA without glasses<=20/40 and BCVA>=20/32. On the other hand, 79 (3.3%) children had PVA with glasses>=20/25 and UCVA>= 20/32, showing use of glasses without VI. The remaining 2223 (92.5%) children had PVA without glasses of 20/32 or better. Out of the 135 (5.6%) children wearing glasses, 79 (58.5%) had no VI showing no need for optical correction.
Conclusion: Unmet need for glasses was evident by the number of children with VI (53.9%) without appropriate refractive correction. Contrarily, a considerable group of children were wearing glasses without any visual impairment (58.5%). These outcomes demonstrate that better quality of refractive services in this population is desirable, reinforcing the need for specific eye care programs to improve access and affordability for glasses in school children.
Key words: Visual impairment, refractive services, school children

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Eric Pinheiro de Andrade

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Last Name: Andrade
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Middle: Pinheiro

Service (e.g. Glaucoma): Electrophysiology
CEP Number: 0503/08

DIAGNOSING ANISOMETROPIC AND STRABISMIC AMBLYOPIA BY GRATING AND OPTOTYPE ACUITY

Andrade EP, Sacai PY, Berezovsky A, Salomão SR

Purpose: Our purpose is to compare the ability to diagnose amblyopia (anisometropic and strabismic) of two different types of visual tasks – grating and optotype acuity.
Methods: This study was submitted and approved by UNIFESP Committee on Ethics in Research (0503/08). Sweep visually evoked potentials and a retro-illuminated ETDRS chart were used to measure monocular grating and optotype acuity, respectively. A group of 36 patients (17 females) with amblyopia (20 with strabismus, 11 with anisometropia and 5 with both), aging from 5 to 14 years (mean 8.6±2.3 years), and a control group of 19 healthy volunteers (13 females) aging from 5 to 15 years (mean 8.2±2.6 years) was also tested. Interocular acuity differences (IAD) were determined in logMAR.
Results: Overall, in amblyopic subjects, grating acuity (mean 0.09±0.1 logMAR, median 0.08 logMAR) was comparable with optotype acuity (mean 0.1±0.17 logMAR, median 0.0 logMAR) in the fellow eye (Wilcoxon Signed Rank Test; p=0.255), and it was significantly better (mean 0.43±0.26 logMAR, median 0.4 logMAR) in the amblyopic eye when compared to optotype acuity (mean 0.62±0.3 logMAR, median 0.58 logMAR) - paired t-test; p=<0.001. Substantially larger IADs (mean 0.52±0.32 logMAR, median 0.46 logMAR) were detected by optotype acuity (paired t-test; p=<0.001) when compared to grating acuity (mean 0.34±0.27 logMAR, median 0.25 logMAR). In strabismic amblyopes significantly worst grating acuity (mean 0.07±0.03 logMAR, median 0.08 logMAR) was found in the fellow eye (Wilcoxon Signed Rank Test; p=0.018) when compared to optotype acuity (mean 0.04±0.06 logMAR, median 0.0 logMAR). In the amblyopic eye grating acuity was significantly better (mean 0.43±0.25 ogMAR, median 0.36 logMAR) when compared to optotype acuity (mean 0.64±0.30 logMAR, median 0.6 logMAR) in the amblyopic eye (paired t-test; p=<0.001). In this group, substantially larger IADs (mean 0.6±0.31 logMAR, median 0.57 logMAR) detected by optotype acuity (paired t-test; p=<0.001) when compared to grating acuity (mean 0.36±0.25 logMAR, median 0.28 logMAR). In the anisometropic amblyopia group, grating acuity (mean 0.12±0.14 logMAR, median 0.06 logMAR) was comparable to optotype acuity (mean 0.15±0.25 logMAR, median 0.0 logMAR) in the fellow eye (paired t-test; p=0.429), and was better 0.43±0.29 logMAR, median 0.41 logMAR) in the amblyopic eye (paired t-test; p=0.009) with substantially larger IADs (mean 0.46±0.36 logMAR, median 0.3 logMAR) detected by optotype acuity (paired t-test; p=0.020) when compared to grating acuity (mean 0.32±0.31 logMAR, median 0.24 logMAR).
Conclusions: In all amblyopic subjects, grating acuity has underestimated amblyopia magnitude when compared to the clinical goldstandard optotype acuity. These results corroborate previous findings that amblyopia causes deeper functional deficits in more complex visual tasks such as optotype acuity.

Keywords: electrophysiology: clinical; visual acuity; amblyopia.

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Last Name: Cavascan
First Name: Nívea
Middle: Nunes

Service (e.g. Glaucoma): ELECTROPHYSIOLOGY (EF)

CEP Number: 0349/08

CONTRIBUTING FACTORS FOR VISUAL LOSS IN CHILDREN WITH CORTICAL VISUAL IMPAIRMENT

Cavascan, N.N.; Salomão, S.R.; Sacai, P.Y.; Pereira, J.M.; Berezovsky, A.
Department of Ophthalmology - Universidade Federal de São Paulo

Purpose: Cortical visual impairment (CVI) is a pediatric ophthalmological condition due to cerebral lesion which causes bilateral visual loss. Visual disorders in children with CVI vary in type and degree, including visual acuity deficit, visual field reduction, eye movement disorders, strabismus, nystagmus among others. The purpose of this study was to evaluate the contributing factors as strabismus, nystagmus and amblyopia in the magnitude of the grating acuity deficit measured by sweep visual evoked potentials (sweep-VEP) in patients with CVI.
Methods: 157 patients (92 males – 58.6%) with CVI referred to grating acuity measurement by sweep-VEP from 2002 to 2010 were studied. Age ranged from 1.41 to 122.91 months (mean= 24.79±22.38; median= 17.12). GAD was calculated by subtracting acuity thresholds from mean visual acuity value using age norms and the maximum acceptable interocular acuity difference (IAD) was 0.1 logMAR according to our own normative data. One-way analysis of variance (ANOVA) was used to compare GAD and IAD. Statistical significance was considered as p? 0.05.
Results: Strabismus was detected in 51.0% (mean GAD=0.73±0.31 logMAR, median=0.73); nystagmus in 10.8% (mean GAD=0.81±0.30 logMAR, median=0.80); strabismus and nystagmus in 24.2% (mean GAD=0.82±0.25 logMAR, median=0.81); and 14.0% showing orthoposition of the visual axes (mean GAD=0.66±0.24 logMAR, median=0.64). No significant differences were found among strabismus, strabismus and nystagmus, nystagmus and orthoposition groups for GAD (p=0.134). IAD was significantly smaller in orthoposition group (Kruskall-Wallis ANOVA; H=10.069; P=0.018) when compared to the strabismus groups (Dunn's test; p? 0.05). Out of 157 children, 12 (7.6%) presented amblyopia and strabismus with mean IAD 0.18 logMAR with fixation preference of the fellow eye.
Conclusions: Disorders of ocular motility were found in half of children with CVI. Grating acuity deficit was larger in the group with strabismus and nystagmus. Interocular acuity differences were more evident in children with strabismus. Visual loss in CVI should be considered for therapeutic planning and rehabilitation programs for these children.
Keywords: visual acuity, ocular motility, children, cortical visual impairment, sweep-VEP

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Last Name: Silva
First Name: Luci
Middle: Meire

Service (e.g. Glaucoma): Clinical trials

CEP Number: 883/07

FREQUENCY AND CAUSES OF VISUAL IMPAIRMENT SECONDARY TO UVEITIS IN PATIENTS EXAMINED AT THE LOW VISION SERVICE / DEPARTMENT OF OPHTHALMOLOGY – UNIFESP: A RETROSPECTIVE STUDY – 20 YEARS

LMP Silva, T.Arantes, LR Gonzaga, F Oliveira, C Nakanami, C Muccioli

Purpose: To identify the frequency and causes of visual impairment secondary to uveitis in patients referred to the Low Vision Service of the Department of Ophthalmology at the Federal University of São Paulo, in a period of 20 years.
Methods: A retrospective analysis of medical records of 5.461 patients referred to the Low Vision Service from October 1987 to November 2007. We collected the data obtained at the first visit of patients at the Low Vision Service, that included the diagnoses, demographic information and the orientation given to the patients. All data were compiled and statistically evaluated.
Results: The mean age in the general group was 42.86 years while in the uveitic group was 25.51 (range 0.75-98 - SD 21.17). Within the group of 5.461 patients, 862 (15.8%) presented visual impairment secondary to uveitis. The most common cause of uveitis was toxoplasmosis (88.7%), followed by the undetermined uveitis (3.9%), Behçet (1,4%), VKH (1.3%), non-infectious coroiditis (1.2%), CMV (1.0%) and rubeola (1.0%). According to anatomical classification we found 792 (91,9%) posterior uveitis, 39 (4.5%) undetermined, 27 (3.1%) difuse uveitis, 3 (0.3%) anterior uveitis and 1 (0.1%) intermediary uveitis. According to the etiological classification we have 791 (91.8%) infectious uveitis, 34 (3.9%) undetermined, 25 (2.9%) non-infectious uveitis and 12 (1.4%) non-infectious secondary uveitis.
Conclusion: Among patients from the Low Vision Service at Department of Ophthalmology – UNIFESP, uveitis is the second cause of visual impairment, being toxoplasmosis the main cause of uveitis. Retinal disorders are the main cause of visual impaiment, followed by refractive error, optical atrophy, glaucoma, corneal opacities, amblyopia, cataract and other causes (coloboma, other retinopathies, ROP, retinal vascular abnormalities). Considering that uveitis is a potentially blinding disease in patients of working age and its prevalence between low vision patients, this result reinforces that uveitis is an important public health problem.

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( ) PG0 (?) PG1 ( ) Fellow ( ) Technician

Last Name: Alves
First Name: Luiz Filipe
Middle: Albuquerque

Service (e.g. Glaucoma): (TU) TUMORS AND PATHOLOGY

CEP Number:1934/09

5. ABSTRACT (REQUIRED):

Expression of SIRT1 in Epithelial Neoplasia of the Conjunctiva

Luiz Filipe de A. Alves[1,2,3] MD, Bruno F. Fernandes[2] MD, PhD; Julia V. Burnier[2] PhD;, Shawn Maloney[2] MSc, Alexandre N.Odashiro PhD, Dominique F. De Souza[2] MD, Miguel N. Burnier, Jr[2] MD, PhD, FRCSC

Purpose: The class III histone deacetylase (HDAC) SIRT1 is overexpressed in many malignancies and has been implicated in inactivating proteins that are involved in tumor suppression and DNA damage repair. In the current study we examined the expression of SIRT1 in normal epithelium (NE) compared to Ocular Surface Squamous Neoplasia (OSSN) in order to elucidate a possible role for SIRT1 in development or progression of this malignancy. **Methods**: We examined SIRT1 expression by immunohistochemistry in 47 cases of epithelial lesions of the conjunctiva and 10 specimens of NE were obtained in enucleated eye due to the presence of choroid melanoma . Our samples included 11 benign lesions (papillomas), 25 cases of conjunctival intraepithelial neoplasia (CIN) and 11 malignant lesions of Squamous Cell Carcinoma (SCC). The extent of staining was scored as 0 (negative); 1 (1% to 10% immunoreactive cells), 2 (11% to 50%), 3 (51% to 80%), or 4 (81% to 100%). Staining intensity was rated on the following scale: 0= negative, 1= weak, 2= moderate, 3= strong. The combined raw data was then converted to the German Immuno Reactive Score (IRS). **Results:** Nuclear and cytoplasmic expression of SIRT1 was observed in all cases of OSSN. In addition, in the NE specimens, 50% showed negative expression, 30% weak expression and 20% were considered significantly immunoreactive. Furthermore, the expression in NE and OSSN were compared ($p<0.0001$). Interestingly, in cases of CIN, the staining was remarkably weaker in the more differentiated surface cells compared to the more malignant cells located closer to the basal membrane. **Conclusions**: To the best of our knowledge, this is the first time that SIRT1 expression has been assessed in epithelial lesions of the conjunctiva. The results of our study suggest that SIRT1 may play an important role in the progression of epithelial tumors of the conjunctiva. Further research into the potential of SIRT1 as a novel therapeutic target is warranted.

Key words: Conjunctiva, Pathology, Epithelial tumors, SIRT1, Immunohistochemistry

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Last Name:Odashiro
First Name:Patricia
Middle: Rusa Pereira

Service (e.g. Glaucoma):Patologia

CEP Number:

5. ABSTRACT (REQUIRED):

PAX-6 immuno-histochemical expression in retinoblastoma

Patricia R. P. Odashiro, Alexandre N. Odashiro, Alison Cameron, Bruno F. Fernandes, Miguel N. Burnier Jr.

Purpose: Retinoblastoma is the most common malignant intraocular tumour in children. PAX6 is a transcription factor involved in a vast number of cellular processes, including the regulation of eye development. Its expression has also been studied in various types of cancers. The aim of this experiment is to study the expression of PAX6 in retinoblastoma.
Methods: Cases of retinoblastoma were retrieved from the pathology archives of Henry C. Witelson – Ocular Pathology Laboratory – McGill University, as well as normal adult eyes and foetus eyes. All specimens were immunostained with PAX6 in a fully automated process. The expression was analyzed according to the intensity and percentage of tumour cells positively stained. The scores obtained were correlated with histopathological prognostic factors (optic nerve, anterior chamber and choroid invasion, tumour differentiation, necrosis, and vitreous seeding).
Results: 45 formalin fixed paraffin embedded retinoblastoma tumours as well as five normal adult eyes and 2 foetus eyes were examined. One tumour with a total score of 0 (totally necrotic tumour); none with a total score of 1; seven with a total score of 2; four with a total score of 3; five with a total score of 4; nine with a total score of 5; and nineteen with the highest score possible, 6. No statistical correlation was found between the staining and any of the histopathological prognostic factors.
Conclusion: Although it is clear that PAX6 is expressed in retinoblastoma, its role in the development and progression of the tumour needs to be studied. Future research should focus on determining through which pathways PAX6 acts in retinoblastoma, and how or if its expression truly does promote the growth of the tumour. If this is indeed the case, PAX6 could potentially be used as a drug target for the treatment of retinoblastoma.

Keywords: PAX6, retinoblastoma, immunohistochemistry, prognosis

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(TR) TRAUMA
(TU) TUMORS AND PATHOLOGY
(UV) UVEITIS
(US) OCULAR ULTRASOUND

Deadline: Sep 24, 2010

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Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.

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( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Belfort Neto
First Name: Rubens
Middle:

Service: Tumors and pathology

GEP Number:

5. ABSTRACT:

The In Vivo Effects of Imatinib Mesylate in an Animal Model of Uveal Melanoma

Authors: Rubens Neto Belfort, MD; Bruno F. Fernandes, MD, PhD; Sebastian Di Cesare, MSc; Enzo Castiglione, MD; Jordan Isenberg, BSc; Miguel N. Burnier Jr., MD, PhD, FRCSC

Purpose: Our objective was to study the in vivo effect of Imatinib Mesylate in an animal model of UM.

Methods: Twenty–six albino rabbits were injected with $1x10^6$ human UM cells (92.1) into the suprachoroidal space. Animals were immunosuppressed (cyclosporin A) throughout the 12-week experiment and divided into two groups (n=13). The experimental group received IM once daily by gavage while the control group received a placebo. One animal per group was sacrificed every week after the 2nd week. Upon necropsy, organs were saved for histopathological examination. Cells from the primary tumors were recultured and tested in proliferation and invasion assays. A PCR array was used to investigate the differences in expression of 84 genes related to tumor metastasis.

Results: In the treated group, 4 rabbits developed intraocular tumors, average largest tumor dimension (LTD) was 2.5mm and metastatic disease was seen in 5 animals. Comparatively, in the control group, 6 rabbits developed intraocular tumors, average LTD was 5.8mm and metastatic disease was seen in 6 animals. The recultured cells from the treated group showed lower proliferation rates ($p<0.001$) and were less invasive ($p<0.001$). The PCR array showed different expression of genes related to metastasis. Notably, there was 10-fold higher expression of KISS-1, a metastasis suppressor gene, in the treated group.

Conclusion: The treatment with IM correlated with fewer and smaller primary tumors as well as less metastatic disease. The previously demonstrated in vitro effects of IM were confirmed in this animal model; lower proliferation and invasion rates. Interestingly, IM altered the expression of genes related to metastasis but previously not attributed to the action of IM.

Keywords: uveal melanoma ; animal model ; gleevec

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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(X) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Almeida
First Name: Simone
Middle: Ribeiro A. de

Service (e.g. Glaucoma): TUMORS AND PATHOLOGY

CEP Number:

5. ABSTRACT (REQUIRED):

Clinical - Pathologic correlation in conjunctival tumors

Almeida, SRA; Silvio,RF; Ottaiano, JAA; Martins,MC

Purpose: To study the correlation and analyze the correspondence between clinical and histopathological diagnosis in the conjunctival tumors seen in the ophthalmology service of FAMEMA (Marília Medical School), from January 2007 to January 2010.
Methods: The medical charts of 46 patients, from the ophthalmology service of FAMEMA, clinically diagnosed with conjunctival tumors, were reviewed in a retrospective study. Information of gender, age, compromised eye, clinical and histopathological diagnosis were analyzed and correlated.
Results: From 46 patients 32 (78,1%) were male, right eye was compromised in 25 (54,3%) and average age was 50,3 years. Clinical diagnosis was: 24 (52,2%) epithelial tumors, 9 (19,6%) melanocytic lesions, and 2 (4,3%), inflammatory lesions. In the histopathologic diagnosis 21 of the tumors (45,5%) were from epithelial origin, 11 (23,9%) were melanocytic lesions and 5 (10,9%) were inflammatory lesions. Histopathology study confirmed clinical diagnosis in 31 (67,4%) lesions.
Conclusion: Epithelial tumors were the most common lesion. Clinical diagnosis should be always confirmed by histophatological diagnosis since correct treatment planning and prognosis depends on it.

