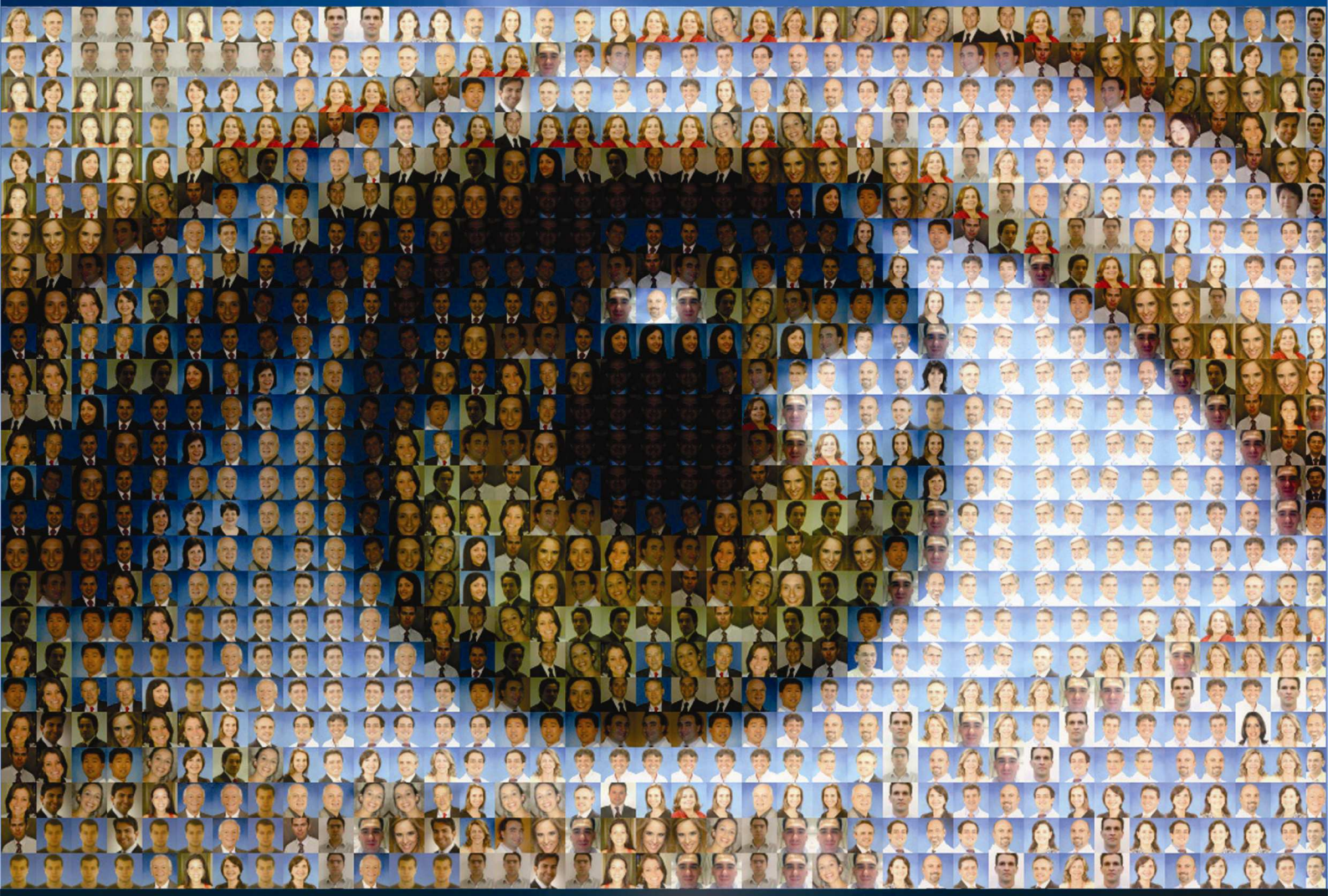
XIII RESEARCH Days

PROGRAM 2011

December 09th to 10th

Basic and Clinical Research

Conferences, Papers, Fast Papers and Posters



Department of Ophthalmology | Federal University of São Paulo – UNIFESP

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XIII RESEARCH Days

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Papers: 55 **Posters: 63**
Fast Papers: 13 **Lectures: 06**

Organization

Special Guests

Program

Guest Speakers Lectures

Abstracts

Information
Department of Ophthalmology - Federal University of São Paulo
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http://www.unifesp.br/doftalmo/rd/home.html

ORGANIZATION

Post-Graduation Program Coordination

Mauro Silveira de Queiroz Campos

Program Director

José Álvaro Pereira Gomes
Eduardo Buchele Rodrigues

Scientific Committee

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Wallace Chamon
Walton Nosé

Awards Committee

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Luiz Alberto Soares de Melo Júnior
Paula Yuri Sacai Munhoz

SPECIAL GUESTS

Invited Speakers

Christina Joselevitch, DVM, MSc, PhD
Assistant Professor Department of Experimental Psychology, Psychology Institute,
University of São Paulo, São Paulo, SP, Brazil

Javier Castillo Velázquez, MD
Professor of Ophthalmology
México

Miguel Castelo-Branco, MD, PhD
Professor of Biomathematics and Biomedical Research
Faculty of Medicine
University Hospital Coimbra, EPE

Sergio Raul Munoz-Navarro, PhD
Full Professor of Biostatistics, Department of Public Health - CIGES, Faculty of Medicine, Universidad de La Frontera de Temuco, Chile

PROGRAM

December 09th - Friday

7:50-8:00 **OPENING REMARKS –** *Denise de Freitas and Rubens Belfort Jr.*

8:00-8:10 **Research in Brazil supported by the Brazilian Council of Ophthalmology and Pan-American Association of Ophthalmology –** *Paulo Augusto de Arruda Mello and Ana Luisa Hofling Lima*

8:10-8:20 **PROGRAM HEADLINES AND POST-GRADUATION PROGRAM -** *Mauro Campos*

PAPER PRESENTATION – SESSION 1

Refractive Surgery and Bioengineering
Moderators: Paulo Schor and Mauro Campos

8:20-8:27 A computer simulation for customized contact lens ablation to correct high-order aberrations – *Luciana de Matos, PG-1*

8:30-8:37 Geometry of the poincaré plot and its application to the analysis of fluctuation of the pupil size – *Olival Cardoso Lago, PG-1*

8:40-8:47 Two-year results of topical riboflavin exposure to ultraviolet a radiation and corneal ring segment insertion for keratoconus – *Adimara da Candelaria Renesto, PG-1*

8:50-8:57 Analysis of the correlation between ophthalmic examination and quality of life outcomes following intracorneal ring segment implantation for keratoconus –*Juliane Freitas Santos Paranhos, PG-1*

9:00-9:07 Evaluation of the action of riboflavin in crosslinking of porcine corneas by biomechanical characterization – *Patrícia Alessandra Bersanetti, Post-doc*

9:10-9:13 Visual aspects in Assistive Design – *Fernanda Jordani Barbosa Harada, PG0*

9:15-9:18 Corneal biomechanical properties based on ORA Waveform–derived parameters to distinguish normal and keratoconic eyes – *Allan Luz Souza, PG0*

9:20-9:40 **LECTURE 1:** Mechanisms for the color vision - *Christina Joselevitch*

PAPER PRESENTATION – SESSION 2

Cornea and External Diseases
Moderators: Denise de Freitas and Élcio Sato

9:40-9:47 Ocular rosacea: glycomics analysis of tear and saliva for disease biomarkers – *Ana Carolina Vieira, PG-1*

PROGRAM

December 09th - Friday

9:50-9:57 Use of topical immunomodulator in the treatment of Dysfunction Tear Syndrome in patients with primary or secondary Sjögren – *Rossen Hazarbassanov, PG-1*

10:00-10:07 VEGF Trap suppresses experimental corneal angiogenesis – *Hailton Barreiros Oliveira, PG-1*

10:10-10:13 Optimization and characterization of human limbal stem cell culture - *Melissa Manfroi Dal Pizzol, PG-0*

10:15-10:35 **COFFEE BREAK**

10:35-10:55 **LECTURE 2:** Research question – a challenge for scientific methodology - *Sérgio Munoz-Navarro*

PAPER PRESENTATION – SESSION 3

Cornea, External Diseases and Laboratory
Moderators: José Alvaro P. Gomes and Mauro Nishi

11:00-11:07 Comparison of different culture media for limbal epithelial cells cultivated ex vivo – *Renata Ruoco Loureiro, PG-1*

11:10-11:17 Transplantation of conjunctival epithelial cells cultivated ex vivo in patients with total limbal stem cell deficiency – *Jose Reinaldo S. Ricardo, PG-1*

11:20-11:27 Light microscopy,ultrastructural location and quantification of super paramagnetic nanoparticles on ARPE-19 and human corneal endothelial cells – *Gustavo Teixeira Grottone, PG-1*

11:30-11:37 Evaluation of the riboflavin and ultraviolet light effect on keratocytes cultivated *in vitro* – *Joyce Luciana Covre, PG-1*

11:40-11:47 Transepithelial cross-linking: influence of corneal epithelium on ultravioleta-a (UVA) and riboflavin – *Kátia Mantovani Botós, PG-1*

11:50-11:57 Study of the therapeutic action of 0.1% riboflavin/ ultraviolet radiation on the experimental eye burn in rabbits – final results – *Marcelo Colombo Barboza, PG-1*

12:00-12:07 Comparison between Manual DALK and the Automated Technique with Femtosecond Laser Associated with Phototherapeutic Keratectomy by Excimer Laser in Keratoconus – *Jarbas Pereira Macedo, PG-1*

12:10-12:17 The Boston Type 1 Keratoprosthesis Outcomes in Ocular Burns – *Lauro Augusto Oliveira, Post-doc*

PROGRAM

December 09th - Friday

12:20-12:30 **DRAWINGS**

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

13:30-13:50 **LECTURE 3:** Extramural High Volume Cataract Surgery - *Javier Castillo Velázquez*

PAPER PRESENTATION – SESSION 4

Cornea, External Diseases and Laboratory
Moderators: Ana Luísa Hofling-Lima and José Alvaro P. Gomes

13:50-13:57 Conjunctival bacterial microbiota changes in diabetics patients with normal and abnormal glycosylated hemoglobin in two brazilian regions – *Natália Pimentel Moreno, PG1*

14:00-14:07 Correlation of clinical outcomes and antifungal susceptibilities among molecularly identified fusarium species from ocular sources in Brazil and USA – *Rafael Allan Oechsler, PG1*

14:10-14:17 Assessing efficacy of combined riboflavin and UVA light (365 nm) treatment of acanthamoeba trophozoites – *Renata Tiemi Kashiwabuchi, PG1*

14:20-14:27 Extracellular proteases as differential virulence factors in Acanthamoeba keratitis - *Fábio Ramos de Carvalho, Post-doc*

14:30-14:37 Amniotic membrane transplantation versus anterior stromal puncture – *Fabiana dos Santos Paris, PG-1*

PAPER PRESENTATION – SESSION 5

Glaucoma
Moderators: Augusto Paranhos Jr. and Ivan Maynart Tavares

14:40-14:47 Intraocular pressure lowering effect of topical S-nitrosothiol formulations.- *Angelino Julio Cariello, PG1*

14:50-14:57 Evaluation of ocular perfusion pressure in patients with heart failure – *Daniel Meira Freitas, PG1*

15:00-15:07 Mitomycin C and glaucoma - time or dose dependent? – *Fábio Nishimura Kanadani, PG1*

15:10-15:17 Evaluation of macular structure and function in glaucoma – *Luciano Moreira Pinto, PG1*

15:20-15:27 Evaluation of optic nerve, lateral geniculate body and visual cortex by 3-t high-speed magnetic resonance imaging – *Rafael Lacerda Furlanetto, PG1*

PROGRAM

December 09th- Friday

15:30-15:33 Correlation between disc damage likelihood scale and cup-to-disc ratio, visual field and retinal nerve fiber layer thickness in normal and glaucomatous eyes - *Andrea Cotait Kara-Jose, PG0*

15:35-15:38 Comparison of glaucoma detection ability among 3 Spectral-domain OCT devices and Stratus OCT – *Dinorah Piacentini Engel Castro, PG0*

15:40-16:00 **COFFEE BREAK**

PAPER PRESENTATION – SESSION 6

Glaucoma, Epidemiology and Low Vision
Moderators: Paulo Augusto de Arruda Mello and Marinho Jorge Scarpi

16:00-16:17 Hydrostatic Pressure Effect On Intraocular Pressure Of Swimmers – *Rodrigo Gustavo Lopes, PG1*

16:20-16:27 Variation of intraocular pressure caused by the use of swimming goggles during swimming – *Rudolf Eberhard Lenk, PG1*

16:30-16:33 Surgical treatment of uveitic glaucoma: trabeculectomy with mitomycin-C vs. Ahmed glaucoma implant - *Maria Vitoria Oliveira Moura Brasil, PG0*

16:35-16:38 Decreased functional MRI response to visual stimuli and pericalcarine gray matter volume in glaucoma – *Vanessa Miroski Gerente, PG0*

16:40-16:47 Progression of refractive errors in low-income urban school-age children of São Paulo city – *Célia Regina Nakanami, PG1*

16:50-16:57 Quality of life and psychological aspects related to Retinopathy of Prematurity – *Alcione Aparecida Messa, PG1*

17:00-17:07 Barriers for cataract surgery uptake in Brazil: The São Paulo Eye Study - *Márcia Regina Kimie Higashi Mitsuhiro, Post-doc*

17:10-17:17 System Portable Reading (SPR): an engineering approach to low vision device development – *Vagner Rogério dos Santos, PG1*

17:20-18:50 **POSTER - SESSION 1**

Refractive Surgery (04), Bioengineering (01), Cornea and External Diseases (09), Refraction – Contact Lenses (01), Epidemiology (01), Glaucoma (13) and Low vision (01)

19:00 **END OF SESSION**

PROGRAM

December 10th - Saturday

PAPER PRESENTATION – SESSION 7

Strabismus, Ocular Plastic Surgery, Lacrimal System and Tumors/Pathology
Moderators: Maria Cristina Martins and Juliana M. Ferraz Sallum

8:20-8:27 The use of amniotic membrane in reducing adhesions after strabismus surgery: Experimental study in rabbits - *David Kirsch, PG1*

8:30-8:37 Comparison between two surgical techniques for lower eyelid rejuvenation: safety analysis and outcomes - *Giovanni Andre Pires Viana, PG1*

8:40-8:43 Lacrimal system lacrymal recanalizer – *Eduardo Alonso Garcia, PG0*

8:45-8:53 Correlation of impression cytology predictive index of invasion and histopathological analysis in the study of ocular surface squamous neoplasia: preliminary results - *Simone Ribeiro Araújo de Almeida Almeida, PG0*

8:55-9:15 **LECTURE 4:** Defining outcomes from correlated data: advantages and disadvantages - *Sérgio Munoz-Navarro*

PAPER PRESENTATION – SESSION 8

Cataract, Uveitis and Pharmacology
Moderators: Cristina Muccioli and Walton Nosé

9:15-9:22 Central corneal thickness and intraocular pressure in congenital cataract surgery with intracameral Triamcinolone – *Marcelo Carvalho Ventura, PG1*

9:25-9:42 Retinal toxicity of intravitreal injection of Rapamycin in rabbits – *Luci Meire Silva, PG1*

9:45-9:52 Clonidine as preanesthetic medication in cataract extraction: comparison between 100mcg and 200mcg – *José Roquennedy Souza Cruz, PG1*

9:55-9:58 Using the technique of real-time PCR in the diagnosis of uveitis infectious - *Fabio Felipe Santos, PG0*

10:00-10:20 **COFFEE BREAK**

10:20-10:40 **LECTURE 5:** Genotype-phenotype relationships in retinal dystrophies - *Miguel Castelo-Branco*

PROGRAM

December 10th - Saturday

PAPER PRESENTATION – SESSION 9

Electrophysiology and Retina-Vitreous

Moderators: Solange Rios Salomão and Adriana Berezovsky

10:40-10:47 Maculo-occipital pathway dysfunction in strabismic and anisometropic amblyopic children – *Eric Pinheiro Andrade, PG1*

10:50-10:57 Brazilian prototype of a disposable fiber electrode for electroretinography in patients with retinal dystrophy – *Josenilson Martins Pereira, PG1*

11:00-11:07 Longitudinal grating acuity measured by Sweep-VEP in children with cortical visual impairment – *Nívea Nunes Cavascan, PG1*

11:10-11:17 Optical Coherence Tomography in retinitis pigmentosa patients Study - Comparing Stratus OCT and Spectralis OCT results – *Douglas Yanai, PG1*

11:20-11:27 Age-related Changes in Macular Pigment Optical Density Values as Measured by Dual-Wavelength Autofluorescence Imaging - *Verônica Castro Lima, PG1*

11:30-11:37 Experimental study of retinal toxicity of intravitreous anti-VEGF drugs – *João Borges Fortes Filho, Post-doc*

11:40-11:47 A study on the cost-effectiveness of the anti-VEGF treatments for age-related macular degeneration – *Renata Portella Nunes, PG1*

11:50-11:53 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, PG0*

11:55-12:05 DRAWINGS

12:05-13:30 LUNCH

13:40-14:00 LECTURE 6: From the retina to the cortex: novel insights in the understanding of disorders of the visual system - *Miguel Castelo-Branco*

PROGRAM

December 10th - Saturday

PAPER PRESENTATION – SESSION 10

Retina and Vitreous
Moderators: Michel Farah and Maurício Maia

14:20-14:27 A predictive score for retinopathy of prematurity (ROPScore) in very low birth weight preterm infants – *Gabriela Unchalo Eckert, PG1*

14:30-14:37 Vitreomacular traction syndrome: clinical correlation between postoperative functional and anatomic results - *Juliana Mantovani Bottós, PG1*

14:40-14:47 Safety of hyperosmolar dyeing solutions (Mannitol vs high Glucose) in vitrectomy in rabbits - *Bruno Albuquerque Furlani, PG1*

14:50-14:53 Vitrectomy probes and soft-tip cannulas vacuum forces comparison - *Leonardo Martins Machado, PG0*

14:55-14:58 Outcomes of macular hole surgery with internal limiting membrane peeling with and without indocyanine green staining – *Oswaldo Ferreira Moura Brasil, PG0*

15:00-15:07 New vital dyes for vitreoretinal surgery: in vitro study of citotoxicity and apoptosis retinal pigmented cell culture – *Fernando Marcondes Penha, Post-doc*