Keywords
Conjunctiva, tumor, epithelial, histopathology, clinical diagnosis

Abstract Form

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Last Name: Pinto
First Name: Anderson
Middle: Gustavo Teixeira

Service (e.g. Glaucoma): Retina and Vitreous

CEP Number: 708/10

5. ABSTRACT (REQUIRED):

Method to Quantify Traction Applied to the Retina Using Vitreous Cutters During Vitrectomy

Anderson Teixeira, Lawrence Chong Naoki Matsuoka, Luis Arana, Mark Humayun, Rubens Belfort

Purpose: To report a efficient and reproductible method to quantify traction applied to the retina using vitreous cutters during vitrectomy
Methods: Five separate cutters for each drive mechanisms and gauge (20-, 23- and 25-gauge pneumatic and 20- and 25-gauge electric) were used for each cut speed at predetermined distance (3 and 5mm), aspiration rate. The choroid and retina layer of porcine eyes were transfixed with 0.15-mm stainless steel microwire hook and the distal part of the wire was fixed to the load cell of a strain gauge. The vitrector to be assessed was introduced into the superior part of the eye with a micromanipulator at 45-degree angle adjacent to the retina. Accepted level of significance for all tests was $p<0.05$
Results: In all tests, it was possible to identify alterations in the graphic amplitude. The 20-ga, 23-ga and 25-gauge pneumatic cutters have a respective traction range from 2.06 to 37.22 dynes; 3.85 to 15.38 dynes and 5.13 to 27.91 dynes. The 20-ga and 25-gauge electric cutters have a respective traction of 3.60 to 41.78 and 5.28 to 27.91 dynes. Increase of 100mmHg of vacuum/aspiration the traction increased a range of 7.89 to 3.14 dynes depending of the caliber and drive mechanism of the cutter ($P < 0.001$). The traction decreased as the cut rate was increase a range of 5.71 to 2.51 dynes depending of the caliber and drive mechanism of the cutter ($P < 0.001$). As close the cutters are from the retina higher is the traction ($P < 0.001$).
Conclusion: The results indicate that retinal traction increased with increasing aspiration vacuum and proximity to the retina; conversely, retinal traction decreased with increasing cut rate

Keywords Pars Plana Vitrectomy, Vitreousretinal traction, Retina, Vitreous, Vitreous Cutter, Traction

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Andréa Lima Barbosa

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Last Name: Barbosa
First Name: Andréa
Middle:Lima

Service (Sector): Retina and Vitreous

CEP Number: 0335/06

MORPHOLOGICAL CHANGES AND VISUAL FUNCTIONAL CORRELATION IN AGE-RELATED MACULAR DEGENERATION

Andréa Lima Barbosa, MD; Augusto Paranhos Júnior, MD; Pedro Paulo Bonomo, MD; Nilva Moraes, MD.

PURPOSE: The main cause for visual loss in age-related macular degeneration (AMD) is the development of choroidal neovascularization (CNV), which has been shown to occur in 18% of patients over 5 years. Despite advances in diagnoses and treatment of this disease, the injury still irreversible as well as the visual acuity improvement is limited in the majority of cases. Early detection is the key to preservation of functional vision. The Amnsler grid is commonly used for monitoring patients at home to try to detect CNV in an eye at risk. However, it previously has been shown to be an unreliable tool for diagnosing central visual field defects in patients with AMD. To establish more accurate techniques of measuring visual function, we propose to compare anatomic findings on fundus photography, Optical Coherence Tomography (OCT), infrared and autofluorescence images with ganglion cells subpopulation tests. METHODS: All subjects had early AMD (drusen and pigmentary changes). Patients underwent a comprehensive ophthalmologic examination, including the measurement of best-corrected visual acuity, non contact lens slit-lamp biomicroscopy and fundus photography. Autofluorescence image was performed using a confocal laser scanning system. They also underwent standard OCT. Perimetry tests were performed in the central visual field using Standard Automated Perimetry (SAP), Short Wavelength Automated Perimetry (SWAP), Matrix Frequency Doubling Technology (FDT-matrix) and Preferential Hyperacuity Perimeter (PHP). Comparisons were made between photography tests and perimetry tests results. RESULTS: As results we describe twenty eight eyes of 23 patients with early AMD and the results of their tests. CONCLUSION: The FDT, SAP and SWAP results were not significantly correlated with the anatomic alterations in fundus photography or OCT. The results of PHP were of weak statistical signification with OCT macular volume and fundus alterations.

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Furlani
First Name: Bruno
Middle: Albuquerque

Service (Sector): Retina and Vitreous (RE)

CEP Number: **0128/08**

5. ABSTRACT (REQUIRED):

Title: Assessment of toxicity derived from osmolality of intravitreally injected solutions in rabbits

Author and Co-authors (maximum 6): Furlani BA, Moraes Fº M, Maia M, Penha FM, Rodrigues EB, Farah ME.

Purpose To evaluate the toxic effects resulting from intravitreal injection of high-osmolar solutions in rabbits
Methods Experimental in vivo study. Nine Dutch-belted female rabbits will be randomly divided in three groups, with 3 animals each: control group (C1), Mannitol 10% (M10) and Mannitol 20% (M20). One day before the injection, baseline ERG recordings will be obtained from all animals. Then, after careful anesthetic procedure, anterior chamber paracentesis using a 30-gauge needle to remove 0.1mL of aqueous humor will be executed. Afterward, 0.2mL of either Balanced Salt Solution (BSS), Mannitol 10% or Mannitol 20% solution will be injected intravitreally through a *pars plana* puncture. The follow-up protocol includes 24-hour post-procedure ERG recordings as well as fluorescein angiography and fundus photographs. Fourteen days later the ERG recordings will be collected again, and the rabbits will be sacrificed by intravenous pentobarbital injection. The eyes will be enucleated, fixed in 10% formaldehyde and sent to light microscopy.
Results The study protocol is under execution and data is being collected at the moment.
Conclusion Different dilution methods are applied to many dyes in vitreoretinal surgery. Toxicity may be related to the solution and not to the dye itself. Osmolarity and pH are important factors to be considered. Mannitol has proved to be a safe alternative to hypertonic glucose solutions in in-vitro studies. Future analysis of this study's results will provide better understanding of this role.

Keywords
Toxicity, osmolarity, mannitol, retina

Abstract Form

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Last Name: Yanai
First Name: Douglas
Middle:

Service (e.g. Glaucoma): Retina

CEP Number: 1474/05

Optical Coherence Tomography in Retinitis Pigmentosa Patients Study – 5 years follow up

Douglas Yanai, Juliana M. F. Sallum, Eduardo Dib, Adriana Berezovsky, Maurício Maia, Michel E. Farah
Department of Ophthalmology – UNIFESP/EPM

Purpose: To study OCT findings (compare and correlate retinal nervous fiber layer-RNFL and retinal thickness) in retinitis pigmentosa (RP) patients with 5 years follow up.
Methods: This study was approved by the UNIFESP medical research ethical committee. Twenty nine RP eyes were examined. OCT (Fast RNFL Thickness Scan 3,4mm protocol) scans, complete eye exam and electrophysiological tests (full-field electroretinogram and dark adaptation threshold test) were performed. After five years, seven eyes were reexamined with OCT. The OCT scans were analyzed manually using the caliper under the RNFL thickness single eye protocol. Statistical analysis was performed.
Results: The electroretinogram confirmed RP diagnosis in the studied patients. There was a reverse correlation between visual acuity and retinal thickness in the temporal quadrant, and this correlation was stronger when considering RP eyes with visual acuity better than 20/800 ($r=0.64$; $p<0.001$). The five years follow up showed that retinal thickness increases over time in the temporal quadrant and also increases when considering the nasal and superior quadrant and the general mean.
Conclusions: RP eyes showed thicker retina as the visual acuity decreases. Also the retina becomes thicker over time when considering a five years follow up. Both data support the hypothesis that as the degeneration progresses and becomes more severe the retina becomes thicker.

Keywords: Retinitis pigmentosa; Optical Coherence Tomography; retinal degeneration

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Rodrigues
First Name: Eduardo
Middle: Buchele

Service (e.g. Glaucoma): **Retina**

CEP Number: 1489/09

5. ABSTRACT (REQUIRED):

Title: Leonardo da Vinci: science, art and ophthalmology

Author and Co-authors: Eduardo B. Rodrigues, Rafael A. Oechsler, Eduardo Kickhofel, Alfonso Iovieno, Michel E. Farah, Denise de Freitas

Purpose: To investigate the work by Leonardo da Vinci on vision and ophthalmology.
Methods: An extensive search in the Biblioteca Leonardiana in the city of Vinci-Italy, on Pubmed, as well as medical and history books was conducted. Relevant data on various factors such as the life of Leonardo da Vinci, his scientific spirit, his contributions as anatomist as well as in the perception of colors, light and perspective were investigated. Concerning the eye, the study evaluated his work about: stereoscopic vision, experiments with eye globe, optics and vision physiology, the camera obscura, inversion of images, iris and pupil function, visual field, presbiopia, and contact lens.
Results: Leonardo founded a new method of scientific study: the systematic, descriptive method of the natural sciences. The documents of his scientific work are the notebooks, among the most valuable documents in the world. da Vinci believed the eye was a geometrical body, comprised of two concentric spheres. the "albugineous sphere" and the inner "crystalline sphere. He found that at the back of the eye there was an opening into the optic nerve by which images were sent to the imprensiva in the brain. He suggested that the lens magnified an image. Leonardo developed curious methods for globe fixation, used egg white to obtain a block for sectioning. Leonardo realized that the eye and its pupil operated like a camera, in that images were reversed and inverted when they entered the eye. Despite the fact that dilation of pupil had been noted in Greek antiquity, Leonardo gave fuller description of the pupila variation in size, but also properly understood the cause as the intensity of light.
Conclusion: Leonardo da Vinci conducted experiments and thoughts in regard to various aspects including the eye, as the conception of light, the eye as a sensitive organ, the camera obscura, the mode of inversion of the image inside the eye, peripheral vision and the macula, the function of the iris and pupil, as well as theories of presbyopia and contact lenses.

Keywords: Leonardo da Vinci, history of Ophthalmology, camera obscura, eye anatomy.

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Elaine Costa

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Last Name: Costa
First Name: Elaine
Middle: Fiod

Service (Sector): Retina and Vitreous

CEP Number: 1038/06

5. ABSTRACT (REQUIRED):

Title: **Light sources and vital dyes interaction in ARPE cells**

Authors: Elaine de Paula Fiod Costa, Eduardo B Rodrigues, Fernando M Penha, Eduardo Dib, Mauricio Maia, Michel E Farah

Purpose - To investigate the in vitro interaction between six vital dyes and two light sources for vitreoretinal surgery.
Methods – Six dyes – indocyanine green (ICG), trypan blue (TB), brilliant blue (BriB), bromophenol blue (BroB), fast green (FG), indigo carmine (IC)– were diluted in balanced saline solution in 3 concentrations (0.5; 0.05; 0.005mg/ml). Two light sources: xenon light (Alcon Xenon) and mercury vapor light (Photon2) were tested in two different distances from the ARPE cells (10 and 20mm). All dyes solutions were exposed to both light sources. The toxicity was evaluated with MTT assay.
Results –Spectrophometric analysis showed that all dyes except ICG had remarkable spectral overlap with the light sources. The dye-light interaction effects in ARPE cells are being tested.
Conclusions - Vital dyes showed variable toxicity depended on the concentration used. Interaction of light from endoillumination source and vital dye may increase or decrease the risk of toxicity, making appropriate selection of both a desirable way to minimize the risk of phototoxic effects.

Keywords: chromovitrectomy, vital dyes, fiberoptics

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Gabriela Unchalo Eckert

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Abstract should contain:
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( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Eckert
First Name: Gabriela
Middle: Unchalo

Service: **RETINA AND VITREOUS**

CEP Number:

Development of a score in order to predict retinopathy of prematurity (ROP) in very low birth weight preterm infants

Gabriela Unchalo Eckert, João Borges Fortes Filho, Maurício Maia

Introduction: In order to detect a single case of ROP needing treatment, it is necessary to perform many ophthalmic examinations in most of the babies. We intend to create a score of cumulative risk factors for ROP by the 6th week of life in order to predict latter occurrence of any stage of ROP or severe ROP among very low birth weight (VLBW) preterm infants and, in this way, reducing the number of ophthalmological examination of the VLBW in the group of risk for ROP.
Methods: A prospective cohort study including infants weighing ? 1,500 grams and/or gestational age (GA) ? 32 weeks at birth was conducted. The score was established based in the birth weight (BW), GA at birth, weight gain (WG) proportion from birth to the 6th week of life (defined as the birth at completed 6 weeks of life minus the BW with the result being divided by the BW), use of oxygen therapy under mechanical ventilation, and necessity of blood transfusion after birth until the 6th week of life. The scoring system was created from a linear regression considering the impact of each variable for any stage of ROP and for severe ROP. The receiver operating characteristic (ROC) curves were used to determine the best discriminative values of sensibility and specificity for all of the continuous values of the score. The selected variables were entered in an Excel (Microsoft®) table for practical use by ophthalmologists during the screening sessions to detect ROP.
Results: Were included in this study a total of 487 VLBW babies. The area under the ROC curve of the score, in order to predict any stage or severe ROP (a measure of the accuracy), in our cohort were 0.77 (P<0.001; 95%CI: 0.72-0.82) and 0.87 (P<0.001; 95%CI: 0.81-0.93), respectively. This was significantly greater for the score than for BW (0.71; P<0.001; 95%CI: 0.65-0.76) and GA (0.69; P<0.001; 95%CI: 0.63-0.75) alone.
Conclusions: The score is a robust index of initial neonatal risk factors for ROP easy to registry that is more accurate than BW and GA to predict any stage of ROP and severe ROP among VLBW preterm infants. It is simple enough for routine use among ophthalmologists during the screening sessions to detect ROP.

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( ) PG0 (X) PG1 ( ) Fellow ( ) Technician

Last Name: Melo
First Name: Gustavo
Middle: Barreto

Service (e.g. Glaucoma): Retina

CEP Number: 1422/06

5. ABSTRACT (REQUIRED):

Real-Time PCR for the diagnosis of bacterial endophthalmitis

Gustavo Barreto Melo, Paulo José Martins Bispo, Antonio Carlos Campos Pignatari, Ana Luisa Höfling-Lima

Purpose: To determine the usefulness of the real PCR assays in the diagnosis of bacterial endophthalmitis in clinically diagnosed infectious cases.
Methods: Twenty-three patients with clinically diagnosed infectious endophthalmitis (19 vitreous and 16 aqueous samples) from different sources were included as well as 12 vitreous and 50 aqueous samples from control subjects at a single-university setting. Universal and Gram-specific real time PCR, Gram staining, and culture were carried out. Sensitivity, specificity, predictive values, cycle thresholds (Ct) were determined. Clinical and microbiological data were also assessed.
Results: Conventional microbiology (Gram + culture) was able to identify 68% of vitreous samples, 50% of aqueous samples (50%) and 61% of the patients with infectious endophthalmitis. Real time PCR assays was positive in 82% of the vitreous samples and in 100% of the aqueous samples. It was able to diagnose infectious endophthalmitis in 86% of the patients. PCR specificity was 100% for the vitreous and 96% for the aqueous samples. Positive and negative predictive values of PCR were 93% and 95%, respectively, for all samples together. A cutoff value of the Ct was of 37 for universal PCR, 36 for Gram-positive and 35 for Gram-negative bacteria. Gram-positive microorganisms prevailed and visual acuity varied according to the origin of the infection.
Conclusions: Real-time PCR is a fast and accurate diagnostic tool for the diagnosis of bacterial endophthalmitis. Being also a quantitative technique, it may allow for a new and unique application: distinction between contamination and infection from the Ct values.

Keywords: Polymerase chain reaction; endophthalmitis; conventional microbiology; sensitivity

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Last Name: MATIELI
First Name: LICIA
Middle: VAGO

Service (Sector): RETINA

CEP Number: 1134/07

5. ABSTRACT (REQUIRED):

DIAGNOSIS CORRELATION BETWEEN DIGITAL IMAGING SCREENING (RETCAM) AND CLINICAL EXAMINATION IN RETINOPATHY OF PREMATURITY

LICIA MATIELI, MICHELE SOARES, NILVA MORAES

PURPOSE: To compare the diagnostic accuracy of Digital Retinal Imaging Screening (RETCAM) to the current 'gold standard' of binocular indirect ophthalmoscopy (BIO) for Retinopathy of Prematurity (ROP) screening examinations.

MATERIAL AND METHODS: A consecutive series of premature infants undergoing ROP screening at Retina Sector of Department of Ophthalmology - UNIFESP were eligible for recruitment into this prospective, randomized, comparative study. Infants were screened using both Retcam and BIO by two ophthalmologists who were randomized to the examination technique. Both examiners documented their clinical findings and management plans in a masked fashion. RETCAM eye findings were compared to those of BIO.

RESULTS: A total of 113 infants were recruited, and information from 172 eye examinations was analyzed. The sensitivity of RETCAM in detecting early stage of ROP was poor, but for the stage 3 ROP and 'plus' disease was better.

CONCLUSION: When used in a routine ROP screening setting, a randomized comparison of RETCAM and BIO, RETCAM showed relatively poor sensitivity in detecting mild forms of ROP in the retinal periphery. This resulted in difficulty in making decisions to discharge infants from the screening program. Sensitivity was better for more severe forms of ROP.

KEYWORDS: RETCAM, Retinopathy of prematurity

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_LuizH.
Lima_____

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Last Name: Lima
First Name: Luiz Henrique
Middle: Soares Goncalves

Service (e.g. Glaucoma): Retina

CEP Number:

5. ABSTRACT (REQUIRED):

Three Major Loci Involved in Age-Related Macular Degeneration are also Associated with Polypoidal Choroidal Vasculopathy

Author and co-authors: Luiz H. Lima, K. Bailey Freund, Richard F. Spaide, Lawrence A. Yannuzzi, Rando Allikmets.