15:10-15:17 Chromovitrectomy: comparative assessment of pH, osmolarity, solvent and light exposure in dye-related retinal toxicity – *Elaine Fiod Costa, PG1*

15:20-15:27 Development and initial experience of a colored perfluorocarbon liquid in vitreoretinal surgery – *Eduardo B. Rodrigues, Post-doc*

15:30-15:37 Retinal toxicity analysis of Lutein and Zeaxanthin associated to brilliant blue in rabbit model – *Diogo Sousa-Martins, PG1*

15:40-16:00 **COFFEE BREAK**

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

Oculoplastic Surgery (02), Trauma (04), Tumors and Pathology (02), Cataract (03), Uveitis (03), Pharmacology (01), Neuro-Ophthalmology (01), Electrophysiology (01) and Retina and Vitreous (15)

17:15-18:15 **FINAL REMARKS AND AWARDS ANNOUNCEMENT**
José Alvaro P. Gomes and Eduardo B. Rodrigues

18:25h **ADJOURN**
Organizing Committee

POSTERS

December 09th - Saturday

SESSION 1

Refractive Surgery (04)

1. Second Harmonic Generation for Tridimensional Visualizing of Crosslinked Collagen Lamellae in Keratoconic Corneas. Amanda Correia da Paz (R)
2. Analisys of higher order aberrations in eyes of elite police of Sao Paulo - Bruno Landgren (R)
3. Study of pupillary influence on patients to be subjected to Laser keratorefractive surgery with the use of pupillary measurement digital device and visual function – Eduardo Marcelo Moron de Andrade (PG1)
4. Analysis and Comparison of Four Aberrometers for Evaluating Lower and Higher Order Aberrations – Fabiano Cade (PG0)

Bioengineering (01)

5. Analysis and development of new surgical instruments for ophthalmic pratice – Juliana Filippi Sartori (R)

Cornea and External Diseases (09)

6. Comparison of therapeutic effect of topical, subconjunctival, intracameral and intrastromal bevacizumab on corneal angiogenesis in a rabbit model – Aline Silveira Moriyama (PG0)
7. Cases of bilateral Acanthamoeba keratitis – Carlos Eduardo Barbosa Filho (R)
8. Discarded corneas due to positive donor´s serologic test in the Hospital Sao Paulo eye bank: a one year study – Jeferson de Lima (R)
9. Reasons for not harvesting corneas in the Hospital Sao Paulo Eye Bank – Joyce B. Tsuchiya (R)
10. Cost-effectiveness study of deep anterior lamellar keratoplasty vs. penetrating keratoplasty for the treatment of keratoconus – Maria Flávia de Lima Ribeiro (R)
11. Growth Factors Dosage in Fresh and Preserved Amniotic Membrane in Different Medium and at Different Temperatures and Correlation between Maternal and Gestational Age and Cytokines Concentration – Mário Genilhu Bomfim Pereira – (PG1)
12. Human Conjunctival Epithelial Cells cultivated ex vivo on Amniotic Membrane – Paulo C. Silber (PG)
13. The influence of fourth generation fluorquinolones in patients with Acanthamoeba keratitis and coinfection – Pedro Vanalle Ferrari (R)
14. Impression cytology analysis before and after treatment with osmoprotective lubricant in patients with dysfunctional tear syndrome - Viviane N. Peracini (G)

Refraction – Contact Lenses (01)

15. Contact lens fitting after ecstasies after refractive surgery – Thays Moreira Albhy (R)

Epidemiology (01)

16. Clinical profile of ophthalmologic patients requiring hospitalization – Huber Martins Vasconcelos Junior (R)

Glaucoma (13)

17. Measurement of corneal diameter: Agreement between methods – Bruno Torres Herrerias (R)
18. Weak agreement for cup disc ratios in a 3 - dimension web based tool – Carolina Pelegrini Barbosa (R)

19. Optic Nerve Head Evaluation Without Mydriasis: How Reliable is it – Daniel Colicchio (R)
20. Evaluation of retinal nerve layer in patients with multiple sclerosis without history of optic neuritis – Fabiana da Fonte Gonçalves (R)
21. Influence of corporal position in ocular perfusion pressure in glaucoma patients : A comparison between trabeculotomy and clinically controlled patients – Ibraim Viana Vieira (R)
22. Primary Congenital Glaucoma: can we do the diagnosis in utero? – Karine Duarte Bojikian (PG1)
23. Correlation Between the retinal never fiber layer thickness and the expanded disability status scale (EDSS) in patients with multiple sclerosis – Luiz Filipe Adami Luccato (R)
24. Comparison of two OCTs tecnologies in assessing the RNFL in glaucoma patients – Moacyr A. Campos (R)
25. Diagnostic Accuracy of Moorfields Regression Analysis and Glaucoma Probability Score Using Heidelberg Retina Tomograph – Patricia Kakizaki (R)
26. Evaluation the influence of a hands free speakerphone conversation simulation in the visual stimulus tested by the conventional perimetry and frequency-doubling technology perimetry – Paula de Campos Silva (R)
27. The effect of diuretics in the ocular perfusion pressure in hypertensive patients using angiotensin-converting enzyme inhibitors – Paula Leal dos Santos Barros (R)
28. Comparison of Diagnostic Accuracies of Spectral Domain Optical Coherence Tomography and Confocal Scanning Laser Ophthalmoscopy in Eyes Suspected of Having Glaucoma – Renato Dichetti R. Lisboa (PG1)
29. Eyes with Occludable Angles Despite Patent Iridotomy: Is Laser Iridoplasty Efficient in These Cases? – Vitor Gomes Prado (R)

Low vision (01)

30. Evaluation of functional vision and basic oculomotor in children with retinopathy of prematurity – Maria Fernanda Oliveira (Technician)

POSTERS

December 10th - Saturday

SESSION 2

Oculoplastic Surgery (02)

1. Minor salivary glands and labial mucous membrane graft in the treatment of severe symblepharon and dry eye in patients with Stevens-Johnson syndrome – Ana Estela B. P. P. Sant´Anna (PG1)
2. Study of orbicularis oculi muscles in patients with hemifacial spasm – Preliminary results - Tammy Hentona Osaki (PG1)

Trauma (04)

3. Epidemiology of traumatic closed globe injuries – Adriana Rainha Mascia (R)
4. Ophthalmological Training in Medical Schools - Luís Guilherme Milesi Pimentel (R)
5. Ocular trauma in the elderly – Marina Costa Carvalho Sousa (R)
6. Epidemiological findings in open eye injuries – Natalia Yumi Valdrighi (R)

Tumors and Pathology (02)

7. Immunohistochemistry of conjunctival melanocytic lesions: COX-2, C-KIT as possible therapeutic targets – Gustavo Amorim Novais (PG1)
8. The Role of HIF-1-alfa in Retinoblastoma. Immunohistochemical and In vitro Study – Patricia Rusa Pereira Odashiro (PG1)

Cataract (03)

9. Pseudoexfoliation in Amazonas state, Brazil – Igor Rodrigo Lins Silva (R)
10. Contra-chop: a new technique of phacoemulsification – Mariana kaori Yasuta (R)
11. Comparison of corneal astigmatism in temporal and nasal incisions after cataract surgery – Teissy Hentona Osaki (Fellow)

Uveitis (03)

12. Immunity stimulation in patients with Toxoplasma retinochoroiditis: one-year follow-up – Ana Carolina Britto Almeida Garcia – (R)
13. Subconjunctival Ozurdex® (Off-label indication) for scleritis – Heloisa Moraes Nascimento (Fellow)
14. Ozurdex® for corticosteroids refractory chronic uveitis – Julia Dutra Rosseto (R)

Pharmacology (01)

15. Development of vehicle to intravitreal application of Rapamycin – Daniel Felipe Silva (G)

Neuro-Ophthalmology (01)

16. Idiopathic Intracranial Hypertension in Children: case series – Ramon Antunes de Oliveira (R)

Electrophysiology (01)

17. Retinal function in patients with isquemic diabetic retinopathy using full-field electroretinogram – Mariana de Andrade Coelho (R)

Retina and Vitreous (15)

18. Microbubble sonothrombolysis for the treatment of Branch Retinal Vein Occlusion – Bruno Diniz (PG1)

19. 3,4 Dihydroxyphenyl Ethanol Reduces the Expression of Genes Involved in Angiogenesis in a Retinal Pigment Epithelial Cell Line – Cristina Miyamoto (PG1)
20. Intravitreal biocompatibility of acid violet dye for Chromovitrectomy - Emmerson Cardoso Badaró (R)
21. Photoreceptor inner segment/outer segment junction aspects and visual outcomes in commotio retinae: spectral-domain optical coherence tomography analysis – Franklin Souza Santos (R)
22. Development of an anesthetic gel for ophthalmic surgery – Hélio Francisco Shiroma (Fellow)
23. The Relationship Between Macular Sensitivity and Retinal Thickness in Eyes with Central Serous Retinopathy: Is the Initial Lost of Macular Sensitivity an Early Predictor of Chronicity? – João C. Ribeiro (R)
24. Experimental model to quantify the retinian phototoxicity of two different wavelengths during vitreoretinal surgeries – João Rafael do Souza Dias (R)
25. Fundoscopy findings in pediatric patients with sickle cell disease and analysis of macular status using Optical Coherence Tomography (OCT) – Juliana Moura Bastos Prazeres (R)
26. The effect of anti-VEGF therapy in choroidal thickness in patients with exudative age-related macular degeneration – Leticia Fernandes Barroso (Fellow)
27. Structural assessment of hyperautofluorescent ring in patients with cone–rod dystrophy – Mariann Midori Yabiku (R)
28. Full field ERG in albino and pigmented rabbits using a portable handheld system - Milton Nunes Moraes Filho (Fellow)
29. Efficacy and safety of different panretinal photocoagulation strategies with the PASCAL laser system for diabetic retinopathy – Renato Magalhães Passos (Fellow)
30. Investigation of new dyes for chromovitrectomy: preclinical biocompatibility of Trisodium, Orangell and Methil Violet – Rodrigo Arantes Souza Lima (R)
31. Spectral-Domain Optical Coherence Tomography Imaging of the Macula in Rhegmatogenous Retinal Detachment - Vespasiano Nunes Rebouças Santos (R)
32. Initial Clinical Experience with MAIA Microperimeter in Patients with Age-Related Macular Degeneration – Vinicius Silbiger de Stefano (R)

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

2011 Research Days 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

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: 10/2011

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.

PG1

Last Name: Luciana
First Name: de
Middle: Matos

Service: (BE) OCULAR BIOENGINEERING

CEP Number: 1914/07

5. ABSTRACT (REQUIRED):

Title: A COMPUTER SIMULATION FOR CUSTOMIZED CONTACT LENS ABLATION TO CORRECT HIGH-ORDER ABERRATIONS

Author and Co-authors (maximum 6): Luciana de Matos, Enos de Oliveira, Claudia Francesconi, Paulo Schor, Luis Alberto V. de Carvalho

Purpose: To develop a computer simulation for ablation in customized soft contact lenses in order to correct high-order aberrations.

Methods: We use real data from two patients diagnosed with two diferent high-order aberrations, which were measured with the Alcon LADARWAVE® wavefront aberrometer. Using Zernike poynomials and taking into account the optical path difference, we determined the thickness of the contact lenses that compensate these aberrations as well as the numbers of pulses required to ablate these lenses. A Gaussian profile with a 0.75 mm beam width – minimum width of LADARVISION® system – and a 0.3 um ablation depth were considered as parameters in the simulation.

Results: Optical quality was expressed through both the Point Spread Functions (PSFs) and Modulation Transfer Functions (MTFs). The correction maps generated from theoretical ablation were calculated. Both simulated lenses are shown, as well as the PSFs and MTFs.

Conclusion: Based on these simulations, we demonstrate the feasibility to construct an actual controlled laser system for manufacture customized soft contact lenses.

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

2011 Research Days 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

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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Deadline: 10/2011

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

PG1

Last Name: Olival
First Name: Cardoso
Middle: Lago

Service: (BE) OCULAR BIOENGINEERING

CEP Number: 0763/10

5. ABSTRACT (REQUIRED):

Title: GEOMETRY OF THE POINCARÉ PLOT AND ITS APPLICATION TO THE ANALYSIS OF FLUCTUATION OF THE PUPIL SIZE

Author and Co-authors (maximum 6): Olival C. Lago, Giuliano E. Ginani, Sabine Pompeia, Paulo Schor

Purpose: To describe the geometric representation of the Poincarè Plot in the analysis of fluctuation of the pupil size

Methods: Background: The Poincarè Plot (PP) is a tool used to to get insight into the complex processes that show a non-stationary behavior. The PP is a graphical representation of the correlation between consecutive points of data vector. The data is subdivided into vector x=(x1,...,xn-1) and y=(y2,...,yn), that form a "cloud" of points oriented along the line-of-identity y=a*x+b (a=1,b=0). To characterize mathematically the PP draw an ellipse with axes centered on the pair x ?, y ?, the longitudinal line coinciding with line-of-identity and the transverse line is perpendicular to longitudinal line. The dispersion of the points around the transverse line SD1=std(x-y)/2 (std-standard deviation) represents the short-term variability. The dispersion of points along the line-of-identity SD2=std(x+y)/2 represents the long-term variability. Methods: we use the area of pupil of a subject performing behavioral test. To perform the test the subject was placed in front of the computer screen, l

Results: The range of the pupil left-right: TC=[0.55,0.63], TE=[0.68,0.77]. SD1 left-right: TC=[0.030,0.033], TE=[0.026,0.029]; SD2 left-right: TC=[0.155,0.174] and TE=[0.265,0.302]. The change in status of the stimulus, changed the shape of the ellipse, reducing the SD1 in [16.9%,15.3%] and increasing the SD2 in [41.3%,42.5%], which may indicate an increase in pupil size variation in long-term. We observed that the short-term variability SD1 consistently tended to be higher in the TC as compared to TE.

Conclusion: We have described a method for analysis of fluctuations of the pupil size with the use of PP. The method has been described so that it can be reproduced without any ambiguities. There are reasons to believe, that the PP is a new and promising technique of pupil analysis due to its feasibility. However, further studies are needed to understand the physiological mechanisms represented in PP in the analysis of pupil.

Keywords: Poincarè Plot; Pupil

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PG1

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

Service: (RS) REFRACTIVE SURGERY

CEP Number: 1915/07

5. ABSTRACT (REQUIRED):

Title: Two-Year Results of Topical Riboflavin Exposure to Ultraviolet A Radiation and Corneal Ring Segment Insertion for Keratoconus

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

Purpose: To report refractive, topographic, pachymetric, tonometric, and corneal biomechanical outcomes 24 months after corneal cross-linking (CXL), followed by insertion of intrastromal corneal ring segments (ICRS) in keratoconic eyes.

Methods: Prospective randomized clinical trial.Thirty-nine keratoconic eyes were randomized for CXL or riboflavin eyedrops (RE).After three months all patients underwent insertion of ICRS. Outcome measures were uncorrected visual acuity (UCVA), best spectacle-corrected visual acuity (BSCVA), spherical equivalent refraction, topography, contrast sensitivity, tonometry, corneal hysteresis, and endothelial cell count were evaluated at baseline, 1 month, and 3 months after CXL or RE, and again at 1-, 3-, 6-, 12-, and 24-month intervals after ICRS insertion.

Results: Mean (standard deviation [SD]) baseline UCVA and BSCVA in the CXL group and the RE group were 1.12 (0.59) and 0.84 (0.49), and 0.68 (0.43) and 0.45 (0.23), respectively; 24-month mean (SD) UCVA and BSCVA in the CXL group and the RE group were 0.79 (0.50) and 0.62 (0.28), and 0.52 (0.45) and 0.32 (0.21), respectively, with no statistically significant difference between groups (P=0.70 and P=0.78). Mean (SD) baseline spherical equivalent (SE) refractions in the CXL group and the RE group were -7.38 (3.49) and -5.45 (3.53) diopters (D), respectively; 24-month mean (SD) SE in the CXL group and the RE group were -5.49D (3.77) and -4.19D (2.89), respectively, with no statistically significant difference between groups (P=0.94). There were no statistical differences between groups postoperatively at 24 months for all 3 topographic parameters, flattest-K1 (P=0.81), steepest-K2 (P=0.68), and average keratometry (mean power; P=0.52). Mesopic and photopic contrast sensitivities did not differ significantly between groups at 24 months (P?0.10). Endothelial cell counts did not change significantly (P=0.71) between groups from baseline to 24-month follow-up.

Conclusion: ICRS insertion, with or without prior CXL, showed no difference between groups about refractive, topographic, pachymetric, tonometric, and corneal biomechanical results postoperatively at 24 months.

Keywords: keratoconus;riboflavin;ultraviolet therapy;corneal surgery,laser.

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4. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Juliane
First Name: Freitas Santos
Middle: Paranhos

Service: (RS) REFRACTIVE SURGERY

CEP Number: 0490/06

5. ABSTRACT (REQUIRED):

Title: Analysis of the Correlation between Ophthalmic Examination and Quality of Life Outcomes following Intracorneal Ring Segment Implantation for Keratoconus.

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

Purpose: To analyse the correlation between quantitative measurements outcomes and keratoconus patients? vision related quality of life (v-QoL) following intrastromal corneal ring segment (ICRS) implantation.

Methods: The NEI-RQL (National Eye Institute Refractive Error Quality of Life) was administered to patients requiring ICRS implantation, before and after surgery, wearing best correction for 40 days minimum. Visual acuity, refraction, corneal topography, aberrometry data (VOL-CT. software) and contrast sensitivity (CS) were recorded before and 3 months after surgery. The main outcome measures were best corrected visual acuity, refraction, steep keratometric value (Kmax), aberrometry, CS and v-QoL.

Results: There were 42 keratoconic patients (69eyes): 19 male and 23 female, mean age 24.9±5 years in this prospective study. Binocular BCVA improved (0.13 ±0.03 before to -0.01±0.01 after surgery, $p<0.001$). There was a statistically significant improvement in mean spherical refraction (2.81±0.44 to 1.71±0.31), cylinder component (3.89±0.22 to 1.82±0.21), spherical equivalent (4.55±0.46 to 2.40±0.30), Kmax (55,92D ±0,62 para 52,16D±0,58D) and RMS(root mean square) low order ($p<0.001$). Contrast sensitivity (CS) improved at all spatial frequencies: at 6 cpd improvement was higher. RMS higher order did not improved p=0,422. There was significant improvement across all NEI-RQL scales after surgery. Multivariate analysis showed that gender (males more satisfied than females), cylinder (1D reduction improves 5 points in general NEI-RQL scores) and normal CS at 3 and 6 cpd were correlated with v-QoL. Other variables such as BCVA, root mean square low order (RMS LO), RMS higher order (RMS HO) and Kmax did not show influence on NEI-RQL scores.

Conclusion: The best patient response predictors with the NEI-RQL instrument were gender, normal CS at 3 and 6 cpd and cylinder reduction. The use of this questionnaire was fundamental to assess the influence of optical tests on v-QoL in keratoconus patients who were referred for ICRS implantation.

Keywords: Cornea, Keratoconus, Quality of Life, visual acuity.

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Pós-doc

Last Name: Patrícia
First Name: Alessandra
Middle: Bersanetti

Service: (BE) OCULAR BIOENGINEERING

CEP Number: 0580/10

5. ABSTRACT (REQUIRED):

Title: Evaluation of the action of riboflavin in crosslinking of porcine corneas by biomechanical characterization

Author and Co-authors (maximum 6): Patrícia A Bersanetti, Kátia M Bottós, Carina S. Castellan, Yuri M. S. de Paula, Regina F. Nogueira, Wallace Chamon, Paulo Schor

Purpose: To evaluate the action of riboflavin to promote crosslinking in porcine corneas by stress-strain measurements by the three-point bend method.

Methods: Five porcine corneas were treated with 0.1% riboflavin and ultraviolet light at 365 nm and other five corneas were used as control. All cornea samples were cut to approximate size of 2.0 mm x 7.0 mm. The three-point bend method was selected for the evaluation of the modulus of elasticity. An aluminum alloy fixture with a 5.0 mm span between supports was glued to the bottom of a glass Petri dish. Specimens were tested in compression while immersed in liquid using a Instron testing machine, with a 2 N load cell at crosshead speed of 0.5 mm/min. Load-displacement curves were converted to stress–strain curves and the modulus of elasticity calculated at 3% strain.

Results: The modulus of elasticity of porcine corneas determined by three-point bend method had statistically significant increases with crosslinking ($P < 0.05$). The value of modulus of elasticity at 3% strain of corneas subjected to crosslinking was 0.012 ± 0.003 MPa. The control samples showed a modulus of elasticity of 0.0073±0.002 MPa. In the literature, increasing the Young modulus in corneas subjected to crosslink with riboflavin is about 2 times that coincide with our results.

Conclusion: Our results showed that three-point bend method was appropriate in determining the modulus of elasticity of treated and control corneas.

Keywords: Cross-linking, cornea, modulus of elasticity, Three-point bend method

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6. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG0

Last Name: Fernanda
First Name: Jordani Barbosa
Middle: Harada

Service: (BE) OCULAR BIOENGINEERING

CEP Number: 0512/11

5. ABSTRACT (REQUIRED):

Title: Visual aspects in Assistive Design

Author and Co-authors (maximum 6): Fernanda Jordani Barbosa Harada
Paulo Schor

Purpose: The Designer creates solutions based on the user's needs to the majority of people. The Assistive Design allows people with limitations to use these solutions. With the increase of population life expectations and medical progress, there is a great interest in Assistive Design, which is within the concept of Universal Design. The Brazilian Institute of Geography and Statistics (IBGE) forecasts that in 2022 18% of the Brazilian population will be elderly and in 2050 the world´s elderly population will be 2 billion people. According to WHO among the new 2 million cases of blindness in the world, 80% will be in people over 50 years old. The prevalence of eye diseases that can lead to impairment of visual response is the third most common chronic condition, after heart and joint diseases. These chronic diseases, if not effectively controlled and medicated, can lead to sequels that affect the elderly in their basic activities of daily living. The incidence of chronic and disabling diseases is greater when it comes to old age, as well as the proportion of multiple drug users. Besides the low visual response, the cognitive gap also often makes the written information not to be effectively understood. Objectives: -Research for solutions that communicate effectively to the ederly with visual impairment, the information necessary for the correct use and ingestion of drugs. -Fill the deficits presented by users, through an integrated system to daily life, linked to the remaining senses still available.

Methods: The structured open interview was used to evaluate preliminarily the interaction between patient-drugs, taking into consideration the color, the size of the signs, and the understanding of the process of medication ingestion. Behavioral, cognitive and sensory analyzes will be used to obtain an effective communication.

Results: Prerequisites necessary for better communication, following the principles of Universal Design: -possibility of living with functional residual capacity; -a simple and intuitive solution. -consistency between information and its importance. -use of other senses such as tactile, sound and smell.

Conclusion: The understanding of the patient-medication relation may point to solutions that use other mechanisms or sensory resources to assist in the understanding the message.

Keywords: elderly,low vision,assistive design,drug therapy

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7. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG0

Last Name: Allan
First Name: Luz
Middle: Souza

Service: (RS) REFRACTIVE SURGERY and (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 2012/10

5. ABSTRACT (REQUIRED):

Title: Corneal Biomechanical Properties based on ORA Waveform–derived Parameters to distinguish Normal and Keratoconic Eyes

Author and Co-authors (maximum 6): Allan Luz; Bruno Machado Fontes; Frederico Guerra; Paulo Schor; Renato Ambrósio Jr.

Purpose: To compare corneal hysteresis (CH), corneal resistance factor (CRF), Goldman-correlated intraocular pressure (IOPg) and 38 novel Ocular Response Analyzer (ORA; Reichert Ophthalmic Instruments, Buffalo, NY) ORA waveform–derived parameters in normal and keratoconic eyes.

Methods: The study consisted of 226 normal corneas from 113 patients and 88 keratoconic eyes from 44 patients. One eye randomly selected from each case was included. Eyes were diagnosed as keratoconus based on clinical examination, including corneal topography (Placido) and tomography (Scheimpflug). CH, CRF and 38 novel parameters derived from the ORA waveform signal were extracted from the 2.0 ORA software. The best waveform signal was chosen from the exam of each eye. Statistical analysis was accomplished by the BioEstat 5.0 using unpaired TTest. ROC curves were calculated to determine the best cut off values from the significantly different parameters.

Results: Statistical significant differences between keratoconus and normal were found in all but 6 parameters, including IOPcc. The parameters correlated to the area under the applanation signals and first applanation signal height had the best performances to separate the groups. CRF and CH had best cut off values of 8.3 and 9.1mmHg respectively. The sensitivity and specificity of CRF were 84,1% and 82,7% and for CH, 81.8 and 78.3%. CRF ranked as the 8th and CH, as 16th parameter on the AUROC. P1area had sensitivity and specificity of 82.5% and 90.3% and P2-area1, 87.5% and 82.1% respectively.

Conclusion: There are significant higher biomechanic metrics in normal than in keratoconic eyes, such as CH and CRF. Novel waveform-derived ORA parameters provide better performance to identify ectasia. A combination of parameters improves the performance of the test, which provides great potential for artificial intelligence methods to help detecting ectasia.

Keywords: Biomechanics, ORA Waveform Analysis, Keratoconus

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PG1

Last Name: Ana
First Name: Carolina
Middle: Vieira

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 200311634-8

5. ABSTRACT (REQUIRED):

Title: OCULAR ROSACEA: GLYCOMICS ANALYSIS OF TEAR AND SALIVA FOR DISEASE BIOMARKERS

Author and Co-authors (maximum 6): Ana Carolina Vieira, Sureyya Ozcan, Hyun Joo, Carlito B Lebrilla, Mark J Mannis

Purpose: 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, tears, saliva, glycans, biomarker

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9. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Rossen
First Name: Mihaylov
Middle: Hazarbassanov

Service: (CO) CORNEA AND EXTERNAL and DISEASE (LA) LABORATORY

CEP Number: 0872/09

5. ABSTRACT (REQUIRED):

Title: Use of topical immunomodulator in the treatment of dysfunction tear syndrome in patients with primary or secondary Sjögren

Author and Co-authors (maximum 6): Yamasato, CKN, MD; Miura, DL, MD; Gomes, JAP MD

Purpose: To determine efficacy of an immunomodulating topical medication containing 0.05% ciclosporine A (CsA), compared with a topical lubricant (vitamin A, Refresh Endura®), on the treatment of dysfunctional tear syndrome (DTS) due to primary or secondary Sjögren's syndrome.

Methods: Clinical randomized, double-blind, efficacy and safety study. Thirty seven patients with previous diagnosis of primary or secondary Sjögren's syndrome (SS) according to a revised version of the European criteria proposed by the American-European Consensus Group were included in the study. 20 patients (100% female)(age mean ± SD: 55.00 ±7.42) were treated with CsA 0.05% tid for 3 months and 17 patients (94,1% female)(age mean ± SD: 50.86 ±12.06) were treated with Refresh Endura tid (Allergan, Inc., Irvine, California). All 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) of superior and temporal conjunctiva.

Results: Both topical Refresh Endura® and CsA treatments led to significant improvement in symptoms such as dryness, burning and foreign body sensation ($p<0.05$). Only CsA treatment led to significant improvement for OSDI, photophobia and blurred vision ($p<0.05$). Also, Refresh Endura® treatment led to significant improvement in ocular pain and conjunctiva staining of lissamine green ($p<0.05$). IC in temporal conjunctiva did not show a significant improvement or worsening of total score after 3 months treatment either for Endura or CsA (Fisher's exact test, $p>0.05$) in all patients.

Conclusion: Both topical CsA 0.05% and Refresh Endura® eye drops treatments are effective for the treatment of dry eye disorder despite IC findings. Those findings suggest that immunomodulator or Vitamin A eye drops might treat patients with diagnosed dysfunctional tear syndrome secondary to primary or secondary Sjögren's syndrome.

Keywords: topical lubrificant and immunomodulator, impression cytology analysis, dysfunction tear syndrome, primary or secondary Sjögren

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PG1

Last Name: Hailton
First Name: Barreiros
Middle: Oliveira

Service: (CO) CORNEA AND EXTERNAL and DISEASE (RS) REFRACTIVE SURGERY

CEP Number: 937/04

5. ABSTRACT (REQUIRED):

Title: VEGF Trap suppresses experimental corneal angiogenesis

Author and Co-authors (maximum 6): J.-H. Chang,1,2* T. Sakimoto,2 H. B. Oliveira,2 J. A. D. Javier,2 D. T. Azar,1,2 S. J. Wiegand,3 and S. Jain,1,2

Purpose: To determine the effect of 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; $p<0.05$).

Conclusion: 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.

Keywords: VEGF TrapR1R2, bFGF, angiogenesis, cornea

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PG0

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

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 485/01

5. ABSTRACT (REQUIRED):

Title: Optimization and characterization of human limbal stem cell culture

Author and Co-authors (maximum 6): 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. These two culture techniques will be tested in two different conditions: in systems with or without xenobiotic products.

Methods: Cadaveric donor limbal corneal epithelial cells will be expanded 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. 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 104 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 mitomycin C 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 KSFM 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 differenti

Results: Preliminary results pointed out some culture conditions changes in order to optimaze stem cell expansion. The present method avoided expansion on amniotic membrane, and the preference for KSFM instead of SHEM or Epilife culture medium.

Conclusion: Experiments under these new changings that privilege stem cell expansion are on going.

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

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Last Name: Renata
First Name: Ruoco
Middle: Loureiro

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 1637/08

5. ABSTRACT (REQUIRED):

Title: Comparison of different culture media for limbal epithelial cells cultivated ex vivo

Author and Co-authors (maximum 6): Renata Ruoco Loureiro, Priscila Cardoso Cristovam, Joyce Luciana Covre, Rossen Hazarbassanov, José Álvaro Pereira Gomes, Mauro Nishi.

Purpose: Evaluate the effectiveness of different culture media on growth, proliferation, apoptosis and differentiation of limbal epithelial cells cultivated ex vivo.

Methods: Limbal epithelial cell cultures were established from 10 human corneal rims and grown in three different culture media: Supplemental Hormonal Epithelial Medium (SHEM), Keratinocyte Serum-Free Medium (KSFM), Epilife®. The performance of each culture medium was evaluated according to the following parameters: growth of epithelial migration; immunocytochemistry for ATP-binding cassette member 2 (ABCG2), p63, Ki67, cytokeratin 3 (CK3), and vimentin (VMT); reverse transcription polimerase chain reaction (RT-PCR) (CK3, ABCG2); real time PCR (CK12); and cell viability using Hoechst staining.

Results: The cells grown in SHEM showed a faster migration in 17-19 days of culture. In KSFM, the cells showed a slower growth between 10 and15 days. The cells cultured in Epilife® medium had a slower growth, which began by 3-10 days, and it was statistically faster compared to SHEM (one way ANOVA, $p=0.030$). Immunocytochemical analysis showed for SHEM a lower percentage of positive cells for proliferation (ABCG2 and Ki67) and undifferentiated (p63) markers and a higher percentage of positive cells for differentiated epithelium (CK3) when compared to KSFM and Epilife®. In PCR analysis of CK3 for differentiate cells, there were no significant differences, but in SHEM this finding was consistent with a higher expression, while for ABCG2 there were statistically lower expression (one way ANOVA, $p=0.022$) when compared to KSFM and Epilife®. With regard to CK12 expression determined by real-time PCR, was significantly lower in KSFM than with the other two media (one way ANOVA, $p<0.05$).

Conclusion: Based on our findings, we concluded that limbal epithelial cells cultured in KSFM medium presented a higher percentage of undifferentiated progenitor cells which may allow us to obtain better clinical results for ex vivo epithelial stem cell transplantation in ocular surface reconstruction.

Keywords: corneal epithelium, stem-cells, transplantation, cell culture, corneal limbus

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PG1

Last Name: José
First Name: R S
Middle: Ricardo

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 908/08

5. ABSTRACT (REQUIRED):

Title: 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 Ricardo1,2, Priscila Cardoso Cristovam2, Aline Lutz de Araujo1, Telma Pereira Barreiro1,2, Myrna Serapião dos Santos1,2, Jose Alvaro Pereira Gomes1,2.

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

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PG1

Last Name: Gustavo
First Name: Teixeira
Middle: Grottone

Service: (CO) CORNEA AND EXTERNAL DISEASE and (TR) TRAUMA

CEP Number: 278/08

5. ABSTRACT (REQUIRED):

Title: Light microscopy,ultrastructural location and quantification of super paramagnetic nanoparticles on ARPE-19 and Human Corneal Endothelial Cells

Author and Co-authors (maximum 6): Grottone, GT ; Loureiro, RR ; Couvre, J ; Gamarra, L ; Cristovam, P ; Gomes JAP

Purpose: Locate and quantify SPIO nanoparticles on ARPE-19 and HCECs after 24 hour incubation on different media.

Methods: After culturing ARPE-19 and HCEC on 24-well plates, cells were incubated on a solution containing RPMI or DMEM, supplemented with 5% FBS, 10% FBS or sham. In addition to these basal media, ENDOREM 0.2 mg FE /ml or LUMIREM 0.2 mg FE /ml were used at a 24-hour incubation regimen. Cells were fixated and used for prussian blue staining and electron microscopy to provide precise location of iron oxide nanoparticles. For subtle quantification of absorbed nanoparticles, an innovative ferromagnetic resonance test was performed.

Results: Superparamagnetic nano particles were not seen on LUMIREM solution at intracellular space on both cell types. Endorem solution was clearly seen at intracellular space at all tested samples. Incubation solution supplemented with sham, provided a low qualitative absorption of SPIOs to intracellular space. RPMI and DMEM are suitable for SPIO incubation with a slightly advantage for RPMI when compared with magnetic resonance tests.

Conclusion: ENDOREM is the chosen SPIO if the goal is internalization of SPIOs at tested samples. LUMIREN remains at the outer space, adhering at cell membrane but not entering intracellular space. Fetal Bovine Serum is an important supplement for both test groups. RPMI and DMEM are useful basal media for SPIO incubation and had a slightly good result towards RPMI.

Keywords: nanomedicine; cornea; retina; magnetic resonance; transplantation

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PG1

Last Name: Joyce
First Name: Luciana
Middle: Covre

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 0419/10

5. ABSTRACT (REQUIRED):

Title: Evaluation of the riboflavin and Ultraviolet light effect on keratocytes cultivated in vitro

Author and Co-authors (maximum 6): Joyce Luciana Covre, Priscila Cardoso Cristovam, Renata Ruoco Loureiro, Yara M. Michelacci, José Álavro Pereira Gomes, Élcio Hideo Sato.

Purpose: Evaluate the riboflavin and ultraviolet light effect on human keratocytes cultivated in vitro.

Methods: Keratocytes were obtained from human corneal rims remnants of tissue previously used in corneal transplants at the Department of Ophthalmology of UNIFESP/EPM, and cultured in DMEM medium with 10% FBS until confluence. Three cultures were stained with primary antibody monoclonal reaction to K3, Vimentin, alpha-SMA and Ki-67 for phenotypic characterization. PCR analysis for primers GAPDH, K3, Vimentin, alpha-SMA, Lumican and Keratocan was also performed. Other cell cultures were covered with collagen of different thickness (200µL and 500 µL) and 18 µL of riboflavin and were exposed to ultraviolet light (UV). After 30 minutes of UV exposure, cell viability analysis was determined with MTT method.

Results: We observed that the cell culture reached confluence in about 20 days. Immunocytochemistry results were not conclusive for all cell markers. After crosslinking, MTT analysis showed that cells had greater viability in group that contained 500µL of collagen. PCR analysis is also under way in order to characterize the cell cultures.

Conclusion: Immunocytochemistry showed inconclusive results and need to be repeated. 500µL of collagen proved protective against the effects of riboflavin and UV. More experiments are needed to better define the ideal culture conditions for keratocytes in order to determine the effects of crosslinking in vitro.

Keywords: Cornea, keratocyte, crosslinking

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Last Name: Kátia
First Name: Mantovani
Middle: Bottós

Service: (CO) CORNEA AND EXTERNAL DISEASE (RS) and REFRACTIVE SURGERY

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5. ABSTRACT (REQUIRED):

Title: TRANSEPITHELIAL CROSS-LINKING: INFLUENCE OF CORNEAL EPITHELIUM ON ULTRAVIOLETA-A (UVA) AND RIBOFLAVIN PENETRATION.

Author and Co-authors (maximum 6): Katia Mantovani Bottos, Paulo Schor, Juliana L. Dreyfuss, Helena Bonciani Nader, Wallace Chamon.

Purpose: To determine if the integrity of the corneal epithelium interferes with the Cross-linking effect.