Purpose: To investigate the frequency of variants in three major age-related macular degeneration (AMD)-associated loci in patients with polypoidal choroidal vasculopathy (PCV) of European-American descent.
Methods: Fifty-five patients with PCV, 368 patients with advanced AMD and 368 age- and ethnically-matched unaffected controls of European-American descent were analyzed. Association analysis of allele and genotype frequencies, determined by TaqMan assays, was performed for the following haplotype-tagging single nucleotide polymorphisms (htSNPs): risk alleles in the complement factor H (*CFH*) gene (Y402H and IVS14) in the *ARMS2/HTRA1* locus on 10q26 (A69S) and protective alleles in *CFH* (IVS1 and IVS6) and in the complement factor B/complement component C2 (*CFB/C2*) locus (IVS10 and H9L).
Results: Four AMD-associated haplotype-tagging alleles (rs547154, rs1061170, rs1410996, rs10490924) in the three major loci, *CFH, CFB/C2* and *ARMS2/HTRA1*, were statistically significantly associated also with the PCV phenotype ($P<0.05$). Three other alleles from the same loci (rs4151667, rs529825, rs3766404) showed a trend towards association ($P<0.2$), but did not reach statistical significance possibly because of the combined effects of a relatively small sample size and low minor allele frequency in the screened populations.
Conclusion: The PCV phenotype in Caucasian patients is associated with the major alleles/genotypes in the AMD-associated loci, suggesting that PCV and AMD are genetically similar diseases.

Keywords: Age-related macular degeneration; genetics; haplotype-tagged SNPs; polypoidal choroidal vasculopathy.

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Verônica Franco de Castro Lima
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Last Name: de Castro Lima
First Name: Verônica
Middle: Franco

Service: Retina and Vitreous (RE)

CEP Number: 1289/09

5. ABSTRACT (REQUIRED):

Macular Pigment Optical Density Correlates with HbA1C Levels in Diabetic and Non-Diabetic Patients

Author and Co-authors: Verônica Castro Lima MD, Richard B Rosen MD, Mauricio Maia MD, Tiago Santos Prata MD, Syril Dorairaj MD, Juliana Sallum MD

Macular pigment consists of dietary carotenoids that function as antioxidants in the human retina. Reduction on retinal oxidative damage with carotenoids reposition was demonstrated in diabetic models.

Purpose: To determine whether macular pigment optical density (MPOD) values measured by dual wavelength autofluorescence imaging correlates with HbA1C levels.

Methods: Patients included in this study were divided into 3 groups [1 (non-diabetic, n=14), 2 (diabetic without retinopathy, n=17) and 3 (mild retinopathy without macular edema, n=12)] and underwent MPOD analysis. If both eyes were eligible, one was selected randomly.

Results: Groups had similar age (p=0.32). Mean MPOD values significantly differed between groups 1 (0.29±0.07 DU), 2 (0.22±0.09 DU) and 3 (0.14±0.05 DU; p<0.001). A significant negative correlation was found between MPOD and HbA1C levels (r^2=0.39, p<0.001).

Conclusions: Diabetic patients with and without retinopathy have reduced MPOD levels. These findings suggest that reduced concentration of macular pigment in diabetic patients could be in part explained by their poor glycemic control.

Keywords: macular pigment; type 2 diabetes; diabetic retinopathy; autofluorescence imaging; HbA1C

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Last Name: Martins
First Name: Diogo
Middle: Sousa

Service (e.g. Glaucoma): Retina

CEP Number: 0589/10

5. ABSTRACT:

THE USE OF LUTEIN AND ZEAXANTHIN AS A SAFE AND EFFICACIOUS DYE FOR THE VISUALIZATION OF THE EPIRETINAL MEMBRANE, INTERNAL LIMITING MEMBRANE AND VITREOUS

Sousa-Martins, D., Belfort Junior, R., Maia, M., Lima Filho, A. A. S., RODRIGUES, E. B., Moraes Filho, M. N

Purpose – To evaluate the use of a solution of Lutein and Zeaxanthin as a safe and efficacious dye of the epiretinal and internal limiting membranes as well as vitreous, with the ultimate goal of allowing the surgeon to easily identify the intraocular microstructures during chromovitrectomy.

Methods – After the development of the dye solution using pharmaceutical technology, the project involves an assessment of the adhesion, tropism and overall efficacy of the dye in a cadaver eye model followed by a toxicological study in an animal model (rabbits).

Results – A solution of Lutein/Zeaxanthin 5% was produced and its dye properties were tested in agar Petri dishes before ocular injection. A clear orange color was formed and adhesion to Agar proteins was adequate. The injection of this solution in 3 cadaver eyes caused a granular deposit in posterior vitreous. After removal of posterior hyaloid and re-injection of the 5% Lutein/Zeaxanthin solution, color difference is not enough to clearly discriminate internal limiting membrane during peeling.

Conclusion – At a 5% concentration, the Lutein/Zeaxanthin solution did not provide a clear visualization of the internal limiting membrane in cadaver eyes. Higher concentrations of Lutein/Zeaxanthin solutions will be produced and tested for superior results. New combinations of dyes with lutein will also be used so resulting color provides an easy visualization during chromovitrectomy.

Keywords
Lutein; Zeaxanthin; Internal limiting membrane; Chromovitrectomy.

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Last Name: OLIVEIRA NETO
First Name: HERMELINO
Middle: LOPES DE

Service (Sector): RETINA AND VITREOUS

CEP Number: 0108/08

Title: **A Randomized Trial to Compare the Efficacy and Safety of Intravitreal injection of Triamcinolone Acetonide and Bevacizumab separated and combined for Diabetic Macular Edema.**

Author and Co-authors: HL Oliveira Neto, MD; RE Andrade, MD; C Muccioli, MD; M Casella, MD; M Ferreira, MD; AC Branco, MD; MJ Nobrega, MD; ME Farah, MD; R Belfort Jr, MD

Purpose: To evaluate the efficacy and safety of Intravitreal Triamcinolone and Bevacizumab in separate and combined for Macular Edema due to Diabetic Retinopathy (DR).
Methods: Multicenter clinical study with randomized injection of 0,05ml (1.25 mg) of bevacizumab (AVA group); 0,1 ml (4mg) of triamcinolone acetonide (TAAC group); and the association of both drugs with the same concentration (AVA+TAAC group). Patients were randomized 1:1:1 to monthly injection for 6 months. The following parameters were evaluated monthly: best corrected visual acuity, slit lamp biomicroscopy, intraocular pressure (IOP), as well as the fovea thickness using optical coherence tomography (OCT). Patients were eligible for enrollment if they presented diabetic macular edema, best corrected visual acuity between 20/400 to 20/40 and central subfield macular thickness ? 275µm by OCT. Patients were excluded if had prior proliferative diabetic retinopathy or laser photocoagulation or injection of intraocular corticosteroid or anti-VEGF therapy in the previous 3 months. Primary end points evaluated were visual acuity, central subfield thickness by OCT and IOP. Failure was determined by the indication to laser treatment.
Results: Until July/2010, were injected and completed chips of 120 patients, 58 completed cases (48.3%), in progress, 38 cases (31.7%) and excluded 24 cases (20.0%)
Of the 58 cases completed, the groups were examined: 20 (34.5%) patients in the AVA group and 15 patients each in groups TAAC (32.8%) and AVA + TAAC (32.8%).
Regarding age, had a mean age of 61 years, and was slightly higher in the AVA + TAAC (63.1 years), followed by the AVA group (61.4 years) and TAAC (58.4 years).
Visual acuity converted to logMAR curve revealed similarities in the groups and AVA + TAAC TAAC, but all groups had improvement in vision at the end of the study.
The difference between these results was statistically insignificant.
The behavior of intraocular pressure (IOP) was similar in the AVA and AVA + TAAC TAAC and increased in the group, as expected in literature.
The increase in IOP was the most frequent cause of exclusion of patients recruited in our study.
The analysis of the central retinal macular thickness measured by OCT (Optical Coherence Tomography) revealed reduction in the groups analyzed and AVA TAAC and increase in group AVA + TAAC. The difference between these results was statistically insignificant. No systemic reactions were observed in the groups.
Conclusion: All groups provide short-term improvement in visual acuity and decreased diabetic macular edema after 3 injections, but at this point of the study showed no difference between the 3 groups. This tends to show that the different types of treatment would bring similar results and present evidences against the use of steroids because of its complications. The trial is under way still in the follow up phase and other results will be reported in near future.

Keywords: Intravitreal injection, Triamcinolone, bevacizumab, Macular Edema, Diabetic Retinopathy

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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
(X) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Machado
First Name: Leonardo
Middle: Martins

Service (e.g. Glaucoma): Retina & Vitreous

CEP Number: 0197/10

5. ABSTRACT (REQUIRED):

Title: Comparison of 20-, 23- and 25-gauge air infusion forces

Author and Co-authors: Leonardo M. Machado, Octaviano Magalhães Jr., Mauricio Maia, Eduardo B. Rodrigues, Michel Eid Farah, Kamal A. R. Ismail

Purpose: To determine and compare 20-, 23- and 25-gauge retinal infusion air jet impact pressure (force per area unit) in an experimental setting.
Methods: Design - Experimental laboratory investigation. Methods - Infusion cannulas were connected to a compressed air system. A controlled valve mechanism was used to obtain increasing levels of infusion pressure. Each infusion tube was positioned in front of a manual transducer to measure force. Impact pressure was calculated using known formulas in fluid dynamics.
Results: The 20-gauge infusion jet showed similar impact pressure values compared to the 23-gauge. Both showed higher levels than the 25-gauge. This was due to the smaller jet force for the 25-gauge system.
Conclusion: In this experimental study, both the 23- and 20- gauge air infusion jet showed higher impact pressure values compared to the 25-gauge. This could be of concern regarding air infusion during 23-gauge vitrectomy, since retinal damage has been shown in standard gauge surgeries.

Keywords:

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(X) PG0	( ) PG1	( ) Fellow	( ) Technician

Last Name: BRASIL
First Name: OSWALDO
Middle: FERREIRA MOURA

Service: RETINA

CEP Number:

5. ABSTRACT (REQUIRED):

Outcomes of idiopathic macular hole surgery with internal limiting membrane peeling using brilliant blue staining

Brasil OF, Turchetti R, Brasil OM, Maia M

Purpose: To analyze the results of primary surgery for idiopathic macular holes with internal limiting membrane (ILM) peeling using brilliant blue staining.

Methods: We retrospectively reviewed primary surgeries for idiopathic macular hole with ILM peeling using brilliant blue staining performed from January 2010 to June 2010. Surgeries consisted of 23 gauge transconjunctival sutureless pars plana vitrectomy, posterior hyaloid removal, ILM peeling using brilliant blue staining, fluid-air exchange and C3F8 12.5% tamponade. Patients were required to maintain face-down position for 7 days. Follow-up visits were scheduled at 1, 7, 30 and 90 days after surgery. Snellen visual acuities were converted lo logMAR units to create a linear scale of visual acuity. Post-operative visual acuity and macular hole status were determined 90 days after surgery. Main outcome measures were visual improvement and macular hole closure.

Results: We analyzed 20 consecutive primary surgeries for idiopathic macular hole. Male to female ratio was 1:4. Average age was 65 years. Mean pre-operative visual acuity was 0.94±0.37 logMAR units (20/174 Snellen). Mean post-operative visual acuity was 0.53±0.38 logMAR units (20/68 Snellen). 95% (19/20) of the holes were closed. Visual improvement was present in all but 1 one case (same case who failed to close) and was statistically significant (P<0.001).

Conclusion: Vitrectomy with brilliant blue assisted ILM peeling led to visual improvement and macular hole closure in the majority of cases. Brilliant blue was safe and effective to facilitate ILM peeling.

Keywords: Chromovitrectomy, Brilliant Blue, Macular Hole

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Last Name: Nunes
First Name: Renata
Middle: Portella

Service (e.g. Glaucoma): **Retina**

CEP Number: **0345/10**

5. ABSTRACT:

A study on the cost-effectiveness on the anti-VEGF treatments for age-related macular degeneration

Author and Co-authors: Renata Portella Nunes, Michel Eid Farah, Rubens Belfort Jr, Huang Sheau Jiun, Eduardo Buchele Rodrigues, Flavio Eduardo Hirai, Octaviano Magalhães Jr., Solange Rios Salomão, Fernando Marcondes Penha, Mauricio Maia, Ieda Maria Longo Maugeri

Purpose: To study the efficacy and cost-effectiveness of treatments with ranibizumab and bevacizumab against exudative age-related macular degeneration (AMD).
Methods: The study is composed by a systematic review of the literature and a prospective randomized clinical trial to compare the efficacy of ranibizumab and bevacizumab for therapy against wet-AMD. A meta-analysis was performed matching terms related to the topic in the Pubmed. Forty-five patients with exudative AMD will be allocated in three groups for an intensive three months therapy: monthly 0.5mg ranibizumab injection, monthly 1.25mg bevacizumab injection, and every-two-weeks 1.25mg bevacizumab injection. Afterwards, the patients will be followed with visual acuity based on the ETDRS, optical coherence tomography, fluorescein angiography, eletrophysiology, and microperimetry for one-year. The patients that present neovascular activity signs will receive additional injections.
Results: Our meta-analysis found 14 prospective clinical trials regarding ranibizumab and/or bevacizumab for wet-AMD. Safety data showed no cause-effect relationship with either drugs and serious adverse effects in the literature. Both vision improvement has been achieved with both ranibizumab and bevacizumab. To date, eigth patients included in the trial experienced average 0,66 and 3,33 lines vision improvement after monthly and every-two-weeks bevacizumab therapy, respectively. One patient died after initiation in the trial.
Conclusion: The efficacy of bevacizumab may be comparable to ranibizumab in the therapy of exudative AMD. Bevacizumab can be 10 to 30 times lower costing than ranibizumab.

Keywords: Age-related Macular Degeneration, Lucentis, Avastin, Cost-effectiveness, intravitreal injection.

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Last Name: Stefanini
First Name: Francisco
Middle: Rosa

Service (e.g. Glaucoma): Refractive Surgery

CEP Number:

5. ABSTRACT (REQUIRED):

Initial Experience in Femtosecond Laser for Flap Creation During LASIK

Author and Co-authors: Francisco Stefanini, Lilian Espirito Santo, João Baptista Malta, Mariana Ávila, Edvaldo Sotter de Figueiroa, Mauro Campos

Purpose: To evaluate the surgical results and possible complications using femtosecond laser for flap creation during LASIK in order to describe relevant information about the learning curve in performing this new surgical technique.

Methods: A retrospective review was performed to determine UCVA and BCVA, cycloplegic refraction, coma, spherical aberration and high order root mean square (RMS) in preoperative time and postoperative time, in the first, third and sixth month after the procedure. Was also determined the pachymetry preoperatively and six months after. The diameter of the flap, edema and inflammation signs were observed in early postoperative. The data were submitted to descriptive statistical analyse.

Results: in progress

Conclusion: in progress

Keywords

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__Amanda Correia da Paz_____

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Paz
First Name: Amanda
Middle: Correia da

Service (e.g. Glaucoma): REFRACTIVE SURGERY

CEP Number:1571/10

5. ABSTRACT (REQUIRED):

Title: **Second Harmonic Generation for Tridimensional Visualizing of Crosslinked Collagen Lamellae in Keratoconic Corneas**

Author and Co-authors: Amanda Paz, Luis Brenner, Paulo Schor, Wallace Chamon

Purpose: To evaluate 3-dimensional collagen reorganization induced by crosslinking in keratoconic corneas by Second Harmonic Generation imaging microscopy.

Introduction: Recently, high-energy, short-pulsed femtosecond lasers have been used to generate signals in a process termed second harmonic generation (SHG). This process is specifically from collagen and can be used to obtain high-resolution images. Using SHG imaging microscopy, we are able to study the 3-dimensional collagen reorganization of crosslinked keratoconic corneas.

Methods: Normal and Keratoconic corneas were obtained from Hospital São Paulo Eye Bank and from a patient submitted to penetrating keratoplasty due to keratoconus respectively. The corneas, normal and keratoconous, were divided in two halves and CXL was performed in only one of each halves. Four different groups were formed: N: normal cornea; NC: normal cross-linked cornea; K: Keratoconus cornea; KC: Keratoconus cross-linked cornea. The corneas were sent to Biophotonic Sector from Physics Department of University of Campinas to be analyzed through second harmonic generation imaging microscopy.

Results: The study is been developed and the corneas are still being analyzed.

Conclusion: Cross-linking increases the formation of intra and interfibrillar bonds between adjacent collagen, thus inducing rearrangement of corneal lamellae. As Second Harmonic generated signal originates three-dimensional images of collagen organization, we expect to be able to describe the rearrangement of the collagen induced by Cross-linking in corneas with and without keratoconus.

Keywords: Second Harmonic Generation, Keratoconus, Corneal Collagen

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Herrerias
First Name: Bruno
Middle: Torres

Service: Refractive surgery

CEP Number: 0645/09

5. ABSTRACT (REQUIRED):

Title: Effect of the applanation with quartz lens in corneal topography of keratoconus and other ectasia with surgical indication of penetrating keratoplasty attached to ultraviolet radiation and instillation of Riboflavin

Author and Co-authors: Herrerias, Bruno Torres; Barbosa, Carolina Pelegrini; Paranhos Jr, Augusto; Schor Paulo; Siqueira, Wallace Chamon Alves de; Teixeira, Sergio Henrique; Castro Neto, Jarbas Caiado; Mori, Edson

Purpose: To evaluate the effect of ultraviolet irradiation combined with instillation of riboflavin (Cross-link) in corneal curvature in human cadaver corneas during applanation contact flat quartz lens.

Methods:
Inclusion criteria: eye bank corneas from discarded for use in transplants (positive tests) that presents integro tissue (epithelial, stromal and endothelial)
Exclusion criteria: scars, opacities, collagen disease, ocular infection
There are two groups. The Group A treated with riboflavin and UV application without flattening and Group B, treated with riboflavin and application of UV corneal flattening using quartz lens. Four eyes will be used for eight A and three for group B.
Regarding the lens of qurtz, it has a thickness of 2mm and a diameter of 14mm. The lens has a lenticule with external diameter of 14mm, 8mm hole and thickness of 0.5 mm.

Results: Using the t-student test to compare the control group with the group using quartz lens, there were no statistically significant difference comparing K1 keratometry before and after cross-linking ($p = 1.055$),as well as K2 keratometry before and after cross-linking ($p = 2.132$) and the difference in astigmatism before and after cross-linking ($p = 0.491$).