Methods: Fifteen freshly enucleated porcine eyes were divided into 3 groups of 5 eyes each. The corneal epithelium was kept intact in all groups. Group 1 (the control group) received no treatment. Group 2 received 12 instillations, with 5 minutes intervals, of tetracaine eyedrops and drops of riboflavin 0,1% in dextran 20%. Group 3 received one intracameral injection of 0.25 ml of riboflavin solution into the anterior chamber to allow penetration of the drug through the endothelium. After 30 minutes of riboflavin exposure groups 2 and 3 were irradiated with UVA (365±5 nm, 3 mW/cm2) for another 30 minutes. Ultra-thin sections (8 ?m) of the corneas were stained with anti-collagen type I and DAPI (4,6-diamidino-2-fenilindole dihydrocloride) and analyzed with fluorescence microscopy.

Results: Corneas treated with UVA irradiation and intracameral injection of riboflavin (Group 3) showed greater collagen organization than Groups 1 (control) and 2 (riboflavin and tetracaine eye drops). A yellow stromal staining, which represents the riboflavin diffusion into the stroma, was only observed in eyes with intracameral injection.

Conclusion: Using immunofluorescence microscopy, we were able to show in enucleated porcine corneas that the intact epithelial layer interferes with the effect of CXL by preventing the penetration of the drug and not by limiting the UVA transmittance.

Keywords: Cross-linking, cross-link, CXL, riboflavin, UVA, corneal epithelium, immunofluorescence microscopy, transepithelial cross-linking.

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

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

PG1

Last Name: Marcello
First Name: Colombo
Middle: Barboza

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 1476/09

5. ABSTRACT (REQUIRED):

Title: STUDY OF THE THERAPEUTIC ACTION OF 0.1% RIBOFLAVIN/ ULTRAVIOLET RADIATION ON THE EXPERIMENTAL EYE BURN IN RABBITS – FINAL RESULTS

Author and Co-authors (maximum 6): 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 evaluate at 1, 7, 15, 30 days by two independent observators. All animals were sacrificed after 30 days .

Results: In this study , we observed good correlation by spearman's correlation test (>0,8) between the two clinical obsevators. Clinical parameters like hyperemia, corneal edema, ciliar injection, limbal ischemia, secretion, corneal neovascularization, symblepharon and blepharospasm did not show estatistical diference all time . However, we observed estatistical diference ($p<0,05$) in Ephitelial defect (day 15 – 0,008 and day 30 - 0,008) and in Corneal Lesion Length (day 30 – 0,021)

Conclusion: Final results suggests that use of riboflavin/ultraviolet light (collagen crosslinking) in corneas with acute alkali ocular burn improves prognosis when compared with only clinical therapy .

Keywords: Alkali ocular burn, riboflavin , collagen crosslinking

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ARVO Abstract Book (1.10 x 1.70m)

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

PG1

Last Name: Jarbas
First Name: Pereira
Middle: Macedo

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 58187

5. ABSTRACT (REQUIRED):

Title: Comparison between Manual DALK and the Automated Technique with Femtosecond Laser Associated with Phototherapeutic Keratectomy by Excimer Laser in Keratoconus

Author and Co-authors (maximum 6): Jarbas Macedo, Lauro Oliveira, Camile Tonin, Vivian Sakai, Pedro Bertino, Luciene Barbosa

Purpose: To evaluate and compare the efficacy of deep anterior lamellar keratoplasty (DALK) performed with femtosecond laser associated with phototherapeutic keratectomy (PTK) by excimer laser and associated with stromal air injection in patients with keratoconus

Methods: Randomized, clinical trial, keratoconus patients. Post op: BSCVA, SE, orbscan, contrast sensitivity, confocal microscopy, OCT Visante™ and specular microscopy. Group I: FS-laser-Intralase® 60mHZ + PTK Excimer z100BL®: IL + PTK Recipient cornea: DALK up to 120µm of residual bed; Z pattern at anterior side cut + 50µm PTK application in the residual stromal bed - 14 eyes Group II: manual DALK + FS-laser-Intralase® 60mHZ: IL + MANUAL Recipient cornea: DALK up to 120µm of residual bed; Z pattern at anterior side cut + air injection in the residual stromal bed - 12 eyes Group III: manual DALK Recipient cornea: Big-bubble technique: 16 eyes

Results: Best spectacle corrected visual acuity (BSCVA) IL + PTK group: pre-operative BSCVA: ,500 logMAR; 12 month BSCVA: ,700 logMAR IL + Manual group: pre-operative BSCVA ,500 logMAR; 12 month BSCVA: ,200 logMAR Manual group: pre-operative BSCVA: ,500 logMAR; 12 month BSCVA: ,350 logMAR OCT Visante residual bed OCT Visante residual bed IL +PTK: 190,0 µm OCT Visante residual bed IL + Manual: 68,0µm OCT Visante residual Manual: 33,0µm

Conclusion: Based in statistical analysis, regarding postoperatory BSCVA, IL + PTK group was inferior than IL + MANUAL and MANUAL DALK. Regarding residual stromal bed, IL + PTK group was inferior than IL + MANUAL and MANUAL DALK

Keywords: keratoconus, corneal transplant, clinical findings.

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19. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Pós-doc

Last Name: Lauro
First Name: Augusto
Middle: Oliveira

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 1179/07

5. ABSTRACT (REQUIRED):

Title: The Boston Type 1 Keratoprosthesis Outcomes in Ocular Burns

Author and Co-authors (maximum 6): Lauro Augusto de Oliveira, Fernanda Pedreira Magalhães, Flavio Hirai, Denise de Freitas, Luciene Barbosa de Sousa

Purpose: To report the outcomes of the Boston Type I keratoprosthesis (BKPro) in the management of ocular burn injuries.

Methods: Retrospective review of all cases of BKPro implantation for ocular burns between February 2008 and February 2010. Procedures performed for the management of ocular injury were identified, and data were collected regarding the patients' ocular history, surgical procedure(s) performed, and postoperative outcomes, including visual acuity, retention, complications, and required surgical procedures.

Results: A total of 11 Type 1 BKPro were implanted in 10 eyes of 10 patients. The mean follow up period was 25.7 + 10.8 months. . Pre-operative BCVA ranged from count fingers to light perception. Postoperative BCVA was better than 20/200 in 90% of the patients and better than 20/60 in 60% of the patients. The overall BKPro retention rate was 90%. The most common complications were retroprosthetic membrane (RPM) formation (50%) and corneal melting (40%). Patients submitted to ocular surface procedures as limbal transplantation prior to BKPRo implantation had lower incidence of corneal melting/thinning (P=0.07).

Conclusion: The anatomical and functional results found in this study support the use of Boston Type I Keratoprosthesis in managing bilateral limbal stem cell deficiency secondary to ocular burns.

Keywords: Boston Keratoprosthesis, ocular burn, Keratoplasty.

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

PG1

Last Name: Natalia
First Name: Pimentel
Middle: Moreno

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 0115/09

5. ABSTRACT (REQUIRED):

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

Author and Co-authors (maximum 6): Moreno NP; Silva RF; Vargas NU

Purpose: To study had as objective to study the conjunctival bacterial diabetic patients from two different regions and the influence of environmental and socioeconomic changes in the conjunctival bacterial flora of diabetic and no diabetic through conjunctival scrapings.

Methods: Transversal study that conjuctival samples were obtained of 120 eyes of diabetics with normal and anormal glycosylated hemoglobin and no diabetics who were control group in two cities: Sorocaba (Sao Paulo) and Rio Branco (Acre). The material was seeded in the liquid BHI and was plated on culture media for bacteria (blood and chocolate agars).

Results: 64 (53.3%) showed bacterial growth of 120, 48 (60%) in diabetics and 16 (40%) in no diabetic patients. In Sorocaba, there was growth in 39 (64.9%) patients, 29 (48.3%) in diabetics and 10 (16.6%) in non-diabetics. In Rio Branco, 35 (58.3%) patients, 21 (35%) in diabetics and 14 (23.3%) in non-diabetics.
The number of patients who showed no bacterial growth was 56 (46.7%), 32 (26.7%) in diabetics and 24 (20%) in non-diabetics. In Sorocaba, 21 (34.9%) had positive cultures, and 11 (18.3%) in diabetics and 10 (16.6%) in non-diabetics. In Rio Branco, 25 (41.6%) had negative cultures, with 19 (31.6%) diabetic and 6 (10%) non diabetic patients. Staphylococcus epidermides was the most frequent isolated from the conjunctiva of diabetics, following Streptococcus sp, Staphylococcus aureus and Escherichia coli.

Conclusion: A greater predisposition to bacterial growth occurs in diabetic patients independent of glycemic control in two regions. Staphylococcus epidermides was the most frequent bacteria isolated from the conjunctiva.

Keywords: Microbiology, conjunctiva, diabetes, glycosylated hemoglobin.

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21. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Rafael
First Name: Allan
Middle: Oechsler

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 1066/08

5. ABSTRACT (REQUIRED):

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

Author and Co-authors (maximum 6): Rafael Allan Oechsler, Juliana Sartori, Tiago Massao Yamanaka, Maria Celília Zorat Yu, Darlene Miller, 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, F. solani showed to be more prevalent when compared to the non-solani species, being 92% of the isolates, compared to 75% in USA. Data on genotyping and antifungal susceptibilities in Brazil is under analysis.

Conclusion: 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 in Brazil were performed and are under analysis.

Keywords: Fusarium sp, keratitis, antifungals, clinical outcomes, genotyping.

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22. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Renata
First Name: Tiemi
Middle: Kashiwabuchi

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 1498/11

5. ABSTRACT (REQUIRED):

Title: Assessing Efficacy of Combined Riboflavin and UVA Light (365 nm) Treatment of Acanthamoeba Trophozoites.

Author and Co-authors (maximum 6): Renata T Kashiwabuchi1, MD; Fabio RS Carvalho, Denise de Freitas, Annete S Foronda, Flavio E Hirai, Mauro S Campos.

Purpose: To assess the Acanthamoeba trophozoite viability in vitro and treatment of Acanthamoeba keratitis in a hamster model using ultraviolet light A (UVA) and riboflavin (B2).

Methods: A sample of Acanthamoba spp cultured was transferred to a 96-well plate and exposed to Riboflavin (B2) and the UVA light (365 nm wavelength) at a power density of 3 mW/cm2, 8 mm spot diameter, for 30 minutes. The exposure was done in triplicate. Control groups were prepared in triplicate as well: Blank control, UVA only, Riboflavin only and Dead Control. Cell viability assessment was done using the Trypan blue dye exclusion method. Acanthamoeba keratitis was induced in 30 Chinese Hamsters; who were randomly assigned to one of the experiment groups: UVA-B2, Brolene, UVA-B2 + Brolene, Only UVA, Only B2, Blank. Throughout the 14 days treatment the animals were examined clinicallly. Histology and clinical scores of all groups were compared.

Results: The in vitro study showed no difference between the treatment group UVA-B2 and the control groups. In the hamster keratitis model a significant improvement of clinical score was observed for the groups Brolene and UVA-B2 + Brolene (p=0.0067). Also a significant worsening of clinical score was observed in the other groups: UVA-B2 group (p=0.0084), only UVA (p=0.0078), B2 only (p=0.0084) and Blank (p=0.0082). No difference was observed between Brolene and UVA-B2 + Brolene.

Conclusion: The adjunctive use of UVA and B2 therapy did not demonstrate anti-trophozoite activity; in vivo UVA and B2 did not demonstrate efficacy in this model.

Keywords: keratitis, acanthamoeba, riboflavin, UVA light

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

Pós-doc

Last Name: Fábio
First Name: Ramos de
Middle: Carvalho

Service: (CO) CORNEA AND EXTERNAL DISEASE and (LA) LABORATORY

CEP Number: 0957/11

5. ABSTRACT (REQUIRED):

Title: Extracellular proteases as differential virulence factors in Acanthamoeba keratitis

Author and Co-authors (maximum 6): Fabio Ramos de Souza Carvalho, Linda Christian Carrijo-Carvalho, Ana Marisa Chudzinski-Tavassi, Annette Silva Foronda, Denise de Freitas

Purpose: Corneal infections, designed as keratitis, due to free-living amoebae have potentially devastating consequences. In general, Acanthamoeba spp is the main etiological agent of amoebic keratitis. Proteases represent a class of enzymes which are related with pathogenicity and cytolysis of Acanthamoeba species and genotypes. The proteases of secreted and crude extracts of Acanthamoeba pathogenic strains were studied and compared them with proteases from non-pathogenic A. castellanii strain.

Methods: The research was conducted in accordance with the tenets of the Declaration of Helsinki. Approval of the study was obtained from the local institutional review boards. Clinical isolates of Acanthamoeba were obtained from corneal scraping of different patients, while non-pathogenic A. castellanii strain was obtained from American Type Culture Collection (ATCC 30011). Proteolytic and collagenolytic activities were analyzed after performing electrophoresis of crude extract protein and conditioned medium in polyacrylamide gels containing gelatin and type I collagen, respectively, as copolymerized substrate. Extracellular enzymes were characterized with regard to sensitivity to specific protease inhibitors, and their molecular weight distribution in substrate electrophoresis gels.

Results: Our results showed that Acanthamoeba trophozoites produce distinct extracellular proteases. Proteolytic activities showed to be different among Acanthamoeba strains sourced from keratitis patients. The ability of Acanthamoeba strains isolated from different patients to degrade type I collagen, a major component of corneal stroma, was showed. Low molecular weight protein of serine protease class showed to be the main enzyme secreted by Acanthamoeba trophozoites.

Conclusion: Production and secretion of a diversity of proteins could be related with the role of extracellular enzymes in the virulence of protozoa as well as the pathogenesis among each Acanthamoeba isolate analyzed. Consequently, proteolytic enzymes of some Acanthamoeba isolates could be strictly related with the degree of severity and clinical manifestations of disease in the human cornea.

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Poster guidelines:
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24. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Fabiana
First Name: dos Santos
Middle: Paris

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 0728/02

5. ABSTRACT (REQUIRED):

Title: Amniotic Membrane Transplantation versus Anterior Stromal Puncture: A Comparative Study in Bullous Keratopathy

Author and Co-authors (maximum 6): Fabiana dos Santos Paris*; Eliana Domingues Gonçalves; Mauro Silveira de Queiroz Campos; Élcio Hideo Sato; José Álvaro Pereira Gomes; Harminder S Dua.

Purpose: To compare amniotic membrane transplantation (AMT) and anterior stromal puncture (ASP) in the management of pain in patients with symptomatic bullous keratopathy (BK).

Methods: A prospective randomized controlled study was performed including thirty-eight patients with symptomatic BK. Patients were randomized and divided into 2 groups (group AMT and group ASP) according to the surgical technique used in the treatment of symptomatic BK. The follow-up was made on the day 1, 14, 30, 90 and 180 of postoperative period.

Results: After a 180 days follow-up, 38 (100%) patients of both groups had a significant decrease of the episodes of pain in frequency, intensity, duration and related insomnia ($p < 0.001$) without significant difference between the 2 groups in frequency ($p=0.698$), intensity ($p=0.391$) and duration ($p=0.715$) of pain.

Conclusion: AMT is similar to ASP in the relief of pain in symptomatic BK.

Keywords: amniotic membrane, anterior stromal puncture, bullous keratopathy, corneal edema

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25. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Angelino
First Name: Julio
Middle: Cariello

Service: (GL) GLAUCOMA

CEP Number: 1573/08

5. ABSTRACT (REQUIRED):

Title: Intraocular pressure lowering effect of topical S-nitrosothiol formulations.

Author and Co-authors (maximum 6): Angelino Julio Cariello, Gabriela Freitas Pereira de Souza, Márcia Serva Lowen, Marcelo Ganzarolli de Oliveira, Ana Luisa Hofling-Lima.

Purpose: To evaluate the intraocular pressure lowering effect of two topical formulations of nitric oxide donors: S-nitrosoglutathione (GSNO) and S-nitroso-N-acetylcysteine (SNAC) at concentrations 1 and 10 mM, in hydroxypropylmethylcellulose (HPMC) solution 2.0 wt%.

Methods: Twenty albino rabbits were randomized into 4 groups with 5 animals: groups GSNO 1 and GSNO 10 received instillations of 150 ?L of formulations composed of aqueous HPMC solution containing GSNO at concentrations 1.0 and 10.0 mM, respectively, onto the right eye; groups SNAC 1 and SNAC 10 received instillations of 150 L of formulations composed of aqueous HPMC solution containing SNAC at concentrations1.0 and 10.0mM, respectively, onto the right eye. The left eye of each animal received aqueous HPMC solution as a control. All animals underwent a clinical evaluation on slit lamp and had their intraocular pressures (IOP) measured by a Perkins tomoneter, at 1 and 24 h after the topical application of the formulations. The independent-sample t test was used to compare IOP variation between control and treated eyes.

Results: After 1 h, the mean IOP lowering was 2.4±1.1 and 2.8±1.6 mmHg in the SNAC 10 and GSNO 10 groups, respectively ($p<0.05$). At concentration 1.0mM, neither SNAC nor GSNO displayed significant IOP lowering ($p>0.05$). After 24 h, IOP returned to basal levels in all cases. ($p>0.05$).

Conclusion: Aqueous S-nitrosoglutathione and S-nitroso-N-acethylcysteine solutions at concentrations up to 10 mM can be considered potential hypotensive formulations.

Keywords: Ocular pharmacology; glaucoma; Nitric oxide; Intraocular pressure.

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

PG1

Last Name: Daniel
First Name: Meira
Middle: Freitas

Service: (GL) GLAUCOMA

CEP Number: 0812/07

5. ABSTRACT (REQUIRED):

Title: EVALUATION OF OCULAR PERFUSION PRESSURE IN PATIENTS WITH HEART FAILURE

Author and Co-authors (maximum 6): Daniel Meira-Freitas, Luiz Alberto S. Melo Jr., Augusto Paranhos Jr.

Purpose: To evaluate the ocular perfusion pressure in patients with chronic heart failure.

Methods: 30 patients with chronic heart failure in different stages of the disease were compared with 30 healthy volunteers (control group). The ocular perfusion pressure was also correlated with echocardiographic assessment and clinical cardiologic status.

Results: The mean intraocular pressure was 12.2 ± 2.6 mmHg in the CHF group and 14.6 ± 2.9 mmHg in the control group (P <0.001). Mean arterial pressure was 87.1 ± 17.2 mmHg in the CHF group and 103.9 ± 15.3 mmHg in the control group (P <0.001). The mean ocular perfusion pressure was 45.9 ± 11.25 mmHg in the CHF group and 54.6 ± 10.5 mmHg in the control group (P = 0.002)

Conclusion: Heart failure is associated with a lower mean arterial pressure, lower perfusion pressure and lower intraocular pressure. These findings may have been caused by the vascular pathogenesis of heart failure or due to the use of systemic hypotensive medications.

Keywords: optic disk, glaucoma, heart failure, intraocular pressure

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

PG1

Last Name: Fábio
First Name: Nishimura
Middle: Kanadani

Service: (GL) GLAUCOMA

CEP Number: CEP FELUMA - FAPEMIG

5. ABSTRACT (REQUIRED):

Title: MITOMYCIN C AND GLAUCOMA - TIME OR DOSE DEPENDENT?

Author and Co-authors (maximum 6): FABIO N. KANADANI, LUIZA VILELA, TEREZA C. MOREIRA KANADANI, PAULA NERY, VINICIUS NUNES, LEANDRO D. CARVALHO

Purpose: To evaluate the effects of subconjuntival infiltration of mitomycin C (MMC) in rabbits, comparing dose and time.

Methods: Mitomycin C were injected in the subconjuntival space of148 rabbit eyes. There was a variation in dose [0,5mg/ml, 0,3mg/ml, 0,1mg/ml and 0,01 mg/ml] and time [days 0, 2 and 4]. Twenty-two items as corneal edema, corneal epithelium disruption, keratitis, Descemet´s membrane thickening, pannus, angle synechiae, angle granuloma; iris neovascularization, necrosis, vasodilatation, inflammation, hemorrhage and necrosis; ciliary body vasodilatation; perilimbic vasodilatation, granuloma, inflammation, neovascularization, hemorrhage, stromal cell reduction, vessels disruption and characteristics of the epithelium were analyzed.

Results: Perilimbic hemorrhage, epithelium changes and inflammation are typically dose dependent. Corneal edema, perilimbic stromal cell reduction and perilimbic vascular disruption are mostly time dependent. Other changes as iris necrosis, inflammation and hemorrhage seem to be time and dose dependent in an equal pattern. Were found intraocular damages when a higher dose of subconjutival MMC was injected.

Conclusion: The changes after MMC injection in rabbit eyes are both time and dose dependent. There are intraocular damages after subconjutival injection of MMC .

Keywords: GLAUCOMA;MITOMYCIN C; TRABECULECTOMY

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28. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Luciano
First Name: Moreira
Middle: Pinto

Service: (GL) GLAUCOMA

CEP Number: 26089-0

5. ABSTRACT (REQUIRED):

Title: Evaluation of Macular Structure and Function in Glaucoma

Author and Co-authors (maximum 6): L.M. Pinto, E.F. Costa, A. Maia, L.A.S. Melo, Jr., A. Paranhos, Jr..

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, crosssectional 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

Conclusion: 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: Sructure Function Relationship Glaucoma

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

PG1

Last Name: Rafael
First Name: Lacerda
Middle: Furlanetto

Service: (GL) GLAUCOMA

CEP Number: 0929/10

5. ABSTRACT (REQUIRED):

Title: EVALUATION OF OPTIC NERVE, LATERAL GENICULATE BODY AND VISUAL CORTEX BY 3-T HIGH-SPEED MAGNETIC RESONANCE IMAGING

Author and Co-authors (maximum 6): Rafael Lacerda Furlanetto, Daniela Batista de Almeida Freitas, Sérgio Henrique Teixeira, Edson Amaro Jr, Augusto Paranhos Jr.

Purpose: To analyze the correlation between functional defects assessed by psychophysical tests, retinal and optic nerve head structural damages and structural evaluation of retrobulbar optic nerve, lateral geniculate body and visual cortex, through high-speed 3T MR imaging acquisition in glaucomatous patients.

Methods: Cross-sectional prospective study. 40 patients (80 eyes) with glaucoma diagnosis and 12 healthy volunteers (24 eyes) were recruited from Glaucoma Service of Ophthalmology Department of UNIFESP. Selected participants were submitted to structural evaluation: optic disc stereophotograph, Optic Coherence Tomography (OCT), Confocal Scanning Laser Tomography (HRT), ultrasonography and MR; and psychophysical evaluation: standard automated perimetry (SAP) 24-2 and frequency doubling perimetry (FDT) Matrix 24-2. Anatomic-functional correlation will be performed in statistical analysis.

Results: Statistical analyses in process.

Conclusion: Waiting for results.

Keywords: Glaucoma, Optic Nerve, Lateral Geniculate Body, Visual Cortex, Magnetic Resonance Imaging

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30. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG0

Last Name: Andrea
First Name: Cotait
Middle: Kara-Jose

Service: (GL) GLAUCOMA

CEP Number: 1438/05

5. ABSTRACT (REQUIRED):

Title: Correlation Between Disc Damage Likelihood Scale and Cup-To-Disc Ratio, Visual Field and Retinal Nerve Fiber Layer Thickness in Normal and Glaucomatous Eyes

Author and Co-authors (maximum 6): A.C. Kara-Jose, E.D. Almeida, Jr., D.V.C. Barbosa, A.T.N.H. Endo, B.H.V.Escute, I.M. Tavares.

Purpose: To determine the correlation between Disc Damage Likelihood Scale (DDLS) and cup-to-disc ratio, visual field mean deviation (MD) index and retinal nerve fiber layer (RNFL) thickness in normal and glaucomatous eyes.

Methods: Forty-one eyes of 21 healthy subjects and 33 eyes of 17 patients with Primary Open-Angle Glaucoma were included in this observational, cross-sectional study. DDLS score and cup-to-disc ratio were evaluated by a trained physician using a 78-diopter lens. Visual field mean deviaton (MD) was obtained by automated perimetry with the Swedish Interactive Thresholding Algorithm (SITA) Standard 24-2 test (HFA II; Carl Zeiss Meditec Inc., Dublin, CA). Peripapillary RNFL thickness was measured by Time-Domain Optical Coherence Tomography (TD-OCT; Stratus; software version 5.0.1, Carl Zeiss Meditec Inc.) and Spectral-Domain OCT (SD-OCT; Spectralis; software version 4.0, Heidelberg Engineering, Dossenheim, Germain). Correlations between DDLS score and cup-to-disc ratio, visual field MD index and RNFL average thickness were evaluated by Spearman's rank correlation coefficient (r).

Results: The Mean (Standard Deviation) for the studied parameters were: DDLS score: 3.7 (1.8), cup-to-disc ratio: 0.58 (0.20), visual field mean deviation index (dB): -3.52 (6.19), RNFL average thickness (?m) for Spectralis: 92.6 (18.1) and for Stratus: 86.5 (18.1). A strong positive correlation was found between DDLS and cup-to-disc ratio (Spearman r = 0.82; P < 0.001). Weaker correlations were found between DDLS and visual field MD index (r = - 0.51; P < 0.001), Stratus RNFL average thickness (r = - 0.62; P < 0.001) and Spectralis RNLF average thickness (r = - 0.63; P < 0.001).

Conclusion: The present study showed that the DDLS is significantly correlated with both structural and functional parameters in normal and glaucomatous eyes.

Keywords: Optic disc, Nerve fiber layer, Visual fields

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PG0

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

Service: (GL) GLAUCOMA

CEP Number: 0111/07

5. ABSTRACT (REQUIRED):

Title: Comparison of glaucoma detection ability among 3 Spectral-domain OCT devices and Stratus OCT.

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

Purpose: The purpose of the study was to compare the glaucoma detection ability among 3 Spectral-domain OCTs (SD-OCTs) the Cirrus OCT, the OCT from Topcon, the RTVue OCT, and the Stratus OCT.

Methods: This study was a cross sectional study. 189 glaucoma, 127 glaucoma suspects and 58 healthy eyes, clinically diagnosed, were scanned with Stratus, Cirrus, Topcon, and RTVue retinal nerve fiber layer (RNFL) scan. ROC (specificity fixed at 80%) and AUCs 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: All three SD-OCT devices analyzed in our study had comparable diagnostic performance for detection of all stages of glaucoma and did not significantly differed from the Stratus OCT

Keywords: Glaucoma; Diagnostic; OCT

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32. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Rodrigo
First Name: Gustavo
Middle: Lopes

Service: (GL) GLAUCOMA

CEP Number: 1273/10

5. ABSTRACT (REQUIRED):

Title: Hydrostatic Pressure Effect On Intraocular Pressure Of Swimmers

Author and Co-authors (maximum 6): LOPES, R.G.; CONTE, M.; LENK, R.E. & SCARPI, M.J.

Purpose: To verify the hydrostatic pressure effect on the intraocular pressure (IOP) of swimmers

Methods: The swimming pool temperature was kept by 32°C. All the 33 volunteers, 18 women and 15 men, aging from 18 till 40 years, had their IOP measured by the same ophthalmologist using Perkins® tonometer, in 4 moments: i) 15 minutes seated outside the swimming pool; ii)15 minutes inside the swimming pool with water on the knees' line; iii)15 minutes inside the swimming pool with water on the hips' line; iv)15 minutes inside the swimming pool with water on their shoulders line.

Results: There was no significant results for ?% difference.

Conclusion: The hydrostatic pressure did not show effect on swimmers intraocular pressure.

Keywords: INTRAOCULAR PRESSURE; SWIMM; PHYSICAL EFFORT

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33. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Rudolf
First Name: Eberhard
Middle: Lenk

Service: (GL) GLAUCOMA

CEP Number: 0507/10

5. ABSTRACT (REQUIRED):

Title: VARIATION OF INTRAOCULAR PRESSURE CAUSED BY THE USE OF SWIMMING GOGGLES DURING SWIMMING

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

Purpose: To verify intra ocular pressure (IOP) variation in swimmers as a result of the use of swimming goggles.

Methods: Nine swimmers (5 men and 4 women) aged between 18 and 25 years had their in six different times. time 1): before test, time 2): after 10 minutes sitting down wearing swimming goggles, time 3): 15 minutes after time 2, time 4): after 10 minutes permanence inside the swimming pool without swimming goggles, time 5): immediately after swimming 400 meters, time 6): 12 minutes after swimming effort. The statistical procedures used were ANOVA and Bonferroni?s post test.

Results: IOP did not change wearing swimming goggles for 10 minutes ($P > 0.05$);no significant IOP reduction ocurred after 10 minutes permanence inside the swimming pool without swimming goggles ($P > 0.05$); there was a significant IOP reduction ($p<0.01$) immediately after swimming; and 12 minutes after concluding the physical effort the IOP values returned close to those initially recorded.

Conclusion: After swimming 400 meters, using goggles, there was a reduction in intraocular pressure, which returned to near initial results after 12 minutes.

Keywords: Intraocular pressure; Swimming goggles; Swimming; Glaucoma.

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Deadline: 10/2011

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

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

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

PG0

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

Service: (GL) GLAUCOMA

CEP Number: 0002/11

5. ABSTRACT (REQUIRED):

Title: Surgical treatment of uveitic glaucoma: trabeculectomy with mitomycin-C vs. Ahmed glaucoma implant

Author and Co-authors (maximum 6): Brasil MV, Lowder CY, Smith SD, Mello PA

Purpose: To compare the safety and efficacy of trabeculectomy with mitomycin-C (TRAB) and Ahmed Glaucoma Implant (AGI) in the treatment of uveitic glaucoma.

Methods: A retrospective chart review of 74 eyes of 58 consecutive patients who underwent TRAB or AGI implantation with a minimum follow-up period of 6 months was performed. The primary outcome measures were IOP, complication rate and surgical success. Surgical success was defined as IOP reduction of at least 20% from baseline and final IOP >5mmHg and < 22 mmHg. Eyes requiring additional glaucoma surgery, implant removal or who lost light perception were also considered surgical failures.

Results: There were 41 and 33 eyes in the TRAB and AGI groups, respectively. Baseline IOP was significantly higher in the AGI group (35.8 ± 8.7 mmHg vs. 31.3 ± 8.8 mmHg, p=0.03). In addition, a greater proportion of patients in the AGI group had undergone previous glaucoma surgery (30.3% vs. 2.4%, p=0.002). Other baseline characteristics were similar in the two groups. A significant reduction in IOP from baseline was achieved in both groups (TRAB -55.2% and -61.0%, both p<0.00005). The mean IOP was significant lower on the AGI group at the first postoperative day (7.9 ± 3.3 mmHg vs 15.5 ± 13.1 mmHg, p=0.002). The IOP in the TRAB group was lower at all other follow-up time points, but these differences were not statistically significant. The required number of postoperative glaucoma medications was similar in the two groups (p=0.2). The rate of surgical success according to our defined criteria was higher in the AGI group at 6 month (93.5% vs 73.2%, p=0.03) and 18 month (100.0% vs 70.6%, p=0.009) follow-up time points. Ocular hypotony (IOP ?5 mmHg) was observed more frequently in the TRAB group, but the difference was not statistically significant. The rate of complications and the change in visual acuity did not differ between the two groups (p>0.4 and p=1.0, respectively).

Conclusion: Both TRAB and AGI are safe and effective in the treatment of uveitic glaucoma. The higher success rate following AGI may result from the more common occurrence of ocular hypotony following TRAB in patients with uveitis.

Keywords: Glaucoma, Uveitis, Trabeculectomy, Ahmed Glaucoma Valve

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

PG0

Last Name: Vanessa
First Name: Miroski
Middle: Gerente

Service: (GL) GLAUCOMA

CEP Number: 1984/07

5. ABSTRACT (REQUIRED):

Title: Decreased functional MRI response to visual stimuli and pericalcarine gray matter volume in glaucoma

Author and Co-authors (maximum 6): Vanessa M. Gerente, Ruth R. Schor, Edson Amaro, Jr., Marcelo Felix, Khallil T. Chaim, Dora F. Ventura, Claudio L. Lottenberg, Sergio H. Teixeira, Augusto Paranhos Jr.

Purpose: To evaluate functional magnetic resonance imaging (fMRI) response to visual stimuli and pericalcarine gray matter (GM) volume in patients with glaucoma and controls, correlating to psychophysical tests and structural ocular findings.

Methods: Patients and controls performed complete ocular examination, SAP, FDT Matrix and Stratus OCT. 3 Tesla MRI was performed with 2 reversing checkerboard stimuli, eccentricity and polar angle, presented bilaterally in 3 cycles of 60 seconds. Visual cortex response was obtained by changes in blood flow oxygenation (BOLD effect) in 6 regions of interest (ROI). BOLD response was analyzed in 3 ways: Curve-BOLD-calcarine (peak of the BOLD response of calcarine ROIs), BOLD-calcarine (largest range of cumulative distribution in calcarine ROIs) and BOLD-occipital (largest range of cumulative distribution in occipital ROIs). SAP and FDT results were divided into quadrants, using the average of the total deviation of each quadrant, excluding the central point. Superior and inferior average RNFL thickness were compared to fMRI response. MRI image processing and segmentation were performed using surface-based morphometry analysis and Freesurfer software. To compare both groups regarding anatomical a

Results: 20 individuals performed the exams, 14 with glaucoma and 6 controls. Mean age was 59.3 ± 14.8 years for controls and 61.7 ± 10.5 years for glaucoma group. Regarding polar angle stimulus, there was association between SAP and FDT and Curve-BOLD-calcarine response. For eccentricity stimulus there was association between SAP and FDT and BOLD-calcarine response. RNFL thickness (OCT) was associated with BOLD-occipital response for polar angle and eccentricity stimuli. Pericalcarine GM volume was 914.96 ± 46.89 mm3 for the control group and 847.36 ±31.61 mm3 for the glaucoma group (Wald Chi-Square p=0.006).

Conclusion: Patients with glaucoma present functional and structural changes

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36. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Célia
First Name: Regina
Middle: Nakanami

Service: (EP) EPIDEMIOLOGY (LV) LOW VISION

CEP Number: 0810/08

5. ABSTRACT (REQUIRED):

Title: Progression of Refractive Errors in Low-Income Urban School-Age Children of São Paulo City

Author and Co-authors (maximum 6): Célia R. Nakanami, Solange R. Salomão, Adriana Berezovsky, Nívea N. Cavascan, Sergio R. Munoz, Rubens Belfort Jr.

Purpose: To investigate refractive error progression and its related risk factors in low-income school children included in a previously population-based study in Brazil.

Methods: Three years after a baseline populational school-based study on prevalence and causes of visual impairment in school children aged 11-14 years old, a follow-up study was performed. The research protocol approved by the Ethics Committee of UNIFESP No.0810/08. Recruitment was made directly in the 9 randomly chosen schools including only those children with visual impairment (VI =uncorrected visual acuity (VA) ≤ 20/40 in either eye) in the baseline study. Ophthalmic examination included visual acuity (VA) testing with retro-illuminated tumble "E" logMAR chart at 4 m, ocular motility for near and distance, external eye, anterior segment and ocular media examination and cycloplegic refraction A questionnaire to evaluate risk factors for the RE progression was also administered including family demographics, parental glasses usage and near work/outdoor activities.

Results: A cohort of 218 children with VI from the baseline study was invited for the follow-up clinical exam and 138 (63.3%) were examined. Statistical analysis to compare respondents to non-respondents to clinical exam showed no differences in age, sex and visual acuity level. Among 136 children with VI (2 were excluded because there were no complete or reliable data), progression of -0.50D (SE) or -1.5D was found respectively in 74.26% (101) and 22.46% (35). In multiple regression analysis, myopic progression of -0,50D was marginally associated with age (P=0.070) and there was a significant association of progression of -0,50D SE (p=0.011) and -1,50D SE (P=0.055) with both parents wearing glasses. Near vision activities were associated (P=0.032) with progression of -0.50D(SE).

Conclusion: In this low-income school children cohort, refractive error progression was mild. Myopic progression was associated with older age, children with both parents wearing glasses and children who spend more time for near vision activities.

Keywords: refractive error, school children, visual impairment, myopia

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37. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Alcione
First Name: Aparecida
Middle: Messa

Service: (LV) LOW VISION

CEP Number: 0374/10

5. ABSTRACT (REQUIRED):

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

Author and Co-authors (maximum 6): 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. For the qualitative method, a semi-directed psychological interview will be used, This instrument brings up information about emotional experience concerned raising a child with ROP. Both instruments will be performed in parents of children with Retinopathy of Prematurity. Included criteria: children under 3 years old with no other diagnoses than ROP. Control Group: parents of premature children with normal vision and no other disease associated.

Results: Data are being collected. The subscale family impact and competence presented an impact in quality of life of children with ROP. Most of the parents related strong emotional impact at the moment of the diagnoses, a poor comprehension about the disease and good expectations about their children future.

Conclusion: Until now, The results shows an impact in Quality of life in families of children with ROP when compared to control group.