Conclusion: We believe that the difference was not statistically significant because of the "n" used in the sample was insufficient. We intend to increase the sample to obtain more reliable results.
Keywords: Cross-link, Córnea, Quartz lens

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Heloisa Nascimento

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Last Name: Nascimento
First Name: Heloisa
Middle: Moraes

Service (e.g. Glaucoma): Cornea

CEP Number: 2096/09

DETECTION OF HERPES SIMPLEX TYPE 1, 2 AND VARICELLA ZOSTER VIRUS IN CORNEAL SCRAPINGS FROM PATIENTS WITH INFECTIOUS KERATITIS BY REAL-TIME POLYMERASE CHAIN REACTION

Heloisa Nascimento, Ana Carolina Cabreira Vieira, Maria Cecília Yu, Paulo José Martins Bispo, Celso Francisco Hernandes Granato, Ana Luisa Hofling-Lima

Infectious keratitis can be caused by a sort of microorganisms from bacterial, fungal, viral, and parasitic origin. Among these agents, the herpes simplex virus types 1 (HSV-1) and 2 (HSV-2), and varicella zoster virus (VZV) remain as important causes of blindness, becoming essential the early diagnosis and prompt initiation of appropriate therapy in order to reduce disease morbidity. In this sense, the real-time polymerase chain reaction (real-time PCR) is considered an important diagnostic method of herpetic eye diseases because of its high sensitivity and relatively rapid processing time. Purpose: to develop a real-time PCR assay to detect HSV-1, HSV-2 and VZV in corneal scrapings from patients who presented clinical suspicion of infectious keratitis. Patients admitted at Ophthalmology Department were enrolled in this study, and the cases clinically diagnosed as infectious keratitis were submitted to the sample collection. Methods: DNA was extracted from samples using a QIAamp DNA Mini Kit and the real-time PCR assay (adapted of Sugita et al., 2008) was carried out with a TaqMan™ universal PCR mix in the ABIPrism® 7500 equipment. Results: Among the 63 patients eligible during the period of study, 32 (50.8%) were males and 31 were females (49.2%) and the mean age was 47 years (8 – 93 years). In the cases of typical herpetic ulceration, 13/15 of samples were positive for HSV-1, corresponding to a positive predictive value of 86.6%. On the other hand, in the cases of typical bacterial ulceration, 9/48 (18.8%) of samples were positive for HSV-1 and 1/48 (2.1%) were positive for VZV. In these cases, 7/10 (70%) presented association with severe ocular or systemic comorbidities. Conclusion: the introduction of the real-time PCR assay represents a valuable tool in the cases of unknown etiology and it can be useful to specialized laboratories for a better understanding of its occurrence in the population.

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Camargo
First Name: Juliana
Middle: Ferreira

Service (e.g. Glaucoma): Cornea and External Disease

CEP Number: 1185/08

5. ABSTRACT (REQUIRED):

Title: M**ydriasis, cataract and glaucoma: special features of *Acanthamoeba* keratitis**

Author and Co-authors (maximum 6): Juliana F. Camargo, Flávio Hirai, Luiz Vieira, Elcio Sato, Fábio Ramos, Annette Foronda, Denise de Freitas

Introduction: *Acanthamoeba* causes a vision-threatening infection of the cornea, mainly in contact lens wearers. In patients with corneal pseudodendrites, radial keratoneuritis, and ring infiltrates, *Acanthamoeba* keratitis (AK) must be considered in the differential diagnosis. Clinically effective treatment of AK includes a combination of a biguanide such as chlorhexidine or polyhexamethylene biguanide (PHMB) and a diamidine such as propamidineor hexamidine. It has been suggested in the literature that cataract and iris atrophy can occur during AK treatment.
Purpose: To review cases of *Acanthamoeba* keratitis followed at the Department of Ophthalmology, UNIFESP, and to estimate the incidence and risk factors for the development of mydriasis, cataract and glaucoma, and associated complications.
Methods: case series of AK patients was examined from 1995 to 2010. Clinical findings, risk factors, and complications were reviewed. Ocular findings after surgical treatment were also described. We collected data on visual acuity, corneal findings (ring infiltrate or radial keratoneuritis), presence of mydriasis, cataract, intraocular pressure, anterior chamber depth, and indication for penetrating keratoplasty or filtering surgery.
Results: We were able to identify 13 patients with mydriasis, cataract, and glaucoma among 370 patients with AK. All patients underwent penetrating keratoplasty, extracapsular lens extraction, posterior chamber intraocular lens insertion, and iridoplasty. Three of them had made filtering surgery to intra ocular pressure control.
Conclusion: *Acanthamoeba* keratitis is a sight-threatening disease and its early diagnosis is mandatory for better prognosis. We described a new set of signs and symptoms related to AK and concluded that need of surgery was a risk factor for a poor disease prognosis.

Keywords: *Acanthamoeba*, cataract, glaucoma, penetrating keratoplasty

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Last Name: Vianna
First Name: Lucas
Middle: Monferrari Monteiro

Service: Cornea and External Disease

CEP Number: 0767/10

5. ABSTRACT:

Title: ***Mansonella ozzardi*** **in the cornea of patients from Coari, Amazonas State, Brazil**

Author and Co-authors: Lucas Monferrari Monteiro Vianna, Marcos Jacob Cohen, Jacob Cohen, Rubens Belfort Jr

Purpose: To detect *Mansonella ozzardi* microfilariae in the cornea of patients with mansonelliasis. **Methods:** According to a protocol approved by the UNIFESP Ethycal Committee, patients from the rural area of the Coari Municipality in the Solimões River, Amazonas State, Brazil, were investigated by a multidisciplinary team (ophthalmologists, dermatologists, general practitioner, microbiologists and parasitologists) that examined them clinically and also assessed for the presence of *Mansonella ozzardi* in the blood by thick blood smear as well as dermatologic and ocular potentially related lesions. Patients were evaluated by slit lamp examination and the ones with corneal lesions were also examined by confocal microscopy of cornea, using the Rostock Cornea Module (RCM) of the Heidelberg Retina Tomograph. Three patients underwent biopsy of the limbal conjunctiva and direct exam for the identification of microfilariae. **Results**: Twenty-four patients with corneal lesions were selected through slit lamp examination for the confocal microscopy of the cornea. The corneal lesions were characterized as nummular peripheral corneal opacities, 0.5 to 1.0 mm in diameter with two patterns of presentation: one with central opacity surrounded by a transparent halo and the other opaque, resembling the standard target pattern of bull's eye maculopathy (Bodo's eye). The other pattern constituted of a small translucent central area with opaque halo (Pacu's eye). In all cases there was a normal translucent area between the corneal lesions and abscence of corneal neovascularization. In the confocal corneal microscopy, seven patients had similar findings characterized by increased reflective circular lesions located at the sub-epithelial level, measuring about 80 micra in diameter, in five different patterns, as shown in picture 2. Two patients had filiform lesions ranging from 250 to 300 µm in length and 10 to 15 µm wide, with one dichotomized end into a "C" shape and the other tapered. Thick blood smear of the limbal conjunctiva was performed in one of these two patients and confirmed the microfilaria. Biopsies results are pending as well as PCR analysis. **Conclusion**: The presence of *M. ozzardi* microfilariae in limbal blood vessels was confirmed and through corneal confocal microscopy examination we could describe lesions consistent with the presumed presence of microfilariae in the cornea and not yet described in the literature.

Keywords: Mansonella, microfilaria, keratitis, microscopy, confocal, biopsy.

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Ribeiro
First Name: Maria Flávia
Middle: de Lima

Service (e.g. Glaucoma): Cornea

CEP Number:0508/10

5. ABSTRACT (REQUIRED):

Acanthamoeba **keratitis among contact lenses users: a case control study**

Author and Co-authors (maximum 6) M.F. de Lima Ribeiro, P. Vanalle Ferrari, F. E. Hirai, M.C. Zorat-Yu,F. Ramos de Souza Carvalho, A.L. Hofling-Lima, A. Foronda, D. de Freitas
Brazil - Federal University of Sao Paulo – UNIFESP

Purpose: To investigate risk factors associated with the occurrence of *Acanthamoeb*a keratitis (AK) among contact lenses users.
Methods: Cases were defined as patients with AK confirmed by laboratory tests. Controls were defined as contact lenses users from the same source and having appointments at the same period as cases. Questionnaires were administered to assess risk factors, socioeconomic status, and hygiene compliance. Comparisons were made between cases and controls in univariate and multivariate analyses.
Results: 21 *cases* and 33 controls were included in the analyses. Those individuals having inadequate use of contact lenses, especially the use of tap water and the overnight use had higher chance to develop AK. AK was also related to the inappropriate compliance to contact lenses cleaning processes.
Conclusion: We were able to determine several risk factors related to the occurrence of *Acanthamoeba* keratitis in our population. In face of such a sight-threatening disease, this study alerts to the importance of adequate preventive measures and medical guidance when using contact lenses.

Keywords: *Acanthamoeba*, contact lenses , risk factors

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Last Name: Ferrari
First Name: Pedro
Middle: Vanalle

Service : Córnea and External Disease

CEP Number: 1641/09

Clinical Correlation in *Acanthamoeba* keratitis and Coinfection

Author and Co-authors: Pedro Vanalle Ferrari, Maria Flávia de Lima Ribeiro, Flávio E. Hirai, Ana Luisa Hofling-Lima, Fabio R. S. Carvalho, Annette S. Foronda, Denise de Freitas.

Purpose: To investigate the occurrence of coinfection among patients with positive culture results for *Acanthamoeba* keratitis and its clinical correlation.

Methods: This was a cross-sectional study of records of patients who had diagnosis of *Acanthamoeba* keratitis confirmed by laboratory examination (culture). Results from corneal scrapings from the Ocular Microbiology Laboratory - UNIFESP/EPM from September 1989 to July 2009 were reviewed to determine concurrent bacterial or fungal growth and its clinical correlation.

Results: *Acanthamoeba* keratitis was identified in 266 eyes. Bacteria and fungi were isolated in 96 (36.0 %) and 4 (1.50%) eyes, respectively. Among bacteria, the most common microorganism found was *coagulase-negative Staphylococcus* (61 eyes), followed by *Corynebacterium spp* (11 eyes), *Streptococcus spp* (11 eyes), *Staphylococcus aureus* (4 eyes), and *Pseudomonas spp* (2 eyes). The most common type of fungus was *Candida ssp* (2 eyes). In 69 patients we reviewed their data and analysed the necessity of surgery. Of 32 patients with coinfection, 21(65%) was submitted to corneal transplantation and in 36 patients without coinfection 21(58%) was performed the same surgery - OR 1.36 (0,51-3,65), p=0,53.

Conclusion: The presence of coinfection in patients with *Acanthamoeba* keratitis may be an indicator o worse prognosis.

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Last Name: Prazeres
First Name: Juliana
Middle: Moura Bastos

Service (e.g. Glaucoma): Cornea and External Disease

CEP Number: 1429/10

5. ABSTRACT (REQUIRED):

COMPARATIVE EVALUATION OF CONFOCAL MICROSCOPY AND CULTURE RESULTS IN THE DIAGNOSOS OF ACANTHAMOEBA KERATITIS

Author and Co-authors: Prazeres J; Hirai F; Sakai V; Carvalho FRS; Foronda A; Freitas D

Purpose: To compare the acuracy of confocal microscopy with the results of cornea culture in pacients with clinical diagnosis of infective Keratitis and predisposing risk factors for *Acanthamoeba.*
Methods: This study was a retrospective analysis of records of cases with suspected Acanthamoeba keratitis from the Cornea and External Diseases Service of the Department of Ophthalmology of the Federal University of São Paulo. Individuals who had suspected keratitis and were submitted to both laboratory culture and confocal microscopy for diagnosis were included in the study. Overall agreement and kappa statistic were calculated to assess the agreement between the two diagnostic methods. All analyses were performed with Stata v.11 (College Park, Texas).
Results: Twenty nine individuals has suspected Acanthamoeba keratitis and were submitted to both lab culture and confocal microscopy.
Age: Mean: 34.76 ± 11.66 years; Median: 33.74; Range: 17.4 – 64.1;
Gender: Female: 51.7%; Male: 48.3%; Lab culture: Positive: 51.7%; Negative: 48.3%; Confocal microscopy: Positive: 34.5%; Negative: 51.7%; Inconclusive: 13.8%
Conclusion: The overall agreement of both exams was 68%.
The kappa statistic was 0.35 (moderate agreement between exams).

Keywords: Confocal Microscopy, Acanthamoeba Keratitis.

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Last Name: Ottaiano
First Name: Cláudia
Middle: Asperti

Service : CORNEA AND EXTERNAL DISEASE

CEP Number:

5. ABSTRACT (REQUIRED):

Ocular infections due to pseudomonas resistant to fourth-generation fluoroquinolones

Cláudia Ottaiano, Heloisa Nascimento, Aline Silveira Moriyama,Denise de Freitas, Ana Luisa Höfling-Lima

Purpose: To report the prevalence of fourth-generation fluoroquinolones resistance among *Pseudomonas aeruginosa* isolates from patients with keratitis at the Laboratory of Ocular Microbiology of the Federal University of São Paulo.
Methods: Retrospective review of data from patients with keratitis who had cornea specimen sent to microbiological analysis at the Laboratory of Ocular Microbiology of the Federal University of São Paulo (UNIFESP) during the seven year period between July, 2002 and December, 2009.
Patients whose exams confirmed *P. aeruginosa* were included in the study. Cases with identification of other *Pseudomonas* species or *Pseudomonas* spp were not included.
P. aeuruginosa isolates with resistance to any of the tested fourth-generation fluoroquinolone were selected and evaluated regarding antimicrobial susceptibility profile.
Results: 10 cases (10%) of the one hundred of proven P.Aruginosa culture presented resistance to fourth generation fluoroquinolones. The associated ocular and systemic condition were Contact Lens Wear (2 cases) ,Carcinomatosis (1) ,Sepsis (1), Respiratory Insufficiency (1) , Chemical ocular injury (1), Previous PPV (1), Corneal foreign body removal (1) and 2 cases without any association.
All of these 10 cases were resistant to moxifloxacin and 8 (80%) were resistant to gatifloxacin.
Conclusion: Increasing rates of fourth-generation fluoroquinolones resistance in Brazil were observed after moxifloxacin and gatifloxacin eye drops became commercially available (2004)
Pick prevalence of 46,15% (6 cases) *P. aeruginosa* strains resistant to fourth-generation fluoroquinolones were observed in 2009.
It is the first time *Pseudomonas aeruginosa* resistance to fourth-generation fluoroquinolone is noted in Brazil.
This rates is alarming, with practical implications on empiric treatment to *Pseudomonas* keratits suspects.
Continued microbiological surveillance is essential.

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Last Name: Pimentel
First Name: Luís Guilherme
Middle: Milesi

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 2068/09

5. ABSTRACT (REQUIRED):

Title: **Dry Eye Syndrome Prevalence on Patients With Proliferative Diabetic Retinopathy**

Author and Co-authors (maximum 6): Luis Guilherme Milesi Pimentel, Adriana Rainha Mascia, Igor Rodrigo Lins da Silva, João Crispim Ribeiro, Moacyr Amaral Campos, Patrícia Cabral Zacharias Serapicos, Fernanda Castro de Oliveira, Daniel Meira-Freitas, Angelino Julio Cariello, Ana Luisa Hofling-Lima.

Purpose: To evaluate dry eye syndrome prevalence on patients with Proliferative Diabetic Retinopathy.

Methods: Patients with activity proliferative diabetic retinopathy indicated to laser therapy were invited to answer a dry eye specific questionnaire (Ocular Surface Disease Index – OSDI). The OSDI includes three sub-scales referred to the last week. These are: 1) ocular discomfort, 2) functionality 3) environmental factors. The final score ranges in a scale of 0-100 where the lower score signifies less problems and symptoms. Posteriorly, patients were submitted to the tests: break up time (BUT), Rose Bengal and Shirmer I, with 30 minutes interval between the tests.

Results: The study included 25 patients. The mean age 59,8 ± 11,6 years. The male-to-female ratio was 1.3:1. The mean of diabetes diagnosis time was 17,2 ± 8,7 years. The mean score of OSDI was 49,4. The Schirmer I test presented median results of 13,57 ± 9,78 mm. Values <10 mm was observed in 12 (48,0%) patients. BUT changed results appeared in 21 (84,0%) cases. Rose Bengal score >3 was observed in 12 (48,0%) patients.

Conclusion: Dry eye symptoms and altered results on tear film evaluation tests were frequent in this sample of diabetic patients. The results suggest that diabetes mellitus with microvascular complication may represent a risk factor for developing dry eye syndrome.

Keywords: Dry eye, Diabetic Retinopathy

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Last Name: Souza-Lima
First Name: Rodrigo
Middle: Arantes

Service: (CO) Cornea and External Disease

CEP Number: 1243/09

ABSTRACT

Analysis of corneal permeation of nitric oxide donors in porcine corneas

Author: Souza-Lima RA, Cariello AJ, Bispo PJM, de Souza GFP, Pignatari ACC, de Oliveira MG, Hofling-Lima AL.
Institutions: Federal University of São Paulo (UNIFESP) and State University of Campinas (UNICAMP).