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

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

Pós-doc

Last Name: Márcia
First Name: Regina Kimie Higashi
Middle: Mitsuhiro

Service: (EP) EPIDEMIOLOGY

CEP Number: 0095/04

5. ABSTRACT (REQUIRED):

Title: Barriers for Cataract Surgery Uptake in Brazil: The São Paulo Eye Study

Author and Co-authors (maximum 6): Márcia R. K. H. Mitsuhiro; Adriana Berezovsky; Natalia Siarpelletti; Rubens Belfort Jr.; Solange Rios Salomão

Purpose: Investigate barriers for cataract surgery uptake in a low-middle income population in São Paulo, Brazil.

Methods: Cluster sampling based on geographically-defined census sectors was used in randomly selecting individuals ?50 years of age for visual acuity measurement, refraction, and slit-lamp examination during 2004-2005. Those in need for cataract surgery in either eye were referred to the local public hospital for expedited and free of charge surgical services. Two years after the original study, a household survey was performed in the referred participants. The participant or a household member was contacted by personal interview and/or by phone. A questionnaire addressing barriers for cataract surgery was administered to subjects who had not had cataract surgery.

Results: A total of 4224 eligible persons were enumerated and 3678 (87.1%) were examined. Out of these, 218 (5.93%) were referred to cataract surgery. In a two-year follow-up 167 participants/household members were interviewed (76.61%), 36 participants had passed away (16.51%) and 15 (6.88%) had moved from the household. Only 55 (25.23%) participants had been operated for cataract, predominantly females (N=40) and individuals 60 years of age and older (N=51). In the non-operated group (N=112), 78 (69.64%) were female and 82 (73.21%) were 70 years of age or older. Co-existing health conditions contra-indicating cataract surgery, fear of operation and fear of losing eyesight were the most frequently appointed barriers for cataract surgery.

Conclusion: A substantial proportion of low-middle income Brazilian participants who could have benefited from cataract surgery had not used available services. The current results indicate that providing expedited and free cataract surgical services is not sufficient to ensure their use. Strategies to improve awareness about cataract and its effective treatment have to be implemented along with sustained initiatives to provide adequate services.

Keywords: cataract, surgery, follow-up

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39. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Vagner
First Name: Rogério
Middle: Dos Santos

Service: (BE) OCULAR BIOENGINEERING

CEP Number: 1564/-6

5. ABSTRACT (REQUIRED):

Title: System Portable Reading (SPR): an Engineering Approach to Low Vision Device Development

Author and Co-authors (maximum 6): Vagner Rogério dos Santos, Eliana Cunha Lima, Paulo Schor, Ricardo Uras, Adriana Berezovsky, Rubens Belfort Junior

Purpose: The proposal of this study is to test and to validate as the effectiveness and efficiency in a series of cases the prototype of a national equipment of magnification to reading.

Methods: Research submitted to and approved by the Ethics Committee in Research of UNIFESP under number n?1564/06. A developed of equipment of magnification (patent pending Brazilian Institute of Industrial Property # 020050145260) was tested in a group of 30 patients (age range 9 to 80 years, 17 males). A portable apparatus was developed with a system of capture of images coupled with a 5.6 inch monitor, providing an increase of 15 X. The effectiveness of the visual acuity and the reading efficiency were analyzed after the use of the proposed prototype.

Results: Six patients (20%) presented AV 8M, 12 patients (40%) presented AV 6,0M, 7 patients (23.3%) presented AV 5M, 5 patients (16.7%) presented 4M. The average of visual acuity before the utilization of SPR measured by LHNV-1 logMAR chart was 5,75M. After the use of LHNV-1 logMAR chart, 100% (one hundred percent) of the patients reached the efficacy of AV J1.

Conclusion: The prototype of SPR is an alternative resource in the social inclusion process of low vision patients with different levels of visual residue. It demonstrates psychological incentive, allows comfort, mobility and independence to those who need a more extended lecture and more distance of work.

Keywords: Low vision/rehabilitation; Equipment design; Biomedical engineering; Reading; Quality of life

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

PG1

Last Name: David
First Name:
Middle: Kirsch

Service: (ST) STRABISMUS

CEP Number: 0446/09

5. ABSTRACT (REQUIRED):

Title: The use of amniotic membrane in reducing adhesions after strabismus surgery: Experimental study in rabbits.

Author and Co-authors (maximum 6): David Kirsch, Monica Fialho Cronemberger, Marcia Lowen, Elcio Hideo Sato.

Purpose: To evaluate the efficiency of amniotic membrane in prevention of adhesion and in limiting the postoperative inflammatory response after strabismus surgery.

Methods: A prospective , two stage, controlled trial was conducted. In the first stage 17rabbits were submitted to srabismus surgery (2 mm superior rectus recession) in both eyes. In one eye an human aminiotic membrane was placed, embracing the muscle, stromal side up, without sutures. Fifteen days later, exanteration was performed, and the sites of muscle reattachment were rocessed for histological examination. In the second stage, 10 rabbits were submitted to the same procedure, but the exanteration was performed thirty days after the strabismus surgery. The inflammation and fibrosis were compared between eyes with and without membrane.

Results: In the eyes of fifteen days, the eyes with amniotic membrane had more inflammation but less fibrosis.
After thirty days, the eyes with amniotic membrane still had more inflammation, but no significant difference of fibrosis.

Conclusion: The Amniotic Membrane seems to delay the inflammation process resolution.

Keywords: Adhesions, Amniotic Membrane, Strabismus surgery.

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

PG1

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

Service: (PL) OCULAR PLASTIC SURGERY

CEP Number: 01468/04

5. ABSTRACT (REQUIRED):

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

Author and Co-authors (maximum 6): Giovanni André Viana, Mauro Nishi, Midori H. Osaki

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 was composed of 25 patients who were submitted to conservatively standard fat-ressection lower blepharoplasty, and routine lateral canthal support. The SG2 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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Deadline: 10/2011

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

PG0

Last Name: Eduardo
First Name: Alonso
Middle: Garcia

Service: (LS) LACRIMAL SYSTEM

CEP Number: 0463/10

5. ABSTRACT (REQUIRED):

Title: LACRYMAL RECANALIZER

Author and Co-authors (maximum 6): Garcia E A, Machado M A C, da Silva J A F, Nose W

Purpose: Analyse the possibility to restore lachrymal flow in dacriocistitis with minimum interference in lachrymal bomb, scar absence, safe for injury of medial structures and without the necessity of carries through a by pass (osteotomy)

Methods: 32 patients with chronic dacriocistitis, older than 18 years, no heart disease, no peace maker, no previous surgical treatment. Recanalization of Naso lachrymal duct with High Frequency device, with local anesthesia, probing bicanalicular with silastic.

Results: 32 patients (7 male, 25 female) Follow up : 4 months - 2 years Success.....27 (84.4%) Failure ..... 5 (15.6%) The success rate ranged from 71 to 98% in other articles

Conclusion: The results of success (84.4%) are near from others studies
It seems to be an interesting approach of lachrymal obstruction, with low risk, no scar, no bleeding, with a short learning curve and good results

Keywords: lacrymal system, dariocistitis, high frequency

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

PG0

Last Name: Simone
First Name: Ribeiro Araújo de
Middle: Almeida

Service: (TU) TUMORS AND PATHOLOGY

CEP Number: 0534/10

5. ABSTRACT (REQUIRED):

Title: Correlation of impression cytology predictive index of invasion and histopathological analysis in the study of ocular surface squamous neoplasia.

Author and Co-authors (maximum 6): Almeida, SR; Barros, JN; Lowen, MS; Pereira, K; Seino, AS; Lopes, F; Martins, MC

Purpose: To use impression cytology (IC), applying the index to predict invasion proposed by Barros JN et al, to evaluate ocular surface squamous neoplasia (OSSN), before excisional biopsy and compare its diagnosis to histopathological study performed after surgery.

Methods: Fifteen patients from the eye oncology service of Marília Medical School, clinically diagnosed as having OSSN will be prospectively studied. After a complete ophthalmological examination the patients will be submitted to IC prior to excisional biopsy of their conjunctival lesion. IC will be analyzed by an experienced professional to score the lesion and predict whether the lesion was invasive or not, and the biopsy tissues will be sent to two experienced pathologists for histopathology diagnosis. The result of IC and histopathology will be correlated.

Results: So far 6 patients were enrolled in the protocol being 4 (66,7%) males and the average age was 66 years. Two (33,3%) patients had a clinical diagnosis of no invasive lesion (dysplasia) and 4 (66,7%) patients had the diagnosis of invasive squamous cell carcinoma. IC diagnosed 2 no invasive lesions and 4 invasive lesions. Histopathological diagnosis confirmed IC diagnosis in 5(83,3%) patients and 1(16,7%) lesion diagnosed by IC as being a OSSN was a pterygium. No false negative result was found on IC.

Conclusion: IC can be useful to study lesions considered to be treated by conservative therapies as topical chemotherapy. IC is also important as a complement of clinical follow up to seek for tumor relapse after treatment.

Keywords: squamous cell carcinoma, conjunctiva, impression citology

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

PG1

Last Name: Marcelo
First Name: Carvalho
Middle: Ventura

Service: (CA) CATARACT

CEP Number: 1091/09

5. ABSTRACT (REQUIRED):

Title: CENTRAL CORNEAL THICKNESS AND INTRAOCULAR PRESSURE IN CONGENITAL CATARACT SURGERY WITH INTRACAMERAL TRIAMCINOLONE

Author and Co-authors (maximum 6): Marcelo Carvalho Ventura, Bruna Vieira Ventura, Camila Vieira Ventura, Walton Nosé

Purpose: To evaluate the intraocular pressure (IOP) and the central corneal thickness (CCT) in children younger than two years of age submitted to congenital cataract surgery with intracameral injection of triamcinolone acetonide at the end of the procedure.

Methods: Retrospective interventional case series that included 56 eyes of 34 children who were submitted to congenital cataract surgery younger than two years of age with intracameral injection of triamcinolone acetonide (1.2 mg/0.03 ml) at the end of the surgery. IOP and CCT were measured before the surgery, on the second postoperative month, and after the first postoperative year.

Results: The average IOP was 8.7 ± 0.4 mm Hg, 9.0 ± 0.8 mm Hg and 7.6 ± 0.5 mm Hg in the preoperative period, on the second postoperative month and after one year, respectively, with no statistically significant difference in IOP between the measurements (P = .247). The average CCT was 562.1 ± 11.1 µm, 566.1 ± 10.4 µm and 569.5 ± 10.8 µm, before surgery, on the second postoperative month and after one year, respectively. There was no statistically significant difference between the CCT before and after surgery (P = .841).

Conclusion: Intracameral injection of 1.2 mg of triamcinolone acetonide at the end of congenital cataract surgery in children younger than two years of age did not result in an IOP or CCT increase.

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

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45. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Luci
First Name: Meire
Middle: Silva

Service: (UV) UVEITIS (PH) PHARMACOLOGY

CEP Number: 638/10

5. ABSTRACT (REQUIRED):

Title: Retinal toxicity of intravitreal injection of rapamycin in rabbits

Author and Co-authors (maximum 6): LMP Silva, DFP Silva, C Muccioli, A Lima, MC Martins, JA Cardillo, R Belfort Jr

Purpose: To evaluate ocular toxicity of intravitreally-injected rapamycin in rabbits.

Methods: A total of 12 New Zealand albino rabbits were used. Slit lamp and fundoscopic examinations were performed to assess signs of inflammation and toxicity before and on days 1, 7 and 14 after the injection. ERG was done before and after 14 days of the injection, the rabbits were anesthetized before the procedures with intravenous ketamine hydrochloride and xylazine. Topical anesthesia administered using proparacaine (0.5%). The pupils were dilated with topical phenylephrine and tropicamide. Intravitreal injection was performed 2mm posterior to the corneal limbus using a 30G needle. Four different doses of rapamycin were prepared in 0.1ml: 20µg, 50µg, 200µg, 1000µg and injected into one eye of three rabbits. The contralateral eyes were used as control. The slit lamp and fundoscopy changes were measured according to Nussenblatt RB grading scale (inflammation and vitreous opacity). For the ERG the rabbits were adapted in the dark for at least 30 minutes after dilation. The answer sco.

Results: None of the eyes showed any changes by biomicroscopy (cornea, anterior chamber, lens or vitreous). The retinal examination disclosed no sign of vitreous or retinal changes. The ERG showed no changes in the group of 20µg, some decrease in scotopic response in 2 eyes that received 50µg and 200µg and a more significant decrease in the 1000µg group. However, the ERG was never extinguished. The histopathological examination showed no change in the retinal structure, but in the group of 1000µg, vacuolization was observed in the ganglion cells layer.

Conclusion: Intravitreal injection of Rapamycin showed no significant changes at the concentrations of 20µg, 50µg, 200µg. A parallel toxic response at a dose of 1000µg of Rapamycin was confirmed with both ERG and histologic studies.

Keywords: rapamycin, retinal toxicity, intravitreal injection, sirolimus

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46. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Jose
First Name: Roquennedy Souza
Middle: Cruz

Service: (PH) PHARMACOLOGY (CA) CATARACT

CEP Number: 0451/01

5. ABSTRACT (REQUIRED):

Title: Clonidine as Preanesthetic Medication in Cataract Extraction: Comparison between 100mcg and 200mcg

Author and Co-authors (maximum 6): Jose Roquennedy Souza Cruz, Denise Ferreira Barroso de Melo Cruz, Bruno Castelo Branco, Ana Ellen de Queiroz Santiago, Jose Luiz Gomes do Amaral

Purpose: To establish the efficacy and safety of low-dose clonidine 100 and 200 mcg orally, as a preanesthetic medication for cataract surgery, regarding hemodynamic, sedation and intraocular pressure effects

Methods: Prospective, double-blind, randomized study matched with placebo, included 60 patients ASA (American Society of Anesthesiologists) physical status ASA 1 or 2, ages 18 to 80 years. Intraocular pressure, heart rate, arterial pressure and sedation were checked before and ninety minutes after clonidine use. Sedation level was graded according to Ramsay scale, and was also checked 105 min after clonidine use.

Results: Patients who received placebo and 100mcg of clonidine did not show statistically significant decrease of heart rate, although patients who received 200mcg of clonidine showed statistically significant decrease of heart rate ($p=0,04$). After 200mcg, patients showed a decrease in systolic and diastolic arterial blood pressure ($p<0,05$). One patient developed a severe hypotension (arterial systolic pressure<80mmHg) after 200mcg. There was a decrease in the intraocular pressure after oral clonidine ($p<0,05$). Regarding sedation, after 90 min medication with placebo, 100 and 200mcg of clonidine, 25%, 60% and 80% of patients were classified Ramsay 3 or 4; whereas after 105min, the percentage in Ramsay 3 or 4 was 55%, 70% and 95%, respectively.

Conclusion: Oral clonidine 100mcg is useful as premedication for cataract surgery, inducing sedation and intraocular pressure reduction without adverse hemodynamic effects

Keywords: PREMEDICATION:clonidine; SURGERY, ophthalmologic: cataract extraction; COMPLICATIONS: arterial pressure

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47. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG0

Last Name: Fabio
First Name: Felipe
Middle: Santos

Service: (UV) UVEITIS

CEP Number: 0094/09

5. ABSTRACT (REQUIRED):

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

Author and Co-authors (maximum 6): Fabio Felipe dos Santos, Alessandra Commodaro, Claudio Luiz 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.

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48. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Eric
First Name: Pinheiro
Middle: Andrade

Service: (EF) ELECTROPHYSIOLOGY

CEP Number: 0503/08

5. ABSTRACT (REQUIRED):

Title: MACULO-OCCIPITAL PATHWAY DYSFUNCTION IN STRABISMIC AND ANISOMETROPIC AMBLYOPIC CHILDREN

Author and Co-authors (maximum 6): Andrade EP, Sacai PY, Pereira JM, Berezovsky A, Salomão SR

Purpose: Amblyopia is a form of cerebral visual impairment in the absence of an organic cause, with pattern reversal visual evoked potentials (PRVEP) demonstrating attenuated amplitudes and prolonged latencies. The aim of this study is to compare visual acuity impairment due to PRVEP abnormalities in strabismic and anisometropic amblyopic children.

Methods: This study was approved by the Ethics Committee of the Federal University of São Paulo (0503/08). The amblyopic group consists of 40 children (22 girls), aged 5-14 years (mean 8.7±2.2 years), 15 anisometropic, 21 strabismic and 4 with anisometropia and strabismus. A group of 19 healthy children (13 girls) aged 5-15 years (8.2±2.6 years) was used as control. PRVEP recording was obtained with checkerboard stimuli subtending 1°, 15' and 7.5' visual angles. P100 latency in milliseconds (ms), the amplitude between the peaks of N75 and P100 in microvolts (μV), as well as temporal dispersion calculated by the latency difference between components N135 and N75 were determined.

Results: Analyzing the ambliopic eyes, there were a statistically prolonged P100 latency for stilumus 15' (p=0.002, 115.3±19.3) and 7.5' (p=<0.001, 124.0±23.8) compared to controls (101.4±5.5, 103.2±6.8, respectively), with significantly lower amplitudes for stimulus 1° (p=0.004, 14.0±8.0), 15' (p=<0.001, 11.6±7.6) and 7.5' (p=<0.001, 9.5±6.3) as compared to controls (19.0±3.9, 17.8±5.9, 16.3±5.0). Positive Pearson correlation between visual acuity (logMAR) and P100 log latency for stimulus 1° (r=0.329, p=0.0382), 15' (r=0.348, p=0.0278) and 7.5' (r=0.317, p=0.0463). Negative Pearson correlation was found between log amplitude and visual acuity (logMAR) stimulus 1° (r=-0.658, p=<0.001), 15' (r=-0.613, p=<0.001) and 7.5' (r=-0.578, p=<0.001).

Conclusion: Maculo-occipital changes were found in amblyopic eyes assessed by PRVEP compared with controls. Delayed conduction and lower amplitudes for smaller stimuli (15? and 7.5?) in amblyopic eye, suggest abnormality in the parvocellular pathway.

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49. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Josenilson
First Name: Martins
Middle: Pereira

Service: (EF) ELECTROPHYSIOLOGY

CEP Number: 1087/08

5. ABSTRACT (REQUIRED):

Title: Brazilian prototype of a disposable fiber electrode for electroretinography in patients with retinal dystrophy

Author and Co-authors (maximum 6): J.M. Pereira, D.M. Rocha, PY Sacai, SES Watanabe, S.R. Salomao, A.Berezovsky.

Purpose: Compare electroretinogram (ERG) responses to full-field stimuli recorded with Brazilian prototype, DTL® and contact lens electrodes (Burian-Allen) in patients with retinal dystrophy.