Purpose: To determine the corneal permeation of two nitric oxide (NO) donors, S-nitrosoglutathione (GSNO) and S-nitroso-N-acetylcysteine (SNAC), through freshly isolated pig cornea.
Methods: Ten corneas were excised from porcine eyes for *in vitro* studies and divided in two groups (GSNO and SNAC). Individual cornea was sandwiched between two compartments of a Franz-type diffusion cell. The compartment in contact with the corneal epithelium was filled with nitric oxide donor solution at concentration of 40mM (GSNO or SNAC) and saline solution was placed in the endothelial compartment. Sequential 0.125 ml aliquots were taken every 30 minutes (total of 6 samples) from the two compartments to analyze the permeation rate and to estimate the corneal retention. The concentration of S-nitrosothiols was quantified by absorption spectrophotometry UV/VIS, at absorption band of S-NO bond (336nm). For *ex vivo* test, eighteen intact porcine eyes were divided into three groups: SNAC, GSNO and control groups. Fifty microliters of GSNO (n = 6) or SNAC (n = 6) at a concentration of 40mM were instilled on each eye and every 30 minutes, a sample of aqueous humor (0.3 ml) was collected of one eye (total of six samples). The eyes of the control group received buffer solution (pH 7) and were subjected to the same procedures. The concentration of metabolites of nitric oxide in aqueous humor was estimated by the chemiluminescence method, using the unit NO Analyzer (Sievers) and compared between control and experimental groups.
Results: The study is in progress and data on analysis.
Conclusion: The results of this study would contribute to understand pharmacodynamic and pharmacokinetic parameters of topical ocular use of these compounds.

Keywords: Corneal permeability; S-nitroso-N-acetylcysteine; S-nitrosoglutathione; Nitric oxide donors; Infectious keratitis.

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Tiago Massao Yamanaka

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Last Name: Tiago
First Name: Yamanaka
Middle: Massao

Service: Laboratório de Microbiologia Ocular

CEP Number: 0396/10

5. ABSTRACT

Determination of DNA topoisomerase mutations and biofilm production in moxifloxacin resistant coagulase negative staphylococci isolates

TM Yamanaka, PJM Bispo, ACC Pignatari, MCZ Yu, ME Farah, AL Höfling-Lima

Purpose

To identify coagulase-negative *Staphylococcus* (CNS) resistant to fourth generation fluoroquinolones isolated from the conjunctival after the use of **Moxifloxacin by topical application** and to evaluate biofilm production and mutations in fluoroquinolone determinants resistance genes (*gyr*A and *par*C).

Material and Methods

Thirteen quinolone-resistant CNS isolates from human conjunctiva after the use of **Moxifloxacin by topical application** were identified by the Phoenix automated system. The resistance was confirmed with the minimal inhibitory concentration (MIC) value for Gatifloxacin (GX) and Moxifloxacin (MX) by the E-test method. The isolates were submitted to *gyr*A and *par*C sequencing. Was also analyzed biofilm production by Congo Red Agar method (CRA) and amplification of *ica*A and *ica*D genes by polymerase chain reaction (PCR).

Results

Among the 13 CNS isolate, *S. epidermidis* (38.46%) and *S. hominis* (38.46%) were most frequents. Two isolate was not identified by the Phoenix system. The MIC value for both GX and MX ranged of 2 µg/ml to >32µg/ml. Only one isolate had intermediate MIC value for MX (MIC-1µg/ml). To date, 10 samples were sequenced for the *gyr*A gene and 7 samples for the *par*C gene, and all samples present at least one amino acid change. Among the 13 samples, 6 samples (46.15%) were positive on CRA and were positive also in gene amplification of *ica*A and *ica*D.

Conclusion

The use of topical fluoroquinolone can lead to resistance development by mutations in the target of the antimicrobial action. Microorganisms with biofilm formation capacity are especially difficult for treatment, because that virulence factor can protect the bacterial from antimicrobial therapy.

Keywords: Coagulase-Negative *Staphylococcus*, Fluoroquinolone, Virulence, Resistance.

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1. FIRST (PRESENTING) AUTHOR (REQUIRED):
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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Lima Filho
First Name: Acacio
Middle: Alves de Souza

Service : Institutions: (1) UNIFESP, (2) OPHTHALMOS, (3) UNESP, (4) HOSPITAL DE OLHOS DE ARARAQUARA.(BE. PH. RS. Fármacos e medicamentos-UNESP.Araraquara)
CEP Number:

5. ABSTRACT:

Translational Research: From The Basic Science to Patient Care: Our experience with Nanostructurated Riboflavin in Crosslinking for Keratoconus.

Author : Acácio Alves de Souza Lima Filho (1,2)
Co-Authors: Anselmo Gomes de Oliveira (3), Paulo Schor (1), José Augusto Cardillo (1,4)(PH &RE), Wallace Chamon (1)

Purpose: To describe the flowchart of a Translational Research used in developing a new compound used in Crosslinking for Keratoconus.
Methods: A multidisciplinary group, composed by two pharmacists and three ophthalmologists (one retina specialist and two anterior segment specialists), was initiated by means of brainstorm scientific meetings. Our ideas were discussed openly by the group and, eventually, ended in a new compound that has its temporary patent issued. Our meetings had been carried out in an informal way and started with the discussion of wavelengths and their action in photo activation of different molecules. The initial goal was to enhance activation of Trypan Blue in the anterior chamber through specific wavelength activation. This discussion lead to the difficulties in obtaining crosslinking in cornea stroma due to the hydrophilic characteristics of the Riboflavin molecule and in the slow visual recovery of the procedure that requires corneal desepithelization. Part of the group had studied light activation of Riboflavin through an intact epithelium by means of saturating corneal stroma through the anterior chamber and had the information that epithelium should not act as a barrier to the wavelength used. Therefore, our goal was to obtain a saturated corneal stroma with light-sensitive molecules without removing the epithelium. As the group knew that many different molecules and different light sources had been extensively studied worldwide, a new approach of altering the most used molecule (Riboflavin) was proposed. At this moment the most recent person in the group was invited because his expertise in amphiphilic molecules (A.G.O.).
Results: A nanostructurated compound of Riboflavin associated to Cyclodextrin and Maltdextrin was developed and tested using porcine corneas to evaluate its corneal stromal diffusion through the intact epithelium. Results showed that the new compound had similar diffusion gradients to those observed in corneas exposed to regular riboflavin after their epithelium had been removed. Keeping this research confidential, this compound was, then, patented in Brazil in March of 2010, approximately 18 months after initial discussions. Due to Brazilian participation in international treats, this patent protects the group internationally until one year after it has been issued.
Conclusion: Translational research is doable in Brazil and can lead to patents.
Keywords: Translational Research, Riboflavin, Crosslinking

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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Moacyr Amaral Campos_____

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1. FIRST (PRESENTING) AUTHOR (REQUIRED): Moacyr Amaral Campos
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(X) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Campos
First Name: Moacyr
Middle: Amaral

Service: Emergency Department

CEP Number:

ABSTRACT:

Socioeconomic Profile of patients attending the emergency department of ophthalmology of the São Paulo Hospital

Author and Co-authors (maximum 6): Moacyr Amaral Campos, Marcel Blumer, Elisabeth Nogueira Martins

Purpose: To analyze the socioeconomic profile of patients seen at the ocular emergency room of a tertiary public hospital in São Paulo.

Methods: Cross-sectional study. One hundred patients were interviewed, from September 15th-30th /2010. Patients were randomly selected. A questionnaire was created to collect social, economic, and demographic data. Questions were formulated using definitions proposed by the Brazilian Institute of Epidemiology and Statistics (IBGE). Data regarding the following parameters was collected: gender, age, address, schooling of the major income earner, total family income, access to health insurance (current and past). In order to decrease interviewer-related variability, questionnaires were applied by only by one author (MC). Before participating in the study all patients were informed of its purpose and signed an informed consent.

Results: Data obtained disclosed an even distribution regarding gender (51% of females) and a wide range for age (from 2 to 82 years old). Most patients were from Sao Paulo state, followed by Bahia (7%), Minas Gerais and Paraiba (5%), Pernambuco (4%), Piaui (3%), Alagoas (2%), and Parana (2%). Approximately 1 out of four patients (27%) informed they had had private insurance and 13% stated they were then still covered. Among interviewed patients 54% were living in their own homes, while 46% were either paying a rent or living with relatives. As for schooling of the major income earner, this was the distribution: 6% illiterates. 6% able to read and write only, 26% incomplete primary school, 14% completed primary school, 12%, incomplete high school, a 22% with complete high school, and only 14% reached college (5% did not graduate). Total family income varied as follows: up to 2 minimum wages (46%), from 2 to 4 (39%), from 4 to 10 (11%), and from 10 to 20 (2%).

Conclusion: The socioeconomic profile of interviewed patients showed significant variability regarding all analyzed parameters. This is important because there is no single profile we can apply to this population. Attending physician should be aware of this in order to better adapt his/her approach to better fit the patient´s understanding, especially when dealing with those with poor written communication.

Keywords: Socioeconomic profile, Health insurance, Unified Health System (SUS)

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Castro
First Name: André
Middle: Rodrigues

Service (e.g. Glaucoma): GL

CEP Number: 1614/09

5. ABSTRACT (REQUIRED):

Title: **Posture-induced changes in ocular perfusion pressure in glaucoma patients: A comparison between fistulizing surgery and clinically controlled patients.**

Author and Co-authors (maximum 6): Castro, André R.; Santos, Franklin S.; Freitas, Daniel M.; Prata, Tiago S.; Teixeira, Sérgio H.; Paranhos Jr., Augusto

Purpose: The purpose of this research is to compare the posture-induced changes in the ocular perfusion pressure (OPP) in glaucoma patients treated surgically and clinically as well as to compare the IOP stability proportioned by these 2 modalities of glaucoma treatment.

Methods: three groups were evaluated: (A) controlled glaucomatous patients that had undergone trabeculectomy surgery, in use of no medications; (B) Glaucomatous patients controlled with anti-glaucomatous drugs; (C) control group, with patients that have had the diagnosis of glaucoma ruled out. The patients were asked to remain seated for 10 minutes and then had their baseline IOP measured with the Tono-pen tonometer. The patients then assumed the supine position and once again had their IOP measured with the same tonometer at 5 minutes intervals until the IOP got back to it's baseline levels or reached stability. The IOP values were achieved by the median of at least three acceptable readings of the tono-pen (5%). The arterial pressure was also measured right after each IOP measurement, with sphygmomanometer and stethoscope, in order to calculate the ocular perfusion pressure.

Results: So far, 13 eyes in group A, 20 eyes in group B and 12 eyes in group C. Within groups, the IOP measurements (with Tono-pen) were lower in the trabeculectomy group, in the supine position; within group A, the OPP showed more stability throughout the tests.

Conclusion: This research suggests that trabeculectomy could provide stability in the IOP levels in glaucomatous eyes during the postural change from a sitting/upright position to the supine position. It also suggests that the IOP control might not be satisfactory during supine position in patients controlled with anti-glaucomatous drugs.

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Last Name: Fogaça
First Name: Leonardo
Middle:

Service: Glaucoma

CEP Number: 0812/08

5. ABSTRACT:

Reproducibility of the Retinal Nerve Fiber Layer Thickness Measurements with Optical Coherence Tomography

Leonardo Fogaça, Luciano M. Pinto, Paula B. Gross, Bruno Diniz, Luiz Alberto S. Melo Jr., Augusto Paranhos Jr.

Purpose: To investigate the reproducibility of the peripapillary retinal nerve fiber layer (RNFL) thickness measurements obtained with Time-Domain and Fourier-Domain Optical Coherence Tomography (OCT).

Methods: RNFL thickness measurements with Time-Domain OCT - Stratus (Carl Zeiss Meditec, Dublin, CA, USA) and Fourier-Domain OCTs - Spectralis (Heidelberg Engineering, Germany) and Cirrus (Carl Zeiss Meditec, Dublin, CA, USA) were taken from normal and glaucoma subjects. Three exams were performed with each device on the same day by the same examiner. Three images of each eye for each OCT device were taken consecutively during the same session. Coefficient of variation and intraclass correlation coefficient were used to evaluate the RNFL measurement reproducibility.

Results: A total of 6 healthy individuals (12 eyes) and 30 glaucoma patients (58 eyes) were evaluated. The average thickness was the best reproducible measure in the three OCTs. For the average RNFL thickness, the Cirrus and Spectralis OCTs showed higher intraclass correlation coefficients (0.98 and 1.00, respectively) and lower coefficients of variation (1.7 and 1.4, respectively) than the Stratus (0.97 and 3.7, respectively).

Conclusion: Fourier-domain OCTs demonstrated highly reproducible measurements of the retinal nerve fiber layer thickness, which were better than those provided by the time-domain OCT.

Keywords: retinal nerve fiber layer, optical coherence tomography, reproducibility

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( ) R1 (X) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Barbosa
First Name: Carolina
Middle: Pelegrini

Service (e.g. Glaucoma): Gl, from Glaucoma Service

CEP Number:034/05

5. ABSTRACT (REQUIRED):

FDT MATRIX in schizophrenia. Evaluation for magnocellular pathway dysfunction in schizophrenia and their parents

Author and Co-authors (maximum 6): Carolina P. Barbosa, Fabiana Benites, Andrea C. Kara Jose, Luciano M. Pinto, Rodrigo A. Bressan, Augusto Paranhos Jr.

Purpose: To evaluate the visual pathways deficit in schizophrenia using the frequency doubling technology (FDT- MATRIX) comparing with their relatives and controls.

Methods: A total of 13 patients and 13 relatives and 19 controls were prospectively enrolled. After a complete ophthalmological examination, those with any ocular disease or previous oculars surgery were excluded. Patients were excluded if they had uncontrolled neurological disorder that might affect their performance. All patients and their parents underwent to FDT- MATRIX perimetry after a careful explanation. The test was performed in one session. The MD (mean-deviation) for each eye was used for analysis. Generalized estimated equation was performed to evaluate differences among the groups and to correct the dependency between the eyes.

Results: The mean MD (presented as the mean of both eyes but, for calculation, each eye was considered separately) was significantly lower for schizophrenia group (-4.35 dB ± 0.85) in comparison with their parents (-0.23dB ± 0.63) and for the control group (0.74 dB ± 0.33) ($p<0.01$). There was no significant difference between control group and schizophrenic parents group ($p=0.244$).

Conclusion: There is a lower mean MD with FDT MATRIX for schizophrenia parents comparing with control group but the difference did not reached statistical significance. Schizophrenic patients presented a significant lower MD.

Keywords: Schizophrenia, FDT MATRIX, visual pathways.

Abstract Form

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Gonçalves
First Name: Fabiana
Middle: da Fonte

Service: Glaucoma

CEP Number: 1427/09

5. ABSTRACT (REQUIRED):

EVALUATION OF RETINAL NERVE FIBER LAYER BY SCANNING LASER POLARIMETRY IN NEUROMYELITIS OPTICA AND MULTIPLE SCLEROSIS

Authors: Fabiana da Fonte Gonçalves, M.D., André S. de Camargo, M.D., Eric P. De Andrade, M.D., Luiz Filipe Adami Lucatto, M.D., Denis Bichuetti, M.D., Enedina M.L. De Oliveira, M.D., Luiz Alberto S. Melo Jr, M.D., Ivan M. Tavares, M.D.

Purpose: To determine whether the retinal nerve fiber layer thickness is affected in neuromyelitis optica and multiple scleroris.

Methods: Thirty-five patients (69 eyes) with neuromyelitis optica (Devic's disease) or multiple sclerosis diagnosed according to clinical and neuroimaging criteria with or without a previous episode of optic neuritis were enrolled. The participants underwent ophthalmological examination including visual acuity, refraction, tonometry, and biomicroscopy. The retinal nerve fiber layer was evaluated using scanning laser polarimetry. An NFI index above 50 was considered as indicative of abnormality in the retinal nerve fiber layer thickness.

Results: Fifty-nine eyes were included in the analysis. Ten eyes were excluded due to high ametropia, chorioretinal scar or poor quality scans. Five eyes (8%) presented abnormality in the retinal nerve fiber layer thickness.

Conclusion: The retinal nerve fiber layer thickness is affected in neuromyelitis optica and multiple scleroris and can be used as a biomarker for these conditions.

Keywords: NEUROMYELITIS OPTICA, MULTIPLE SCLEROSIS, BIOMARKER, SCANNING LASER POLARIMETRY, RETINAL NERVE FIBER LAYER

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2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Tsuchiya
First Name: Joyce
Middle:

Service: Glaucoma

CEP Number: 0625/05

5. ABSTRACT (REQUIRED):

Effect of Myopia on the Thickness of the Retinal Nerve Fiber Layer Measured by Cirrus HD Optical Coherence Tomography

Author and Co-authors (maximum 6): Tsuchiya J, Sartori J de F, Mascia AR, Tavares IM

Purpose: To evaluate the effect of myopia on the peripapillary retinal nerve fiber layer (RNFL) thickness measured by Cirrus HD optical coherence tomography (OCT)

Methods: Myopic patients were invited to participate of this study. Through clinical examination comprising visual acuity, slit lamp examination, indirect ophthalmoscopy, refraction, biometry (IOL Master) and Cirrus HD OCT will be performed. Each patients will have one eye randomly selected to be included in this study, and we will obtain three images with Cirrus HD OCT (optic disc cube mode). RNFL thickness measured by Cirrus HD OCT will then be correlated with refraction and biometry.

Results: In progress

Conclusion: Awaiting Results

Keywords: RNFL thickness, Cirrus OCT, Myopia

Abstract Form

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( ) R1 (X) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Sartori
First Name: Juliana
Middle:de Filippi

Service: Glaucoma

CEP Number: 0625/05

5. ABSTRACT (REQUIRED):

Title: Effect of Myopia on the Retinal Nerve Fiber Layer (RNFL) Thickness Measured by Spectralis Optical Coherence Tomography

Author and Co-authors (maximum 6): Sartori J de F ,Tsuchiya J, Mascia AR, Tavares IM

Purpose:To determine the relationship between the peripapillary retinal nerve fibre layer thickness determined by spectral domain optical coherence tomography (SD-OCT) and the refractive error (RE) and axial length (AL)

Methods: 30 eyes of healthy myopic subjects were examined. The ALs were determined by the IOL-Master (Carl Zeiss Meditec Inc, Dublin, California, USA). The thicknesses of the peripappilary retinal nerve fibre layer were measured by Spectralis SD-OCT (Heidelberg Engineering, Heidelberg, Germany). The correlations between the retinal nerve fiber layer thickness and the RE and AL were determined by linear regression analyses.