Methods: Right eye of 49 patients with previously diagnosed retinal dystrophy had full-field ERG recorded (ISCEV standard full-field protocol) using three distinct types of electrodes in three consecutive visits in the same week. Subjects were aged 10- 76 years (35.9±16.2 years, 23 males). VERIS 5.1.9 system was used for data acquisition and analysis. ERG outcomes were analyzed by Kruskal-Wallis test and multiple comparison procedures by Dunnett's method. Retinal dystrophy type was classified on the basis of standard clinical criteria as: retinitis pigmentosa, cone dystrophy, Stargardt's disease and others. ERG responses were compared with normative data from our own lab.

Results: The specific type of ERG abnormality was consistent with clinical findings in all tested patients. Median values amplitudes and b-wave implicit time (IT) for both scotoptic and photopic responses using the three types of electrodes are shown in the following table. Brazilian Prototype DTL® Burian-Allen Scotopic Amplitude (μV) 87.6 98.9 124.0 Scotopic IT(ms) 60.7 62.5 63.5 Photopic Amplitude (μV) 22.7 21.6 27.4 Photopic IT(ms) 29.5 30.0 31.0 Waveform morphology of rod and cone electrodes responses were similar to those obtained with the three types of electrodes. There was a trend for larger amplitudes using Burian-Allen when compared to either the Brazilian prototype or DTL® for all responses. No statistical differences were found for amplitude and implicit time among Brazilian prototype, DTL® and Burian-Allen for all ISCEV responses.

Conclusion: ERGs were successfully recorded using these three types of electrodes in patients with retinal dystrophies. Brazilian prototype electrodes were validated as a diagnostic tool since its results were comparable to the other two types of electrodes. Therefore, this new instrument is an alternative method to assess retinal function and might be a feasible choice for ERG recordings especially in patients with abnormalities in the ocular surface and uncooperative/sensitive patients.

Keywords: Eletrdodes; Retinal diseases

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Deadline: 10/2011

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

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

PG1

Last Name: Nívea
First Name: Nunes
Middle: Cavascan

Service: (EF) ELECTROPHYSIOLOGY

CEP Number: 0349/08

5. ABSTRACT (REQUIRED):

Title: LONGITUDINAL GRATING ACUITY MEASURED BY SWEEP-VEP IN CHILDREN WITH CORTICAL VISUAL IMPAIRMENT

Author and Co-authors (maximum 6): Cavascan, N.N., Salomão, S.R., Sacai, P.Y., Berezovsky, A

Purpose: Cortical visual impairment (CVI) is bilateral visual deficit caused by damage to the posterior visual pathway and/or the visual cortex. Current literature reports great variability in the prognosis of CVI. The purpose of this retrospective observational longitudinal cohort study was to evaluate grating acuity in children with CVI measured by sweep visual evoked potentials (sweep-VEP).

Methods: A group of 18 patients (9 males) with CVI had their grating acuity (GA) longitudinally assessed by sweep-VEP in at least three consecutive visits. Age at first visit ranged from 1.74-64.17 months (mean=15.61±15.16; median=10.54). The time between the first and the last measures ranged from 14.04-94.77 months (mean=31.69±21.03). Grating acuity deficit (GAD) was calculated by subtracting acuity thresholds from mean visual acuity value using age norms according to our own normative data. Deficits were categorized as mild (0.2?GAD<0.4 logMAR), moderate (0.4?GAD<0.9 logMAR) or severe (GAD?0.9 logMAR). Paired t-test was used to compare initial and final GAD. Statistical significance was considered as p?0.05. The rate of maturation was calculated as the slope of the best-fit line relating to logMAR GA to age in log months.

Results: At the first visit GAD ranged from 0.24-1.15 logMAR (mean=0.68±0.26; median=0.76) and it was severe in 4 children (22.22%), moderate in 10 (55.56%), and mild in 4 (22.22%). The average difference between initial and final measures of GA was 0.14 log unit, however only 13 children showed maturation in grating acuity, 1 child remained stable and 4 children presented final GA worse than initial. The final grating acuity deficit was significantly larger when compared to the initial one (Paired t-test, Wilcoxon; W=117.000; p=0.009). Mean GA maturation rate was -0.24 ± 0.36 logMAR/log months (median= -0.16), with children with CVI showing slower maturation rates when compared with normal controls.

Conclusion: Improvement in grating acuity can occur over time in children with CVI. Despite maturation has been found in 72% of cases, their rate of improvement was below the expected. Comprehension of changes in vision function is important for therapeutic planning and rehabilitation programs for this condition.

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

PG1

Last Name: Douglas
First Name:
Middle: Yanai

Service: (RE) RETINA AND VITREOUS

CEP Number: 1474/05

5. ABSTRACT (REQUIRED):

Title: Optical Coherence Tomography in Retinitis Pigmentosa Patients Study ? Comparing Stratus OCT and Spectralis OCT results

Author and Co-authors (maximum 6): Douglas Yanai, Eduardo Dib, Adriana Berezovsky, Maurício Maia, Michel E. Farah, Juliana M. F. Sallum

Purpose: To study OCT findings regarding retinal nervous fiber layer (RNFL) using two different OCT technologies.

Methods: This study was approved by the medical research ethical committee of UNIFESP. Seven RP eyes were examined. OCT scans around the optic disc, complete ophthalmological exam and electrophysiological tests (full-field electroretinogram and dark adaptation threshold test) were performed. The Stratus OCT (Zeiss, USA) scans were analyzed manually using the caliper under the RNFL thickness single eye protocol; the Spectralis OCT scans were analyzed automatically using the OCT software. Statistical analysis was performed by comparison of the results from both machines.

Results: The electroretinogram confirmed RP diagnosis in all patients. The OCT scans presented different RNFL thickness measurements when the two different OCTs were compared; the measurements were significantly higher (thicker) in the Spectrallis OCT compared to Stratus OCT considering all quadrants together.

Conclusion: Different results of both OCT machines regarding the RNFL measurements were observed. It is recommended that RNFL thickness comparison in RP patients be performed using the same type of OCT machine.

Keywords: Retinitis pigmentosa; Optical Coherence Tomography; retinal degeneration

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52. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Verônica
First Name:
Middle: Castro Lima

Service: (RE) RETINA AND VITREOUS

CEP Number: 0818/11

5. ABSTRACT (REQUIRED):

Title: Age-related Changes in Macular Pigment Optical Density Values as Measured by Dual-Wavelength Autofluorescence Imaging

Author and Co-authors (maximum 6): Richard B Rosen MD, Tiago Santos Prata MD, Syril Dorairaj MD, Leigh Spielberg MD, Mauricio Maia MD, Juliana Sallum MD

Purpose: While macular pigment may play a protective role against age-related macular degeneration, the influence of age on its density levels remains unclear. In this study we investigated the normal distribution of macular pigment optical density (MPOD) surrounding the fovea to look for the influence of age on those values.

Methods: Thirty normal subjects, ages 23-77 years, were included in the study. Values of MPOD were measured at specific eccentricities from the foveal center using a dual-wavelength autofluorescence method employing a modified confocal scanning laser ophthalmoscope. One eye was randomly selected for analysis from each subject, and correlation with age was calculated.

Results: Mean age was 48.6 ± 16.4 years. Significant differences were found for MOPD values measured at 0.5, 1 and 2° from the center of the fovea (0.49 ± 0.12; 0.37 ± 0.11; 0.13 ± 0.05, respectively; $p<0.05$). Significant correlations between age and MPOD values at 0.5 and 1° were found ($p\leq0.02$). Values measured at 2° showed a marginally significant correlation ($p=0.06$). In this group of normal subjects, the levels of MPOD appeared to increase into adulthood, followed by a gradual reduction that continued with age.

Conclusion: Levels of MPOD consistently decrease from the center of the fovea in a normal population. Additionally, MPOD levels appear to demonstrate a significant negative correlation with age, after a peak in early adulthood. Larger populations will be required to further clarify this age distribution.

Keywords: Macular pigment, age, autofluorescence.

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

Pós-doc

Last Name: João
First Name: Borges
Middle: Fortes Filho

Service: (EX) EXPERIMENTAL SURGERY (RE) RETINA AND VITREOUS

CEP Number: 09-138

5. ABSTRACT (REQUIRED):

Title: Experimental study of retinal toxicity of intravitreous antiVEGF drugs.

Author and Co-authors (maximum 6): João Borges Fortes Filho Mauricio Maia Gabriela Unchalo Eckert Lúci Maria Kliemann

Purpose: To evaluate retinal toxicity after intravitreous injection of Bevacizumab and Ranibizumab in adults laboratory rats.

Methods: Experimental study including adults Wistar laboratory rats by 60 days of life. The animlas were included in 2 groups. Group 1 included animals receiving intravitreous injection of Ranibizumab in the right eye. Group 2 included animals receiving intravitreous injection of Bevacizumab in the right eye. The animals were sacrified after past 30 days of the procedure. The left eye of all groups were used as controls. Effects were evaluated by histopatology and optical microscopy.

Results: Were included 5 animals in each group. In group 1 (Ranibizumab) were detected retinal alteration in 2 of the injected eyes (40%) versus 5 eyes without any structural retina detected (0%). In group 2 (Bevacizumab) were detected retinal alteration in 1 of the injected eye (20%) versus 5 controls without retinal alterations (0%).

Conclusion: This experimental study detected some retinal destruction of rods and cones layer by inflammatory process with fibrosis formation. Further studies are necessary to better understand about retinal toxicity of the antiVEGF drugs in the mouse retina.

Keywords: Retinal toxicity, Bevacizumab, Ranibizumab, antiVEGF

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54. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Renata
First Name: Portella
Middle: Nunes

Service: (RE) RETINA AND VITREOUS

CEP Number: 0345/10

5. ABSTRACT (REQUIRED):

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

Author and Co-authors (maximum 6): Renata Portella, Eduardo Rodrigues, Flavio Hirai, Letícia Barroso, Octaviano Magalhães Jr., Mauricio Maia, Michel Farah

Purpose: To study the efficacy and cost-effectiveness of therapy with intravitreal ranibizumab (IVR) and bevacizumab (IVB) in exudative age-related macular degeneration (AMD).

Methods: The study is composed by a systematic review of the literature and a prospective randomized clinical trial (RCT) comparing the efficacy of IVR and IVB as therapy for wet-AMD. The systematic review was performed matching terms related to the topic in Pubmed and EMBASE. We used the U.S. Preventive Services Task Force to classify levels of evidence. References with levels of evidence I and II-1 were selected. For the RCT, forty-five patients with exudative-AMD are being randomized (1:1:1) in three groups: monthly 0.5mg IVR, monthly 1.25mg IVB, and every-two-weeks 1.25mg IVB. All patients received three months loading dose and then are followed with as-needed regimen. ETDRS best-corrected visual acuity, spectral domain optic coherence tomography (Spectralis, Heidelberg Engineering Inc., Heidelberg, Germany), fluorescein angiography HRA2 (Heidelberg Engineering Inc., Heidelberg, Germany) and microperimetry (MAIA, Padova, Italy) examinations are being performed. Patients will be followed for

Results: A total of 1312 references regarding IVR and/or IVB for wet-AMD were found. Sixteen clinical trials, nine level I and seven level II-1 of evidence, were selected. Safety data showed no cause-effect relation with both drugs and serious adverse effects. Similar vision improvement has been achieved with both IVR and IVB. The clinical trial started recruiting in June 2010. Thirty-one patients have already been included; from those eleven have concluded the first year of follow-up. First results should be available in late 2012. Important design issues for this clinical trial include use of cost-effectiveness as outcome and an every-two-weeks group.

Conclusion: The efficacy and safety of IVB may be comparable to IVR in the therapy of exudative AMD.

Keywords: Age-related Macular Degeneration, Bevacizumab, Ranibizumab, Choroidal Neovascularization

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

PG0

Last Name: Hermelino
First Name: Lopes de
Middle: Oliveira Neto

Service: (RE) RETINA AND VITREOUS

CEP Number: 0108/08

5. ABSTRACT (REQUIRED):

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 (maximum 6): HL Oliveira Neto, MD; RE Andrade, MD; C Muccioli, MD; M Casella, MD; MJ Nobrega, 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 1.25 mg of bevacizumab (AVA); 4mg of triamcinolone acetonide (TAAC); and the association of both drugs with the same concentration (AVA+TAAC). Patients were randomized to monthly injection for 6 months. The following parameters were evaluated monthly: best corrected visual acuity (BCVA), intraocular pressure (IOP) and fovea thickness using optical coherence tomography (OCT). Patients were eligible for enrollment if they presented EMD, BCVA between 20/400 to 20/40 and central subfield macular thickness 275µm by OCT.

Results: Until dec/2010, were injected and completed chips of 163 patients, 58 completed cases (35.3%), in progress, 81 cases (49.7%) and excluded 24 cases (14.7%) 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%). Visual acuity revealed similarities in the groups and AVA + TAAC TAAC. The difference between these results was statistically insignificant. The behavior of intraocular pressure (IOP) was similar in the AVA and AVA + TAAC and increased in the TAAC group. 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 revealed reduction in the groups analyzed. The difference between these results was statistically insignificant.

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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56. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Gabriela
First Name: Unchalo
Middle: Eckert

Service: (RE) RETINA AND VITREOUS

CEP Number: GPPG/CEP/HCPA 04-207

5. ABSTRACT (REQUIRED):

Title: A predictive score for retinopathy of prematurity (ROPScore) in very low birth weight preterm infants

Author and Co-authors (maximum 6): Gabriela Unchalo Eckert, João Borges Fortes Filho, Maurício Maia and Renato Procianoy

Purpose: This study describes the development of a score based on cumulative risk factors for the prediction of severe ROP and compares the performance of the score against the BW and GA in order to predict the onset of ROP.

Methods: A prospective cohort of preterm infants with BW ?1,500 grams and/or GA ?32 weeks was studied. The score was developed based on BW, GA, proportional weight gain from birth to the 6th 47 week of life, use of oxygen in mechanical ventilation, and need for blood transfusions from birth to the 6th week of life. The score was established after linear regression, considering the impact of each variable on the occurrences of any stage and severe ROP. Receiver operating characteristic (ROC) curves were used to determine the best sensitivity and specificity values for the score. All variables were entered into an Excel spreadsheet (Microsoft®) for practical use by ophthalmologists during screening sessions.

Results: The sample included 474 patients. The area under the ROC curve for the score was 0.77 and 0.88 to predict any stage and severe ROP, respectively. These values were significantly higher for the score than for BW (0.71) and GA (0.69) when measured separately.

Conclusion: ROPScore is an excellent index of neonatal risk factors for ROP, which are easy to record and more accurate than BW and GA to predict any stage or severe ROP in preterm infants. The scoring system is simple enough to be routinely used by ophthalmologists during screening examination for detection of ROP.

Keywords: prematurity; retinopathy

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57. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Juliana
First Name: Mantovani
Middle: Bottós

Service: (RE) RETINA AND VITREOUS

CEP Number: 0181/11

5. ABSTRACT (REQUIRED):

Title: VITREOMACULAR TRACTION SYNDROME: CLINICAL CORRELATION BETWEEN POSTOPERATIVE FUNCTIONAL AND ANATOMIC RESULTS

Author and Co-authors (maximum 6): Juliana Bottós, Javier Elizalde, Eduardo Rodrigues, Michel Farah and Maurício Maia

Purpose: To analyze vitreomacular traction (VMT) morphologies based on classifications, correlate them with specific maculopathies, and determine factors predictive of postoperative visual and anatomic outcomes.

Methods: Thirty-six eyes (36 patients) were categorized by VMT pattern (V- or J-shaped) and diameter (focal, ?1,500 µm; broad, >1,500 µm).

Results: To the best of our knowledge, this study is unique in comparing different classifications of VMT syndrome. We compared different classifications of VMT. Focal VMT (n=18) led to macular hole formation (61.1%), tractional cystoid macular edema (88.9%), and foveal retinal detachment (16.6%); broad VMT (n=18) was associated with epiretinal membranes (94.4%), diffuse retinal thickening (72.2%), and poorer recovery of the foveal depression (22.2%). Despite similar postoperative best-corrected visual acuities (BCVAs) (focal, 0.28; broad, 0.23 logarithm of the minimum angle of resolution; P=0.393), the focal cases improved more (delta: focal, 0.25; broad, 0.11 broad; P=0.027), since the preoperative BCVA was significantly lower (BCVA: focal, 0.54; broad, 0.34; P=0.007). However, the BCVA improvement did not differ between the groups regarding the VMT pattern (delta: V-shaped, 0.21; J-shaped, 0.14; P=0.235). Surgery relieved the VMT in most (77.8%) eyes.

Conclusion: Postoperative outcomes and macular disorders are closely related to VMT morphology. The adhesion diameter and not the VMT pattern might better reflect the specific macular changes and predict the postoperative anatomic and functional outcomes.

Keywords: vitreomacular traction syndrome, vitreoretinal interface, macular hole, epiretinal membrane, cystoid macular edema

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PG1

Last Name: Bruno
First Name: Albuquerque
Middle: Furlani

Service: (RE) RETINA AND VITREOUS

CEP Number: 0128/08

5. ABSTRACT (REQUIRED):

Title: Safety of hyperosmolar dyeing solutions (mannitol vs high glucose) in vitrectomy 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 safety of vitrectomy using high-osmolar solutions in rabbits

Methods: Experimental in vivo study. Twelve Dutch-belted female rabbits will be randomly divided in four groups, with 3 animals each: control group (C1), Mannitol 10% (M10), Mannitol 20% (M20) and Glucose 20% (G20). One day before the injection, baseline ERG recordings will be obtained from all animals. Then, after careful anesthetic procedure, vitrectomy via pars plana will be executed, followed by air-fluid exchange. Afterward, 01 mL of either Balanced Salt Solution (BSS), Mannitol 10% , Mannitol 20% or Glucose (20%) solution will be injected intravitreally, simulating a posterior pole staining procedure. The solution will remain in contact with the retina for 5 minutes, then washed out and the eye closed with BSS inside. 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 eye

Results: The study protocol is under execution and data is being collected at the moment.

Conclusion: Chromovitrectomy requires different dilution methods for different dyes. 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. If proven to be safe, it can be an important adjunct to chromovitrectomy, specially when a selective posterior pole staining is desirable.

Keywords: Toxicity, osmolarity, mannitol, glucose, retina

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59. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG0

Last Name: Leonardo
First Name: Martins
Middle: Machado

Service: (RE) RETINA AND VITREOUS

CEP Number: 0197/10

5. ABSTRACT (REQUIRED):

Title: Vitrectomy probes and soft-tip cannulas vacuum forces comparison.