Results: Thirty eyes of fifteen patients were included. The male:female ratio was 1:1. The mean age was 29,14 +/- 11,9 years (range 19 to 55).Mean spherical equivalent was -2,80D (range -0,5 to -6,00D). Mean axial length was 24,26 +/- 1,84mm (range 21,43 to 26,48mm). The Average RNFL thickness was 90,83 +/- 9,27microm (range 71 to 110 microm)

Conclusions: RNFL measurements vary with the axial length/refractive error of the eye. Analysis of RNFL thickness in the evaluation of glaucoma should always be interpreted with reference to the refractive status. Although the normative database provided by OCT has been helpful in identifying ocular diseases involving the RNFL, it may not be reliable in the analysis of myopic eyes.

Keywords: RNFL thickness, Spectralis OCT, Myopia

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Abstract should contain:
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Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.

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ARVO Abstract Book (1.10 x 1.70m)

1. FIRST (PRESENTING) AUTHOR (REQUIRED):
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( ) R1 (X) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Lucatto
First Name: Luiz Filipe
Middle: Adami

Service: Glaucoma

CEP Number: 1427/09

5. ABSTRACT (REQUIRED):

Title: **EVALUATION OF RETINAL NERVE FIBER LAYER BY OPTICAL COHERENCE TOMOGRAPHY IN NEUROMYELITIS OPTICA AND MULTIPLE SCLEROSIS**

Authors: Luiz Filipe Adami Lucatto, M.D., André S.de Camargo, M.D., Eric P. De Andrade, M.D., Fabiana da Fonte Gonçalves, M.D., Denis Bichuetti, M.D., Enedina M.L. De Oliveira, M.D., Luiz Alberto S. Melo Jr, M.D., Ivan M. Tavares, M.D.

Purpose: To determine whether the retinal nerve fiber layer thickness is affected in neuromyelitis optica and multiple scleroris.

Methods: Thirty-five patients (69 eyes) with neuromyelitis optica (Devic's disease) or multiple sclerosis diagnosed according to clinical and neuroimaging criteria with or without a previous episode of optic neuritis were enrolled. The participants underwent ophthalmological examination including visual acuity, refraction, tonometry, and biomicroscopy. The retinal nerve fiber layer was evaluated using optical coherence tomography. An outside normal limits result in the optical coherence tomography was considered as indicative of abnormality in the retinal nerve fiber layer thickness.

Results: Fifty-one eyes were included in the analysis. Eighteen eyes were excluded due to high ametropia, chorioretinal scar or poor quality scans. Twenty-eight eyes (55%) presented abnormality in the retinal nerve fiber layer thickness.

Conclusion: The retinal nerve fiber layer thickness is affected in neuromyelitis optica and multiple scleroris and can be used as a biomarker for these conditions.

Keywords: NEUROMYELITIS OPTICA, MULTIPLE SCLEROSIS, BIOMARKER, OPTICAL COHERENCE TOMOGRAPHY, RETINAL NERVE FIBER LAYER

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Mascia
First Name: Adriana
Middle: Rainha

Service: Glaucoma

CEP Number: 0625/05

5. ABSTRACT (REQUIRED):

Effect of Myopia on the Thickness of the Retinal Nerve Fiber Layer Measured by GDx™ Scanning Laser System

Author and Co-authors (maximum 6): Mascia AR, Tsuchiya J, Sartori J de F, Tavares IM

Purpose: To evaluate the effect of myopia on the peripapillary retinal nerve fiber layer (RNFL) thickness measured by GDx™ Scanning Laser System.
Methods: Myopic patients were invited to participate of this study. Through clinical examination comprising visual acuity, slit lamp examination, indirect ophthalmoscopy, refraction, biometry (IOL Master) and GDx™ Scanning Laser System will be performed. We will obtain one image with good quality with GDx™ Scanning Laser System. The reasons and values selected in this study for statistical analysis are those provided by the GDx ™ such as TSNIT average, superior average, inferior average, TSNIT Std. Dev. and NFI. Patientes with any pathologic abnormality, like glaucoma, were excluded.
Results: Twenty four eyes of twelve myopic subjects were recruited.The visual acuity, slit lamp examination and indirect ophthalmoscopy were all normal.
Age: Mean 34.76 ± 11.66 years
Gender: Female: 41,6% Male: 58,4
Myopia: Mean -2,18 ± 1,65
Axial length: Mean 24,25 ± 1.26 mm
Gdx Values
TSNIT average: Mean 54,9 ± 5,31
Superior average: Mean 64,85 ± 6,06
Inferior average: Mean 62,52 ±9,42
TSNIT Std. Dev.: Mean 20,79 ±4,5
NFI: Mean 17,58 ± 6,81
Seven eyes presented one or more values outside normal limits.
Conclusion: Until now, no significant correlation was detected between axial length or myopia and RNFL thickness measured with GDx.

Keywords: RNFL thickness, GDx™, Myopia

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Last Name: Yasuta
First Name: Mariana
Middle: Kaori

Service (e.g. Glaucoma): Glaucoma

CEP Number:

ABSTRACT

Prevalence of ocular surface complaints in patients with glaucoma treated with trabeculectomy

Mariana Kaori Yasuta, Paula Leal dos Santos Barros, Daniel Meira-Freitas

PURPOSE
To determine the prevalence of ocular surface symptoms in patients with glaucoma submitted to trabeculectomy.

METHODS
This prospective observational study enrolled patients with primary open-angle glaucoma who were submitted to trabeculectomy and patients on topical IOP-lowering medication regimen. Enrolled patients completed the ocular surface disease index (OSDI) and OSDI scores (0–100, with 0 representing no symptoms) were calculated for each patient. Medical history, demographics, and concomitant medication information were also collected.

RESULTS
Overall, 38 patients participated (15 patients in the trabeculectomy group, 12 in the eye-drops group and 11 in the control group). In the trabeculectomy group, 11 (88.5%) had an OSDI score indicating either moderate (n = 1, 7.1%), or severe (n = 10, 71.4%) symptoms; while in the eye-drops group, 7 (63.6%) had an OSDI score either moderate (n = 1, 9.1%), or severe (n = 6, 54.5%) symptoms. The mean OSDI score was 40.2 ± 27 in the trabeculectomy group, 35.8 ± 30 in the eye-drops group, and 12.1 ± 12 in the control group. OSDI scores were higher in either the trabeculectomy group and the eye-drops group than the control group (p = 0.02). The OSDI score was not statistically different between the treated groups.

CONCLUSIONS
Ocular surface symptoms are prevalent among patients with glaucoma treated with surgery or eye-drops.

Key Words: glaucoma, therapy, ocular surface disease, OSDI, prevalence

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Last Name: Sousa
First Name: Marina
Middle: Costa Carvalho

Service: Glaucoma

CEP Number: 1497/10.

ABSTRACT:

THE NEW VISUAL FIELD INDEX: CORRELATION WITH CONVENTIONAL PERIMETRIC INDICES IN DIFFERENT STAGES OF GLAUCOMA

Marina C C de Sousa, MD; Luis Gustavo Biteli, MD; Pilar A M Moreno, MD; Gabriela C Barretto, MD; Tiago S Prata, MD.

Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil; Hospital Medicina dos Olhos, São Paulo, Brazil.

Purpose: We investigated the correlation between 2 well-established [mean deviation (MD) and pattern standard deviation (PSD)] and one new [visual field index (VFI)] perimetric index in patients with different stages of primary open angle glaucoma (POAG).

Methods: We prospectively enrolled POAG patients (glaucomatous optic neuropathy and reproducible VF defect) with previous experience in visual field (VF) testing (? 3 exams) from May 2010 to September 2010. Those with any ocular disease other than glaucoma were excluded. All patients underwent achromatic standard automated perimetry (SAP). Tests with unreliable results were not included in the analysis and the right eye was arbitrarily chosen whenever eligible. We investigated the correlation between the 3 perimetric indices and their behavior in different stages of the disease.

Results: Fifty-three of 53 patients (mean age, 58.4±13.6 years) were included. Average values for MD, PSD and VFI were -6.9±8.7dB, 4.4±3.5dB and 81.5±27.8%, respectively. There was a significant and positive association between PSD and VFI (R^2=0.15, P=0.007). A stronger association was found between MD and VFI values (R^2=0.98, P<0.001), showing a 3% reduction in the VFI for each dB loss in the MD index. There was a significant and nonlinear correlation between MD and PSD values (R^2=0.68, P<0.001). Higher PSD values were found with increasing visual field damage (as determined by MD) from 0dB until approximately -19dB, and then these values decreased with further damage.

Conclusion: Despite being a new perimetric index based largely on points identified as abnormal in the pattern deviation plot, the VFI has almost perfect linear correlation with the well-established MD, behaving very similarly along the different stages of POAG. The usefulness of the PSD index is limited in cases of very advanced glaucoma, as it tends to "normalize" in eyes with MD worse than -19dB.

Keywords: glaucoma, index, perimetry.

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Barros
First Name: Paula
Middle: Leal dos Santos

Service: Glaucoma

CEP Number: 0812/07

5. ABSTRACT (REQUIRED):

OCULAR PULSE AMPLITUDE IN PATIENTES WITH HEART FAILURE

Author and co-authors: Paula Leal dos Santos Barros, Daniel Meira-Freitas, Mariana Kaori Yasuta, Luiz Alberto S. Melo Jr., Augusto Paranhos Jr.

Purpose: To evaluate the ocular pulse amplitude (OPA) in patients with chronic heart failure (CHF).

Methods: A case-control study was carried out. Heart failure patients with recent echocardiogram were submitted to intraocular pressure and OPA measurement with dynamic contour tonometry. The ocular findings were correlated with the cardiological evaluation, and compared with a control group of individuals without cardiopathy.

Results: A total of 15 patients with CHF and 15 individuals without cardiopathy were enrolled in this study. The mean (SD) OPA was 2.11 (0.76) mmHg in the CHF group and 1.8 (0.64) mmHg in the control group (p= 0.12). The mean (SD) ocular perfusion pressure was 50.52 (10.9) mmHg in the CHF group and 53.52 (6.83) mmHg in the control group (p= 0.37). The mean (SD) intraocular pressure was 13.4 (1.55) mmHg in the CHF group and 14.4 ± 1.65 mmHg in the control group (p = 0.04). The mean (SD) arterial blood pressure was 95.15 (17.51) mmHg in the CHF group and 101.34 (9.97) mmHg in the control group (p = 0.24). There was no significant correlation between the OPA and the left ventricle ejection fraction or functional classification in the CHF group.

Conclusion: Higher ocular pulse amplitude was observed in CHF patients when compared to the control group, which may be related to the lower intraocular pressure, lower ocular perfusion pressure and lower arterial blood pressure found in the chronic heart failure patients.

Keywords: Perfusion pressure, heart failure, ocular pulse amplitude, glaucoma.

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Last Name: Rebouças-Santos
First Name: Vespasiano
Middle: Nunes

Service: (EX) Experimental Surgery and (GL) Glaucoma

CEP Number: 1322/10

ABSTRACT:

EX VIVO EXPERIMENTAL MODEL OF ADJUSTABLE SUTURE FOR TRABECULECTOMY

Institution: Federal University of São Paulo (UNIFESP)
Authors: Rebouças-Santos VN, Meira-Freitas D, Cariello AJ, Teixeira SH.

Purpose: To describe an *ex vivo* experimental model of adjustable suture on the flap of trabeculectomy, using a slip-knot that could be tightened and loosened postoperatively.

Methods: Trabeculectomy was performed in five freshly excised pig eyeballs. A conventional 10.0 mononylon suture was performed on the scleral flap´s first corner. The second suture (on the opposite corner) was randomly chosen between a slip-knot suture (study group) and a conventional suture (control group). The same eye was used twice, in a crossover fashion, as control or study, depending on the initial allocation. Water column technique was used to measure the intraocular pressure (IOP) in three different times: time 1, when the knots were tightened; time 2, when the adjustable knot was loosened (study group) or the conventional knot was removed (control group); time 3, when the slip-knot was re-tightened or five minutes after the second measurement in the control group. Adjustable knot had to be loosened and re-tightened from its corneal ends without touching the sclera or scleral flap. IOP variations and mean IOP values were compared between control and study group at the three different time points. A mixed linear model was used to test for intra and inter-group mean IOP differences.

Results: At time 1, mean IOP measurement was 25.3 cmH2O in the control group and 27.6 cmH2O in the study group (p= 0,036). At time 2, mean IOP was 8.5 cmH2O in the control and 13.3 in the study group (p= 0,403). Finally, at time 3, mean IOP was 8.6 cmH2O in the control group and 28.4 cmH2O in study group (p<0,001). In the study group mean IOP values at time 1 and 2 and at time 1 and 3 were statistically different (respectively 16,8 cmH2O and 16,7 cmH2O, P<0,001 in both comparisons). I the study group, mean IOP values were only statistically different at time 1 and 2 (14,3 cmH2O, P<0,001). At time 1 and 3, mean IOP values were not statistically different (-1,1 cmH2O, p=0,233).

Conclusions: This ex vivo experimental model of adjustable suture using a tuning slip-knot on the flap of trabeculectomy present effective tightening and loosening and re-tightening of the suture in porcine eyes. This new technique may represent a potential improvement in the postoperative pressure control of glaucoma filtration surgery.

Keywords: adjustable suture, slip-knot, trabeculectomy

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Last Name: Tullio
First Name: Cintia
Middle: Fernandes

Service: (PL) OCULAR PLASTIC SURGERY

CEP Number: Not applicable (serial cases modality).

Title: **Sebaceous carcinoma of the eyelid: different diagnostic times, different outcomes**.

Authors: Fernandes CT, Sugahara VY, Vianna LMM, Cariello AJ, Lowen MS, Sant'ana AEBP.

Purpose: to present three cases of sebaceous carcinoma (SC), with different surgical outcomes, showing the importance of early diagnosis.

Cases: A 73-year-old woman, a 58-year-old man and a 71-year-old man were presented with elevated slow growing lesions in the superior eyelid in different growing stages and upset intervals. The first patients underwent surgical excision with direct closure eyelid reconstruction. The second patients was necessary to perform eyelid reconstruction using hard palate graft for the posterior lamella and sliding skin and muscle flap for the anterior lamella, due to size of defect. The third patient showed conjunctival pagetoid spread and an orbital exenteration was needed.

Conclusion: SC must be considered in the differential diagnosis of some eyelid disorders, preventing late and misdiagnosis. The stage of disease on the time of diagnosis has a strict relationship with the final outcome. It's important to develop specific surveillance guidelines for sebaceous carcinoma of the eyelid (as well as SC involving other areas of the skin).

Keywords: Sebaceous Gland Neoplasms; Sebaceous Adenocarcinoma; Eyelid Neoplasms; Reconstructive Surgical Procedures; Early Diagnosis

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Last Name: Sugahara
First Name: Vanessa
Middle: Yumi

Service: (PL) OCULAR PLASTIC SURGERY

CEP Number: 1579/09

Title: **Standardized clinical photography: the role of flash.**

Authors: Sugahara VY, Gonçalves NMV, Osaki MH, Viana GAP, Pamplona ALF, Cariello AJ.

Purpose: to analyze the possible interference of the flash on evaluation of lower cosmetic results.

Methods: Standardized photographs were taken from ten patients with lower eyelid dermatochalasis. All photographs were taken in a frontal view (anterior/posterior), with and without flash (digital camera: DSLR - Alpha 100, Sony Corporation, Japan) with a fixed focal length of 35 to 70 mm and adjusted for automatic determination of appropriate white balance and sensitivity (ISO) in accordance with illumination room condition. All patients were previously recommended to remove their jewels, glasses and hearing as well as their makeup. Three independent consultant oculoplastic surgeons reviewed the images. The surgeons were told that the patients underwent an alternative treatment for aesthetic improvement of lower eyelid. The photographs were presented in pairs, as pre (without flash) and post (with flash) treatment. The observers rated the overall cosmetic improvement of the lower eyelid photographs on a visual analogue scale (VAS).

Results: The three surgeons believed that there was improvement in cosmetic outcome from the first (without flash) to second (with flash) picture. Only one patient was scored with zero (no change result) by one of the observers. The means of VAS scored for the three independent surgeons were 6.0 ± 2.4, 6.3 ± 1.3 and 6.5 ± 0.7. An interclass correlation coefficient of 0.36 was obtained, indicating a poor degree of concordance among different surgeons.

Conclusion: This study reinforces the importance of thorough standardization in medical photography that must be continuously pursued both by doctors and editorial circles. It is interesting include a negative control group in studies whose methods use review of patient photographs by independent observers.

Keywords: lower eyelid dermatochalasis; standardized photography; image manipulation.

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(RX) REFRACTION-CONTACT LENSES
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(TR) TRAUMA
(TU) TUMORS AND PATHOLOGY
(UV) UVEITIS
(US) OCULAR ULTRASOUND

FORMAT:
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Title
Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.

Poster guidelines:
ARVO Abstract Book (1.10 x 1.70m)

1. FIRST (PRESENTING) AUTHOR (REQUIRED):
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( ) R1 (X) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Roberto
First Name: Novaes
Middle: Horovitz

Service: (PL) OCULAR PLASTIC SURGERY

CEP Number: 1716/07

Title: **Mydriasis induced by anesthesia during blepharoplasty.**

Authors: Horovitz RNC, Abujamra PH, Gramulha L, Sartori MF, Cariello AJ.

Purpose: to evaluate the pupil diameter before and immediately after cosmetic blepharoplasty surgery.

Methods: Patients with diagnosis of dermatochalasis underwent bilateral blepharoplasty by the same surgeon. All surgeries were performed under local anesthesia (frontolacrimal nerve block + subcutaneous infiltration) using a mix solution of 2.0% lidocaine and 0.5% bupivacaine with 1:100,000 epinephrine. The pupil diameters of all patients were measured before and immediately after the surgery with a millimeter ruler under the same illumination condition. Paired-sample T test was used to compare the pupil diameters values before and after the surgery.

Results: Blepharoplasty without intercurrences was performed in ten patients. Eight of them were female (80.0 %). The age ranged from 45 to 59 years with a mean of 54.6 ± 5.7 years. The mean pupil diameter was 4.1±0.6 mm and 7.8 ± 0.8 mm before and after the surgery, respectively (p=0.023).

Conclusions: Blepharoplasty performed under local anesthesia with vasoconstrictor solution may cause mydriasis and must be considered a risk factor for acute pupillary block in predisposed patients.

Keywords: dermatochalasis; pupil diameter; blepharoplasty; narrow-angle glaucoma.

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): PL

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

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FORMAT:
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Title
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Poster guidelines:
ARVO Abstract Book (1.10 x 1.70m)

1. FIRST (PRESENTING) AUTHOR (REQUIRED): Teissy Hentona Osaki
Must be the author listed first in abstract body.

( ) R1 ( ) R2 (X) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Osaki
First Name: Teissy
Middle: Hentona

Service (e.g. Glaucoma): Oculoplastic Surgery

CEP Number: 1530/08

5. ABSTRACT (REQUIRED):

PAIN EVALUATION AFTER ICE APPLICATION IN ESSENTIAL BLEPHAROSPASM PATIENTS TREATED WITH BOTULINUM TOXIN TYPE A

Author and Co-authors: Teissy Osaki, Lilian E. Ohkawara, Patricia Miyasato, Tammy H. Osaki, Midori H. Osaki

Purpose: To evaluate the effectiveness of ice application for reduction of pain caused by Botulinum Toxin Type A (BTX-A) injections in essential blepharospasm patients.
Methods: Twenty essential blepharospasm patients were treated with BTX-A. Ice was applied to the patient skin using a plastic bag for 5 minutes by an assistant before the toxin injections. The application side (right or left) was randomically chosen. The BTX-A injections were administered on both sides of the periocular area by an ophthalmologist who was not informed about the side where the ice was applied. Pain was evaluated on both sides by another physician using the visual analog scale (VAS). The higher the score, the greater the pain.
Results: The average pain intensity was 3,2 in the treatment group (ice) and 4,6 in the control group.
Conclusion: Ice application showed to be an effective and cheap method to reduce the discomfort caused by BTX-A injections in blepharospasm patients.

Keywords: Pain, Ice application, Botulinum Toxin-A, Essential Blepharospasm

Abstract Form

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Author, Co-authors (maximum 6), Purpose, Methods, Results, Conclusion.

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1. FIRST (PRESENTING) AUTHOR (REQUIRED):
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( ) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 (x) PG1 ( ) Fellow ( ) Technician

Last Name: Damasceno
First Name: Renato
Middle: Wendell

Service: Ocular Plastic Surgery

CEP Number: 1435/08

5. ABSTRACT (REQUIRED):

Lateral canthal tendon laxity in patients with involutional entropion or ectropion: the pathogenetic role of elastin and elastin-degrading enzymes

Author and Co-authors (maximum 6): RW Damasceno, LM Heindl, R Belfort Jr., U Schlötzer-Schrehardt, FE Kruse, LM Holbach.

Purpose: To investigate microscopic alterations of lower eyelid biopsy specimens from patients with lateral canthal tendon laxity and involutional entropion or ectropion with special regard to elastic fiber content and ultrastructure as well as to the expression of elastin-degrading enzymes matrix metalloproteinase (MMP)-7 and MMP-9.
Methods: Groups 1 and 2 included 20 full-thickness lower eyelid biopsy specimens from consecutive patients with lateral canthal tendon laxity and involutional entropion or ectropion obtained during the lateral tarsal strip procedure. Group 3 (control) included 20 full-thickness specimens from the lateral lower eyelid of consecutive patients with basal cell carcinoma. All specimens were examined by light and transmission electron microscopy, computerized morphometry of elastic fiber content, immunohistochemistry using antibodies against MMP-7 and MMP-9.
Results: Light microscopic examination and computerized morphometry showed a loss of elastic fibers in the eyelid skin, the pretarsal orbicularis oculi muscle and the tarsal stroma in groups 1 and 2 as compared with group 3 ($P < 0.001$). Residual elastic fibers revealed an abnormal ultrastructure with diminished elastin core and prominent microfibrillar bundles. Immunohistochemistry demonstrated an increased immunoreactivity for MMP-7 and MMP-9 in the eyelid skin, the pretarsal orbicularis oculi muscle, the tarsal stroma and the conjunctiva in groups 1 and 2 as compared with group 3 ($P < 0.001$).
Conclusion: The findings indicate that upregulation of elastolytic enzymes MMP-7 and MMP-9, probably induced by ischemia-reperfusion injury, inflammation and/or repeated mechanical stress, plays an important role in elastic fiber degradation in patients with lateral canthal tendon laxity and involutional entropion or ectropion of the lower eyelid.

Keywords: Aging, entropion, ectropion, elastin, matrix metalloproteinase.

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( ) PG0 ( ) PG1 (x) Fellow ( ) Technician

Last Name: Santos
First Name: Marcela
Middle: Aparecida

Service (e.g. Glaucoma): Low Vision

CEP Number:

5. ABSTRACT (REQUIRED):

Title: **Functional Performance in Basic Activities of Daily Living in Children with Visual Impairment**

Author and Co-authors (maximum 6): Santos, Marcela Aparecida; Lopes, Marcia CB; Nakanami, Célia

Purpose: to evaluate the performance of functional skills and assistance of parents/carers in basic activities of daily living in children with visual impairments.

Methods: the study was conducted at the ambulatory for early visual stimulation-Department of Low Vision and Visual Rehabilition of the Vision Institute, Department of Ophthalmology, Federal University of São Paulo. The instrument was an inventory PEDI- Pediatric Evaluation of Disability that is applied in an interview with the caretaker in the areas of Functional Skills and Caregiver Assistance Level. The PEDI is subdivided into items: self-care, mobility and social function. Participated in nine children with low vision (2 Leber Congenital Amaurosis, 3 Congenital Cataract, 1 ROP, 1 Vitreous Hemorrhage, 1 BAV and 1 Congenital Glaucoma), with 2-6 years (average), 5 girls and 4 boys.

Results: at present partial data were collected from the study group. A total of 3 children showed commitment and dependence on caregivers in 3 items, only 2 children were dependent on caregivers to 1 item (mobility), 1 child had impairment and dependence on caregivers to an item (social function) and another for 2 items (self-care and social function), 1 child had impairment in two items (self-care and mobility) and dependence on the 3 items, 1 child had normal development in the three evaluate items.

Conclusion: the project is ongoing discussion is not possible.

Keywords: basic activities of daily living, visual impairment, occupational therapy

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Poster guidelines:
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( ) R1 ( ) R2 ( ) R3 (X) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Santos
First Name: Fabio
Middle: Felipe

Service (e.g. Glaucoma): Uveitis

CEP Number:02566-000

5. ABSTRACT (REQUIRED):

Using the technique of real-time PCR in the diagnosis of infectious uveitis

Author and Co-authors (maximum 6): Fabio Felipe dos Santos, Alessandra Commodaro ,Luiz Claudio Lottenberg, Cristina Muccioli, Luiz Vicente Rizzo, Rubens Belfort Jr

Purpose: To evaluate the utility of real-time polymerase chain reaction (real-time PCR) for the diagnosis of uveitis infectious, especially when serology fails and clinical symptoms are not evident. Samples were analyzed using specific primers designed to amplify herpes simplex virus 1 (HSV-1), herpes simplex virus 2 (HSV-2), varicella zoster virus (VZV), cytomegalovirus (CMV), *Mycobacterium tuberculosis* (TB) and *T. gondii* (TOXO).

Methods: 24 patients (12 men and 12 women) were recruited from the Department of Ophthalmology of the UNIFESP and tests were performed on Hospital Albert Einstein (HIAE). The technique of real-time PCR was used for the detection of HSV-1, HSV-2, VZV, CMV, TB and TOXO in blood, plasma, aqueous and vitreous humor from patients with probable infectious uveitis.

Results: Our results showed that the aqueous humor detected presence of TOXO, CMV, VZV and HSV-2 in 21.73% samples, while the vitreous was positive for TOXO, HSV-1, HSV-2 and VZV in 31,25%. In the plasma was possible to detected only CMV (8.33%). The same was observed in the blood that was positive for CMV in 4,16% samples.

Conclusion: In this initial phase our work suggested that the vitreous humor showed greater ability to detect pathogens. However the aqueous humor and blood that easier to obtain, may be appropriate sites for research of infections by real time PCR.

Keywords: Real time PCR, diagnosis, infectious uveitis, blood, plasma, aqueous humor, vitreous humor.

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): TU

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

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(**x**) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Colicchio
First Name: Daniel
Middle:

Service (e.gX. Glaucoma): Tumors and Pathology

CEP Number:

5. ABSTRACT (REQUIRED):

Retinoblastoma epidemiology at a referral center, São Paulo, Brazil

Colicchio D, Macedo CD, Catem RB, Teixeira LF.

Purpose: To evaluate the epidemiological pattern of patients diagnosed with retinoblastoma that were assisted in our service, including social, economic and environment associations.

Methods: Retrospective analysis of the medical records of 50 randomly selected patients who were clinically diagnosed with retinoblastoma and were assisted in the Pediatric Oncology Institute, IOP-UNIFESP during an 9-year period, from January 2001 to November 2010.

Results: Of the total number of analyzed patients, 62% (31) were female, with a median age of 11.5 months-old (range of 1-54 months old). Only 14% (7) lived in rural areas at the moment of the diagnosis. The main sign reported was leukocoria (70%) followed by strabismus (14%), and the first person to notice any sign in the children usually were family members (90%). 84% of these patients were referred to an eye cancer specialist by a general ophthalmologist, and only 14% had gone to a pediatrician before being evaluated by the specialist. 52% of these cases had bilateral involvement.

Analyzing the social, economical and environmental correlations with the tumor stage, although many variables were analyzed (parents scholarship, family income, rural or urban living, State of birth), there was only one variable with statistical meaning. That shows that mothers who had at least a high school education had children with higher prevalence of group D/E stages on bilateral involvement (100%) against those who had not completed the high school (60%).

Conclusion: Retinoblastoma is a tumour caused by genetic mutations and some theories about its causes have been created. Some of them were regarding viral infections and mother nutrition during pregnancy, variables deeply related to cultural and financial aspects. Yet, our data did not show anything that would contribute to these theories. Instead, it showed that the patients did not have any benefit in prevention or early detection despite the money and education of their parents, probably because retinoblastoma is a rare disease and even well-educated groups have little information about it. Therefore, these data shows us that a campaign to spread information about this disease to every segment of the society could result in earlier diagnosis.

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

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1. FIRST (PRESENTING) AUTHOR (REQUIRED):
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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Lins
First Name: Igor
Middle: Rodrigo

Service (e.g. Glaucoma): Orbit (OR)

CEP Number: Sent

Title: **Gliomas of the optic pathway: Epidemiological profile in UNIFESP**

Author and Co-authors: Igor Rodrigo Lins Silva, Luiz Fernando Teixeira, Paulo Góis Manso

Purpose: To analyze the epidemiological characteristics of patients with gliomas of optic pathway followed in the orbit sector of ophthalmology department and the pediatric oncology institute of Federal University of São Paulo.
Methods: The retrospective epidemiological study had been based on data collected from the 20 medical records of pediatric patients and adults with gliomas. We selected several criteria to be evaluated and listed, among them: sex; age at first symptom; age of admission; time between symptom onset and hospital admission; chief complaint; signs at initial presentation; visual acuity; relationship with the presence or absence of neurofibromatosis type I. Statistical analysis was carried out with exato de fisher test to relate data.
Results: 65% (13) of the patients were female. 75% (15) of patients showed symptoms with less than five years. 40% (8) of patients had decreased vision as the primary complaint, with 60% (12) of patients with visual acuity worse than 20/400, 20% (4) proptosis, 15% (3) strabismus, 15% (3) nystagmus and 10% (2) reported no complaints. 50% (10) suffered from neurofibromatosis type I (NF1) with 80% (8) had less than five years in the presentation. In the group without NF1, 70% (7) of patients had less than five years (p=0.50). In patients with NF1, 50% (5) had visual acuity worse than 20/400 and 70% (7) of patients without NF1 had visual acuity worse than 20/400 (p=0.32).
Conclusion: The mean age was 4.4 years old. The most common manifestation to morbity was decreased vision progressing to blindness and the most common sign was proptosis. In our patients there was no statistically significant relationship between NF1, age of symptom and decrease vision acuity.

Keywords: Gliomas of the optic pathway; epidemiological study;

Abstract Form

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): NO

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

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Poster guidelines:
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1. FIRST (PRESENTING) AUTHOR (REQUIRED):
Must be the author listed first in abstract body.

(x) R1 ( ) R2 ( ) R3 ( ) PIBIC
( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Valdrighi
First Name: Natalia
Middle: Yumi

Service (e.g. Glaucoma): NEURO-OPHTHALMOLOGY

CEP Number: 10860/10

5. ABSTRACT (REQUIRED):

Adie's Tonic Pupil: epidemiological aspects

Author and Co-authors: Valdrighi NY, Souza Lima RA, Silva IRL, Cariello AJ, Imamura PM

Purpose: To describe epidemiological findings of patients with Adie's Tonic Pupil, who were treated in the Neuro-ophtalmology of the Federal University of São Paulo (UNIFESP), a referral center.

Methods: In a retrospective study, we reviewed the charts of patients with Adie's Tonic Pupil treated at Neurophthalmology Section at UNIFESP between January of 1999 and January of 2006. Medical records like age, sex, systemic comorbidities, laterality, visual acuity and behavior were extracted.

Results: From 1,033 patients treated at the neuro between January 1999 and January 2006, 10 (0.9%) had a diagnosis of tonic pupil Adie. The age was beteween 27 to 74 years. The ratio of female: male was 2.3. The complaints were: low vision in eight patients (80%), dilated pupil in one eye in 6 (60%) and photophobia in four (40%). All cases were unilateral, affecting the right eye in 6 cases (60%). Visual acuity, normal (1.0) in 9 cases (90%), and at near normal (J1) in 4 cases (40%). Headache as prodromal symptom was reported in 3 cases (30%). Watchful waiting was adopted for all cases.

Conclusions: Adie's Tonic Pupil had low prevalence and occurred more often in young adult females. Headaches can be an associated symptom. Although the complaint of blurred vision for near, it was found normal visual acuity with optical correction.

Keywords: Adie´s tonic Pupil, Holmes-Adie syndrome, Adie´s syndrome

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Purpose, Methods, Results,
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Last Name: Nascimento
First Name: Bruna
Middle: Andrade e

Service (e.g. Glaucoma): Retina and Vitreous

CEP Number: 1559/10

5. ABSTRACT (REQUIRED):

Incidence of Cystoid Macular Edema After Cataract Surgery Using Spectral-Domain Optical Coherence Tomography

Nascimento, B.A., Geha, N.M.A., Moraes, N.B.

Purpose: To determine the incidence of cystoid macular edema (CME) after cataract surgery by means of clinical evaluation and subclinical assessment by means of spectral-domain optical coherence tomography (OCT), and to evaluate possible risk factors for the development of CME

Methods: Prospective study of 20 cataracts surgeries operated from July 2010 to September 2010 in the Cataract Institute from the Federal University of São Paulo – Paulista School of Medicine. The procedures were performed by means of phacoemulsification plus intra ocular acrylic lens implantation. Postoperative follow-up visits were performed 1 day, 7 days, 30 days and 60 days after surgery. Each visit included posterior pole biomicroscopy and OCT. Central macular thickness measured by OCT in the operated eye was compared with the fellow (control) eye. Patients with previous macular disease were not included in the study.

Results: Data are under analysis

Keywords: cystoid macular edema, cataract surgery and spectral-domain OCT

Abstract Form

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Deadline: Oct, 2010

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Last Name: Geha
First Name: Nahin
Middle: Mohamad Ali

Service: RETINA AND VITREOUS

CEP Number: CEP 1664/09

5. ABSTRACT (REQUIRED):

MACULAR SENSITIVITY CHANGES IN MICROPERIMETRY FOR DETECTION OF CHLOROQUINE TOXICITY

Authors: Nahin Mohamad Ali Geha, Ana Carolina Garcia, Tarcisio Guerra, Luis Gustavo Bitelli, Renata Portella Nunes, Daniel Lavinsky, Eduardo B. Rodrigues, Nilva S. Moraes.

Purpose: To describe the efficacy of microperimetry (MAIA, Centervue, Padova, Italy) in detecting early retinal toxicity as a result of chronic use of chloroquine and in monitoring the changes in macular sensitivity.

Methods: Patients in chronic use of chloroquine or hydroxychloroquine for over 2 years, from Retina Sector of Federal University of São Paulo, underwent complete questionary and ophthalmologic exam – Best Correct Visual Acuity, slip lamp evaluation, fundoscopy, measure of body weight and ancillary exam – microperimetry and fundus autofluorescence (HRA, Heidelberg Engineering, Heidelberg, Germany). Afterwards, statistical analysis was performed in order to establish relationship among results on microperimetry and best correct visual acuity, autofluorescence, dose on the patient's weight and cumulative dose.

Results: So far, 20 patients in chronic use of chloroquine were included. The age ranged from 21 to 77 with a mean of 51.75 ± 14.33. The male:female ratio was 0,11. Other data regarding the results of microperimetria with other factors surveyed are under analysis.

Conclusions: Chloroquine retinal toxicity can be recognized as a subclinical form and clinical studies involving new diagnostic methods must be improved in order to make this diagnosis and so the systemic therapy may be be adjusted accordingly to prevent visual loss.

Key Word: Chloroquine retinopathy, Early detection, Macular sensitivity, Microperimetry

Abstract Form

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___RodrigoPozo_____
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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician
Last Name: Pozo
First Name: Rodrigo
Middle: Vianna

Service (Retina):

Visual Acuity, Macular alteration grading and Hydroxychloroquine Retinopathy

Pozo, R.V. ; Biteli, L.G.; Guerra, T.; Magalhães, F.P.; Lavinsky, D.; Melo Jr, L.A.S.; Moraes, N.S.

PURPOSE: To demonstrate the correlation between chloroquine and hydroxichloroquine dosage and duration of the treatment/cumulative dosage with visual acuity and macular alteration grading using near infrared classification and fundus examination. It also tries to demonstrate a relation between near infrared classification and fundus examination.

Methods : 120 eyes of 60 patients of Rheumatology Service (UNIFESP) in use of chloroquine and hydroxichloroquine for more than 2 years were evaluated. Exclusion criteria comprised previous ocular surgery and other retinopathies (retinitis pigmentosa, myopic maculopathy). All subjects were submitted to a standart questionnaire, weight measure, ophthalmologic exam, fundus infrared photograph.

RESULTS: A total of 47 eyes of 47 individuals were included in the study. No significant correlations were found between visual acuity and dosage (r = 0.14, P = 0.35), and duration of the treatment/cumulative dosage (r = -0.04, P = 0.79). No significant correlations were found between near infrared classification and dosage (r = -0.03, P = 0.83), and duration of the treatment/cumulative dosage (r = -0.09, P = 0.56). No significant correlations were found between macular alteration grading by fundus examination and dosage (r = -0.14, P = 0.34), and duration of the treatment/cumulative dosage (r = 0.10, P = 0.52). A moderate agreement (weighted kappa = 0.49) was observed between near infrared and macular alteration grading by fundus examination.

PRELIMINARY CONCLUSIONS: The dosage and duration of treatment of chloroquine are not correlated with visual acuity and macular alteration grading. A moderate agreement was observed between near infrared and macular alteration grading by fundus examination.

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Tarcisio B Guerra

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Guerra
First Name: Tarcísio
Middle: Batista

Service: RETINA

CEP: 0463/08

5. ABSTRACT (REQUIRED):

Viability and sterility of bevacizumab in different vials and temperature alone and associated with triancinolone

Authors: Guerra T; Dib E.; Rodrigues EB; Lima AS; Penha FM; Maia M; Magalhães O; Longo-Maugeri IM; Farah ME

Purpose: To evaluate the viability and sterility of bevacizumab in different forms of storage or temperature alone and associated with preservative-containing triancinolone acetonide (PCTA) and preservative-free triamcinolone acetonide (PFTA).

Materials and Methods: An experimental study was conducted with four solutions: 1) 1:1 proportion of 25 mg/ml bevacizumab and saline; 2) 1:1 proportion of 25 mg/ml bevacizumab and 40 mg/ml PFTA; 3) 1:1 proportion of 25 mg/ml bevacizumab and 40 mg/ml PCTA; and 4) bevacizumab obtained from sealed vial as control group. The solutions were stored in a 1-ml disposable plastic syringe closed with a 30-gauge needle and its protective cover. Each syringe-needle complex was preserved at three different temperatures:(24- 28) and 4-8º C (refrigerator) and -10º C (freezer). Samples were sent to microbiological analysis as 0.1 ml solution placed on a brain-heart infusion. Bevacizumab binding affinity was dosed at the time points zero, 24 h, 30 day and at 90 day. Bevacizumab viability level was tested through ELISA, in which the antigen was the anti-VEGF.

Results: In progress
Conclusions: In progress

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_____Bruno Landgren_____

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Deadline: Sep 24, 2010

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( ) PG0 ( ) PG1 ( ) Fellow ( ) Technician

Last Name: Landgren
First Name: Bruno
Middle:

Service (e.g. Glaucoma): Retina

CEP Number:

5. ABSTRACT (REQUIRED):

Correlation Between Preferential Hyperacuity Perimetry and OCT in Patients With Metamorphopsia Age-Related Macular Degeneration (AMD)

Author and Co-authors (maximum 6): Bruno Landgren, Fábio Bom Aggio, Michel Eid Farah

Purpose: To investigate association between findings from OCT and PHP in patients with AMD
Methods: Observational retrospective case series of 20 eyes that underwent PHP and OCT for evaluation of metamorphopsia associated with intraretinal or suberetinal fluid, pigment epithelium detachment, neurosensory retinal atrophy and others.
Results: Tomographic evidence of intraretinal fluid and fusiform retinal pigment epithelium/choriocapillaris band thickening were associated with defects on total hyperacuity disturbance (THD) chart, as well as with THD defects consistent with progression to wet AMD on PHP ($P < .05$). Increased foveal thickness was associated with results consistent with progression to wet AMD on PHP ($P = .013$).
Conclusion: PHP appears to reflect well the morphologic patterns of wet AMD as seen by means of OCT.
Keywords

Please keep the format using font VERDANA, 10

Abstract Form

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Last Name: Cardoso
First Name: Emmerson
Middle: Badaró

Service (e.g. Glaucoma): Retina and vitreous

CEP Number: 1388/10

5. ABSTRACT (REQUIRED):

Title: Investigation of new dyes for chromovitrectomy

Author and Co-authors (maximum 6): Emmerson Badaró, Eduardo B. Rodrigues, Elaine F. Costa, Milton M. Filho.
Purpose: To investigate the retinal toxicity by histological techniques (optical microscopy), fundoscopy and ERG after intravitreal injection of the biological stain Acid Violet
Methods: Experimental study of laboratory research in animals. Injection of 0,1ml of the dye at a concentration of 0,5 g/L, 0,25 g/L and 0,1 g/L will be performed in the vitreous cavity of three animals. In the contra-lateral eye of the animals will be injected 0.1 ml of BSS (290 mOsm) as control. Intravitreal toxicity of the dyes will be evaluated with histological techniques, fundoscopy and ERG.
Results: Still in progress.
Conclusion:

Keywords: Violet Acid; Vitrectomy

Abstract Form

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Last Name: Santos
First Name: Franklin
Middle: de Souza

Service: Retina

CEP Number: 1567/09

ABSTRACT:

Spectral Domain Optical Coherence Tomography in Patients with Commotio Retinae

Author and Co-authors: Franklin de Souza Santos, Daniel Lavinsky, Nilva S Moraes, Andre R Castro, Tarcísio Guerra, José A Cardillo, Michel E Farah

Purpose: To describe the morphologic characteristics of commotion retinae (CR) using spectral-domain optical coherence tomography (SD-OCT) and evaluate its utility in prognosis and follow-up.

Methods: Consecutive patients with CR underwent complete ophthalmic examination, color fundus photography, SD-OCT, fundus autofluorescence (FAF) and near infrared autofluorescence (NIRAF). Seven patients underwent standard automated perimetry.

Results: There were 11 eyes of the 11 patients (8 men), with a mean age of 30,9 ±12,2 years. The follow-up ranged from 9 days to 6 months. The baseline best corrected visual acuity (BCVA) ranged from 20/20 to count fingers at 1 meter and the final BCVA ranged from 20/20 to 20/40. SD-OCT identified hyperreflectivity underneath the inner/outer segments (IS/OS) junction in the area of CR of 7 patients (63,6%), which settled in few days. Five patients (45,5%) revealed areas of loss or attenuation of the IS/OS junction and hyperreflectivity of inner retinal layers, which progressed to retinal atrophy and visual loss (P=0,002). Regarding the 5 patients with visual sequels, 3 (60%) presented with intraretinal hemorrhages, and all revealed pigment disorders and alterations in FAF an NIRAF during the follow-up.

Conclusion: SD-OCT of mild lesions showed transient hyperreflectivity of the outer retina and good visual outcomes. Severe traumas were related to acute disruption of the IS/OS junction and hyperreflectivity of the overlying retina and were regularly associated with retinal atrophy, pigment disturbance and poor visual prognosis.

Keywords: Commotio retinae, ocular coherence tomography (OCT), blunt ocular trauma

Abstract Form

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Last Name: Dias
First Name: João
Middle: Rafael de Oliveira
Service (e.g. Glaucoma): Retina

CEP Number: 1509/10

5. ABSTRACT (REQUIRED):

Experimental model to quantify the retinian phototoxicity of different wavelengths during vitreoretinal surgeries

Author and Co-authors (maximum 6) João Rafael de Oliveira Dias, Fabiana da Fonte, Eduardo Rodrigues, Nilva Simeren Bueno de Moraes, Michel Eid Farah, Anderson Teixeira

Purpose To quantify the retinal phototoxicity of different wavelengths in simulated vitreoretinal surgeries performed in an experimental model.
Methods An experimental study will be conducted using rabbit eyes. The animals will be submitted to simulations of vitreoretinal surgeries, in which a vitrectomy probe will be exposed into the retina of the animals. The animals will be divided in four groups, which will be exposed to four different wavelengths, using different light intensities. Some will be submitted during the experimental procedure to focal illumination (simulating a macular surgery), and others to diffuse illumination (simulating a conventional surgery). Electroretinogram (ERG), retinography, optical coherence tomography (OCT) and Fluorescein Angiography (FA) will be performed in the preoperatory phase in all the groups. Suddenly after the simulated surgery, groups 5 to 8 will be submitted to ERG, retinography, OCT and FA and groups 1 to 4, 48 hours after the procedure. After the surgery, the eyes will be fixed in formol saline solution for histological analysis.
Results The results will be analyzed through quantitative records to evaluate the anatomical alterations and comparing them with the preoperatory ERG, retinography, OCT, AF and histology.
Conclusion: This study will be useful to determine the phototoxicity of different wavelengths currently used in vitreoretinal surgeries. According to the results, operational conditions can be disposed to minimize the risk of retinal damage secondary to light exposure.
Keywords Phototoxicity, retina, wavelength, experimental model, vitreoretinal surgery.

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Last Name: Yabiku
First Name: Mariann
Middle: Midori

Service (e.g. Glaucoma): Retina

CEP Number: 1824/08

Spectral Domain Optical Coherence Tomography Findings in Toxoplasmic Retinochoroiditis

Authors: Mariann Midori Yabiku, Bruno Diniz, Carlos Alexandre Garcia Filho, Rafael Andrade, Rubens Belfort Jr.

Purpose: To investigate spectral domain optical coherence tomography (SD-OCT) findings and compare them with time domain (TD-OCT) imaging of macula and retinochoroiditis lesions of patients with toxoplasmosis
Methods: Patients with clinical diagnose of toxoplasmic retinochoroiditis were enrolled in this prospective, comparative pilot study. Inclusion criteria were classic active toxoplasmic lesion at the posterior pole or near the arcades. All patients underwent a complete clinical examination, including media clarity grading and imaging with OCTs (Spectralis and Stratus). Morphologic features at baseline and at a 6 week follow up obtained from SD-OCT scans were compared with those obtained from TD-OCT. Patients were treated according to standard protocol of our service for 6 weeks.
Results: 10 patients were included in the study. At baseline, vitreous opacity was dense in only 1 patient and other 9 patients had mild opacity. The macula baseline exam was interpreted as normal in 7 patients by the SD-OCT and in 6 by the TD-OCT because dense vitreus opacity in 1 patient preclude the interpretation of macula exam by TD-OCT. Macular serous retinal detachment was observed in 3 patients both by SD and TD-OCT. Epiretinal membrane was noticed in 1 patient, only by SD-OCT. Findings at the retinochoroiditis lesion were similar by both SD and TD- OCT. At the 6 week follow up, the macula remained with a small retinal detachment in 1 patient, in which we could see small intra-retinal cysts by the SD-OCT. Two patients developed ERM that could only be noticed by the SD-OCT. All patients remained with disorganized retinal layers reflectivity and half of them showed decrease of the thickness at the follow up. In 2 patients we could notice an interruption of the inner / outer segment junction of the photoreceptors band by the SD-OCT (damage of the external retina).The posterior hyaloid was detached over the retinochoroiditis lesion in 3 patients by the SD-OCT at the baseline and in 7 patients at the 6 week follow up. Expanded separation of the posterior hyaloid was observed in 3 patients. Vitreoschisis was noticed in one patient at baseline by the SD-OCT with complete separation of the posterior hyaloid at the follow up. Hyperreflective dots anterior to the retina, probably corresponding to vitreous cells formations, were observed in all patients at the baseline and still seen in eight of them at the follow up.
Conclusion: our initial results suggest that SD-OCT has advantages over TD-OCT in patients with Toxoplasmosis, especially in poor media clarity
Keywords: toxoplasmic retinochoroiditis, Spectral Domain OCT, Time Domain OCT

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First Name: Ana Carolina
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Service (e.g. Glaucoma): Retina

CEP Number: 1565/10

SPECTRUM OF OPHTHALMOLOGIC MANIFESTATIONS AND DRY EYE SYNDROME IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE.

Author and Co-authors: Ana Carolina A.B. Garcia, Luiz Roisman, Nilva Bueno Moraes

Purpose: To identify the spectrum of ophthalmologic manifestations and dry eye syndrome in patients with inflammatory bowel disease (IBD) who are followed by the Gastroenterology Sector of the Federal University of São Paulo. Methods: For this study 39 patients were recruited, 20 with confirmed diagnose of Crohn's disease (CD) and 19 with ulcerative colitis (UC). Diagnosis was established using clinical, endoscopic, and histological criteria. A normal control group, formed by individuals who had a negative personal history of autoimmune disease, was recruited to perform Schirmer test and later compare with the IBD patients. All patients signed a free and clarified consent term. Symptoms related to dry eyes were recorded as well as any previous ophthalmologic and systemic history. All patients underwent ophthalmologic examination which included visual acuity, slit lamp examination of the anterior segments of the eye, Schirmer I test, intraocular pressure measurement with Goldmann's tonometer and fundus examination. For the Schirmer I test a 35 per 5 mm strip was placed on the inferior tarsal conjunctiva of both eyes without topical anesthesia and the result was read 5 minutes later. Values under 5 mm were considered abnormal. Statistical analysis was made with the data collected. Results: In total 78 eyes (40 eyes had CD and 38 eyes had UC) were evaluated. These 39 patients were composed by 23 (58.9%) women and 16 (41.0%) men with ages ranging from 22 to 69 years (mean of 50 years). The slit lamp examination identified episcleritis in 5 (12.8%) patients – 3 had CD and 2 had UC. One patient presented active scleritis (2.56%) and ulcerative colitis. A normal control group was paired by age and sex to compare values of Schirmer I test. The frequency of dry eye syndrome is still being submitted to statistical analysis. Conclusion: According to published literature, the incidence of ophthalmologic manifestations in IBD varies from 3.5% to 12%. Episcleritis is described in 29% of the patients but is usually present during active disease. Our study identified only 5 (12,8%) cases of episcleritis and 1 (2,56%) case of scleritis but our patients had good control of disease activity which could have influenced our results. Keywords: Inflammatory bowel disease, Crohn disease, ulcerative colitis, scleritis, episcleritis.

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___Joao Crispim_____

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First Name: João
Middle: Crispim

Service: Retina

CEP Number: 10858

5. ABSTRACT:

Ocular Wavefront Aberrations in Patients with Central Serous Chorioretinopathy

Author and Co-authors: Joao Crispim Ribeiro, Luiz Roisman, Mauro Campos

Purpose: To evaluate the ocular wavefront aberrations in patients with acute or chronic in activity (with detachment) central serous chorioretinopathy (CSC).

Methods:
The present study was designed to be longitudinal and prospective observational. In all cases, patients were selected with clinically diagnosed CSC that caused irregularity of the retinal surface. They were invited to attend the appointment at the Department of Ophthalmology dinic´s from UNIFESP. Diseases with associated vitreous opacity were excluded, as well as any lens opacity, including nuclear cataract, apparent dislocation of the intraocular lens, or any eye surgery within 6 months before measurement. After informed consent, volunteers were submitted to spectral-domain optical coherence tomography (SD-OCT) and to Hartmann-Shack aberrometry exams. They were monitored through routine eye examinations, including dilated fundus examination. When the resolution of the serous retinal detachment was diagnosed or even when they were diagnosed with chronic in activity CSC, volunteers were again submitted to spectral-domain OCT and to Hartmann-Shack aberrometry exams. Both exams were compared.

Results and Conclusion: The present research is still in progress.

Keywords: central serous chorioretinopathy, wavefront aberrations, Hartmann-Shack aberrometry.

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Service: **Retina and Vitreous**

CEP Number: 2212/09

VITREOMACULAR TRACTION SYNDROME CLINICAL CORRELATION BETWEEN FUNCTIONAL AND ANATOMICAL POSTOPERATIVE RESULTS AND OCT MORPHOLOGY

INSTITUT UNIVERSITARI BARRAQUER,
UNIVERSITAT AUTÒNOMA DE BARCELONA
Juliana Bottós, Javier Elizalde, Michel Farah, Maurício Maia

PURPOSE: To analyze, by HD-OCT, a variety of vitreomacular traction (VMT) morphology, according to distinct proposals for classification, and to correlate them with specific maculopathies, as well as to evaluate predictive preoperative factors of postoperative visual and anatomical outcomes. **PATIENTS AND METHODS:** 36 patients diagnosed with VMT syndrome submitted to vitrectomy surgery were retrospectively analyzed. Each one underwent complete preoperative and postoperative clinical and ophthalmic examination including high-definition OCT (Cirrus™ HD-OCT). All eyes were categorized into 2 different classifications: the first was related to the pattern of VMT (V-shaped or J-shaped) and the second was based on the diameter of VMT (Focal ?1500µm or Broad >1500µm). Others aspects were considered, as central macular thickness, maculopathies and postoperative outcomes. **RESULTS:** To the best of our knowledge, this study is unique in comparing different classifications of VMT syndrome. Focal VMT (18 cases) led to macular hole formation (61.1%), tractional cystoid macular edema (88.9%) and foveal retinal detachment (16.6%) while broad VMT (18 cases) was widely associated with epiretinal membrane (94.4%), diffuse retinal thickening (72.2%) and poorer recovery of foveal depression (22.2%). Despite similar postoperative VA (VA LogMAR 0.28 focal and 0.23 broad; p=0.393), the improvement was greater in focal cases (DeltaVA 0.25 focal and 0.11 broad; p=0.027), since their preoperative VA were significantly lower (VA 0.54 focal and 0.34 broad; p=0.007). However, the improvement of VA was not different between the two groups regarding the pattern of VMT (DeltaVA 0.21 V-shaped and 0.14 J-shaped; p=0.235). Surgical procedures were effective to relieve the VMT in most eyes (77.8%).
CONCLUSION: Postoperative outcomes and macular disorders are closely related to VMT morphology. The classification of VMT syndrome based on the diameter of adhesion and not on the pattern of VMT may better reflect the specific macular changes and predict the postoperative anatomical and functional outcomes.
KEYWORDS: vitreomacular traction syndrome; vitreoretinal interface; vitreomacular morphology

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