Author and Co-authors (maximum 6): 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 vitrectomy probes and soft-tip cannulas sucction force in an experimental setting.

Methods: Each of the instruments were connected to a vacuum pump and to a manual transducer consisting of a membrane attached to a weight over a precision scale. The membrane was lifted until the maximum weight carried was found. The experiment was repeated for growing vacuum levels and the results were plotted into graphs. Statistical comparison was done by paired T-tests.

Results: Two instruments of each were measured three times, in a total of 6 measurements for each one. Vaccum levels used ranged from 0 to 600 mmHg. The current experiment is ongoing. No results are available yet.

Conclusion: Until the final results area available, the authors believe that there will be a statistically significant difference between the force measured from the instruments, being the larger bore instruments (i.e., 20-gauge probe and cannula) the strongest ones.

Keywords: Vitrectomy; Vitreous Surgery; Vitreous Cutter.

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PG0

Last Name: Oswaldo
First Name: Ferreira Moura
Middle: Brasil

Service: (RE) RETINA AND VITREOUS

CEP Number: 0003/11

5. ABSTRACT (REQUIRED):

Title: Outcomes of macular hole surgery with internal limiting membrane peeling with and without indocyanine green staining

Author and Co-authors (maximum 6): Brasil OF, Maia M

Purpose: To compare the visual and anatomical outcomes of idiopathic macular hole surgery with internal limiting membrane peeling with and without staining by indocyanine green dye.

Methods: Retrospective chart review of 230 consecutive idiopathic macular hole surgeries performed from January 1999 to December 2004. Indocyanine green assisted internal limiting membrane removal was performed only in 2001 and 2002. Only eyes that have had cataract surgery either before or after the macular hole surgery were included to avoid visual acuity assessment biased by cataracts.

Results: A total of 124 eyes were included, 77 without staining and 47 with indocyanine green assisted peeling. Preoperative visual acuity was 0.92 LogMAR in the non-staining group and 0.99 LogMAR in the indocyanine group ($p=0.36$). Age, gender and macular hole stage were similar between the groups. Vision improved in both groups ($p<0.0001$). Postoperative visual acuity was 0.37 LogMAR in the non-staining group and 0.54 LogMAR in the indocyanine group. Anatomic closure was achieved in 97% of the non-staining group and 89% of the indocyanine group ($p=0.1$).

Conclusion: Although indocyanine green greatly facilitates internal limiting membrane removal in macular hole surgery, better visual acuity and closure rate were seen in eyes where no dye was used.

Keywords: Macular Hole, Indocyanine Green

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Pós-doc

Last Name: Fernando
First Name: Marcondes
Middle: Penha

Service: (RE) RETINA AND VITREOUS and (PH) PHARMACOLOGY

CEP Number: CEP 1081/07

5. ABSTRACT (REQUIRED):

Title: New vital dyes for vitreoretinal surgery: in vitro study of citotoxicity and apoptosis retinal pigmented cell culture

Author and Co-authors (maximum 6): Rodrigues EB, Marin-Castano M, Pons M, Maia M, Costa EPF, Farah ME

Purpose: To evaluate the safety of nine vital dyes on retinal pigmented cells in culture.

Methods: Human retinal pigmented cells in culture, from ARPE-19 cell line, were exposed to nine vital dyes: Indocyanine green (ICG), Infracyanine green (IfCG), Fast Green (FG), Índigo carmine (IC), Evans blue (EB), Light green (LG), Congo red (CR), Brillant Blue (BriB) and Bromophenol blue (BroB). Balanced Salt Solution was used as control. Five different concentration of each dye was tested: 1, 0.5, 0.25, 0.05 and 0.005 mg/mL. All these dyes and concentration was also be evaluated in two exposure times: 3 and 30 min. For the safety profile number of cells and also cell viability by MTS viability assay was performed. For apoptosis analysis cells were exposed for 3 min at 0.05 mg/ml and expression of BAX was evaluated using western blot technique.

Results: Indocyanine green, ICG, IfCG, FG, BroB, EB and IC significantly reduced cell viability after 3 minutes of exposure in all concentrations ($p<0.05$). Light green and BriB were safe in concentrations up to 0.5 mg/mL, and CR up to 0.25 mg/mL, also after 3 minutes of exposure. However, when the cells were exposure for 30 minutes, all the dyes were significantly toxic, except for BriB that was still safe up to 0.25 mg/mL. Expression of BAX protein was significantly higher in ICG, IfCG, FG and LG. BriB and CR had similar expression as control solution. Bromohenol blue, EB, IC were excluded from the apoptosis analysis for being already toxic at tested concentrations.

Conclusion: Indocyanine green and IfCG showed toxicity to RPE cells in all tested concentrations and time exposure. Brilliant blue, LG and CR had the safer profile in all tested dyes. However just BriB and CR seems to not induce apoptposis after dye exposure. On going in vitro studies are needed to confirm the importance of these findings.

Keywords: macular hole, internal limiting membrane, ICG, vital dyes, toxicity, apoptosis

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PG1

Last Name: Elaine
First Name: Fiod
Middle: Costa

Service: (RE) RETINA AND VITREOUS and (PH) PHARMACOLOGY

CEP Number: 1038/06

5. ABSTRACT (REQUIRED):

Title: Chromovitrectomy: comparative assessment of pH, osmolarity, solvent and light exposure in dye-related retinal toxicity

Author and Co-authors (maximum 6): Elaine de Paula Fiod Costa, Nilana Barros, Milton Nunes Moraes, Eduardo B Rodrigues, Maurício Maia, Michel E Farah

Purpose: To evaluate the influence of pH, osmolarity, solvent and light interaction on retinal toxicity

Methods: Cultured cell line derived from human retinal pigment epithelia, ARPE-19 (ATCC, Manassas, USA) were exposed for 10 minutes to BSS and trypan blue 0.5 mg/ml diluted in BSS in seven adjusted values of pH (3; 4; 5; 6; 7; 8 and 9) with osmolarity ranging from 317-345 mOsm. Other seven glucose solutions with osmolarity ranging from 50 to 500 mOsm with pH of 7.0-7.6 were prepared. As an osmolarity control the same range of solutions were tested with mannitol. To evaluated dye-light interaction the cells were also exposed to 0.05 mg/ml of six dyes diluted in BSS were selected: trypan blue (TB), brilliant blue (BriB), bromophenol blue (BroB), fast green (FG), light green (LG) and indigo carmine (IC) and two light sources: xenon light (Alcon Xenon) and mercury vapor light (Photon2). The dyes were tested with and without the light exposure for 10 minutes. The toxicity was evaluated with MTT assay.

Results: TB with a non-physiological pH, below 5 and above 8, proved to be remarkable toxic to RPE cells. A similar result occurred to the BSS solutions. Different from glucose solutions which were toxic even in an iso-osmolar range, the manitol solutions did not lead to any toxic effects in all solutions tested. Also no additional toxic effect was seen in the dye-light experiment. Light exposure did not increase retinal toxicity either with the xenon light or with the mercury vapor lamp. LG and FG were slightly more harmful when compared with the other dyes, with and without light exposure.

Conclusion: Several factors should contribute to increase the toxicity effect of the dye in the retina. Extreme values of pH and the use of glucose as a solvent appear to be more deleterious to the RPE cells than the dye itself. Light exposure with the dyed retina should not be a concern if in a short period of time.

Keywords: dye, retinal toxicity, spectrophotometry

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Pós-doc

Last Name: Eduardo
First Name: B.
Middle: Rodrigues

Service: (RE) RETINA AND VITREOUS

CEP Number: 1088/10

5. ABSTRACT (REQUIRED):

Title: Development and initial experience of a colored perfluorocarbon liquid in vitreoretinal surgery

Author and Co-authors (maximum 6): Eduardo B. Rodrigues, Helio Shiroma, Fernando M. Penha, Mauricio Maia, Renata Portella Nunes, Michel Eid Farah

Purpose: To present the development and initial experience of a novel colored perfluorocarbon liquid (cPFCL) in vitreoretinal surgery.

Methods: F6H8 (Fluoron GmbH, Ulm, Germany) was colored by 0.3 g/L blue anthraquinone-dye, followed to mixing with perfluoroctane or perfluorodecaline (Fluoron GmbH, Ulm, Germany). Density of solutions was determined by oscillating body method (DA-100M; Mettler-Toledo, Giessen, Gemany) at 25 °C. The cPFCL was covered with a) unstained PFCL; b) BSS; c) Silicone Oil, sitting and shaken mixtures were photographed up to 24 hours. Cellular toxicity was evaluated in a cell growth inhibition test of cell proliferation. Porcine eyes underwent evaluation after vitrectomy followed by intravitreal and subretinal cPFCL infusion. A pilot prospective noncomparative interventional study was conducted patients with retinal detachment (RD) with proliferative vitreoretinopathy (PVR).

Results: The density of cPFLCs was 1,664 g/cm3 for perfluoroctane, and 1,802 g/cm3 for perfluorodecaline. Direct after covering cPFCL with unstained decaline, the decaline stayed transparent, and there was a clear interface between cPFCL and silicone oil or BSS. After 24 hours the PFCL solution covered with silicone oil was light-blue. A clear interface between colored PFCL and BSS was visible. The unstained PFCL and the cPFCL were partially mixed. Growth analysis of cells cultured showed no relevant growth inhibition of L929 cells. Experiment in pigs revealed neither staining of the cPFCL onto internal limiting membrane, nor intravitreal residual droplets. In patients the very homogeneous cPFCL solution was easy and fast to remove without mixing with silicone oil of BSS. Nine eyes (75%) underwent surgery for rhegmatogenous RD grade C PVR, in three eyes the indication for surgery was diabetic retinopathy. The cPFCL enabled retinal break examination, endolaser photocoagulation and detection of residual intravitreal droplets in all surgeries. There was no case of cPFCL separation with staining the epiretinal surface.

Conclusion: The cPFCL is useful as intraocular tamponade in vitreoretinal surgery. It enabled intraoperative maneuvers and it could be easily removed at end of surgery.

Keywords: chromovitrectomy, colored perfluorocarbon liquid, vitrectomy

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PG1

Last Name: Diogo
First Name:
Middle: Sousa-Martins

Service: (RE) RETINA AND VITREOUS

CEP Number: 0589/10

5. ABSTRACT (REQUIRED):

Title: RETINAL TOXICITY ANALYSIS OF LUTEIN AND ZEAXANTHIN ASSOCIATED TO BRILLIANT BLUE IN RABBIT MODEL

Author and Co-authors (maximum 6): Sousa-Martins, D., Portella, R., Moraes Filho, M. N, Barroso, L., Badaro, E., Natural Dyes Study Group*.

Purpose: To evaluate the safety profile of solutions containing lutein and zeaxanthin (L/Z) in isolated formulations or associated to brilliant blue (BB).

Methods: The dye solutions were developed using pharmaceutical technology. 26 dutch-belt rabbits were used in the toxicity test. 4 different dye solutions were injected in the vitreous cavity of the right eye of each rabbit while the left eye was injected with BSS. Scotopic and photopic ERG profiles were measured in all eyes and, after sacrifice and enucleation, membranes were analyzed through electron scanning microscopy. Retinal cell layers were also evaluated at histology for morphologic alterations and number of cells.

Results: No statistical differences at A and B wave amplitudes as well as latency were observed at the ERGs profile among the different solutions injected at the vitreous cavity and the control eyes at baseline as well as at all follow-up periods. The light and electron microscopy showed no histological abnormalities at all follow-up. Particularly, histology examination disclosed no case of diffuse cellular edema and vacuolization within the ganglion cells, bipolar cells, and photoreceptors. All subgroups showed slight retinal alterations similar to BSS injection.

Conclusion: Solutions of natural dyes from lutein and zeaxanthin associated to brilliant blue showed a safe profile in this rabbit model. Additional studies are necessary in order to use these natural dyes in human subjects for vitreoretinal surgery.
*Natural Dyes Study Group (Belfort Junior, R., Lima Filho, A.A.S., Maia, M., Rodrigues, E. and all present co-authors).

Keywords: Lutein; Zeaxanthin; Brilliant blue; Internal Limiting Membrane; Chromovitrectomy;

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R3

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

Service: (RS) 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 (maximum 6): Amanda Paz, Carlos Lenz, Wallace Chamon, Paulo Schor.

Purpose: To evaluate 3-dimensional collagen reorganization induced by crosslinking (CXL) using Genipin on keratoconic human corneas by Second Harmonic Generation (SHG) imaging microscopy.

Methods: Keratoconic corneas were obtained from patients submitted to penetrating or lamellar keratoplasty due to keratoconus. The corneas were divided in two halves and CXL using Genipin or the standard method (Riboflavin + UVA) was performed in only one of half. Four different groups were formed: NS: cornea that weren`t submitted to CXL with the standard method; CS: corneal submitted to CXL with standard method, NG: cornea that weren`t submitted to CXL with Genipin; CG: Cornea submitted to CXL with Genipin. The corneas were sent to Biophotonic Section from Physics Department of Universidade de Campinas to be analyzed through second harmonic generation imaging microscopy. The images of these four groups, formed with this microscopy, were compared.

Results: The study is been developed and the collagen lamellae of corneas submitted to CXL with the standard method showed a wave pattern with bonds between adjacent collagens fibers.

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 human corneas with keratoconus submitted do CXL with Genipin compared to CXL with the standard method.

Keywords: Second Harmonic Generation, Keratoconus, Corneal Collagen, Genipin.

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Deadline: 10/2011

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)

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

R3

Last Name: Bruno
First Name: Bruno
Middle: Landgren

Service: (RS) REFRACTIVE SURGERY

CEP Number: 0897/10

5. ABSTRACT (REQUIRED):

Title: Analisys of higher order aberrations in eyes of elite police of Sao Paulo

Author and Co-authors (maximum 6): Bernardo Kaplan Moscovici; Rodrigo Ribeiro Santos; Eliane Mayumi Joao Baptista Malta; Mauro Campos

Purpose: Compare high order aberrations between elite police and the general population through assessments of visual acuity, refraction, and wavefront analysis (RMS).

Methods: Will be evaluated 32 eyes of 16 patients (8 elite military officers and 8 normal subjects) with uncorrected visual acuity better than or equal to 20/20, minimum age of 18 years who have signed the consent form for inclusion in the study. Exclusion criteria include systemic or ocular diseases.
The 48 sequential patients who meet the criteria for inclusion in the study and signed the informed consent will undergo tests for visual acuity and wavefront analysis of both eyes.

Results: The mean age of the military elite was 33.81 years (28-41). The normal patients showed a mean age of 30.75 years (25-39). The mean BSCVA of the military elite was 20/15 (20/10 – 20/20) in the right eye and 20/15 (20/15 – 20/20) in the left eye. The mean BSCVA for normal patients was 20/15 (20/15 – 20/20) in the right eye and 20/15-2 in the left eye (20/15 – 20/30). The mean spherical equivalent of the military in the right eye was +0.25 (-0.75 to +1.00) and +0.50 in the left eye (-0.125 to +1.00). For the normal patients it was +0.50 (-1.00 to +1.00) in the right eye and +0.25 (-0.75 to +1.00) in the left eye. The mean RMS of the right eye of the military elite was 0.28 (0.09 – 0.61) and for the left eye was 0.32 (0.11 – 0.65). Normal patients showed a mean RMS in the right eye of 0.41 (0.17 – 1.00) and in the left eye of 0.47 (0.27 – 0.70).

Conclusion: The elite military police of Sao Paulo showed better results when compared with the general population, especially when comparing the higher-order aberrations (RMS). This may be related with their special skills that lead them to be members of the elite police.

Keywords: Refraction; High order aberrations; spherical equivalent

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

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

PG1

Last Name: Eduardo
First Name: Marcelo Moron de
Middle: Andrade

Service: (RS) REFRACTIVE SURGERY

CEP Number: 29057230

5. ABSTRACT (REQUIRED):

Title: Study of pupillary influence on patients to be subjected to Laser keratorefractive surgery with the use of pupillary measurement digital device and visual function questionnaire VQF 25.

Author and Co-authors (maximum 6): Andrade EM, Chamon W.

Purpose: Assess if the pupillary diameter to be the main and decisive factor on patient's visual grade satisfaction.

Methods: In this study we analyze 77 eyes on 77 patients who were subject to LASIK, with the aid of an infrared pupillometer with authomatized capture connected to a videoceratographic system optical head. Patients were subjected to full ophthalmologic evaluation and pupillary reaction documentation under different light, simulating daily situations. A visual function questionnaire (VFQ 25) was used, translated and validated to the Portuguese language, as tool to analyze vision under several daily situations.

Results: It was not possible to assert the pupillary diameter to be the main and decisive factor on patient's visual grade satisfaction.

Conclusion: The infrared pupillometer with authomatized capture has proven to be a useful tool for documentation and understanding of pupillary reaction, a group of elements such as patient's psycho-social profile, treated pre-operation ametropia and final residual ametropia, contributed to determine better grade of satisfaction among patients subjected to LASIK.

Keywords: 1. Pupil. 2. Cornea. 3. Topography. 4. LASIK

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

PG0

Last Name: Fabiano
First Name:
Middle: Cade

Service: (CO) CORNEA AND EXTERNAL DISEASE (RS) REFRACTIVE SURGERY

5. ABSTRACT (REQUIRED):

Title: Analysis and Comparison of Four Aberrometers for Evaluating Lower and Higher Order Aberrations

Author and Co-authors (maximum 6): Fabiano Cade1,2, Andrea Cruzat1, Lilian Espírito Santo2, Eleftherios Paschalis1, Roberto Pineda1
1Department of Ophthalmology, Massachusetts Eye & Ear Infirmary, Harvard Medical School, Boston, USA.
2Department of Ophthalmology, São Paulo Federal Universi

Purpose: To compare measurements of four different aberrometers: Alcon LADARWave®, Visx Wavescan®, Wavelight Allegro Analyzer®, B & L Zywave®.

Methods: Multiple readings with each aberrometer were obtained in 42 eyes, at a single visit. We compared lower and higher order aberrations (HOA) between the 4 devices. The wavefront aberration data was analyzed including wavefront refraction, total aberrations, total higher order aberrations (HOA), defocus, astigmatism, coma, trefoil and spherical aberration (SA). Statistical analysis included Bland-Altman plots, Intraclass Correlation Coefficient (ICC), multiple comparison tests with Analysis of Variance and Kruskal-Wallis. Alpha level correction was applied under the Bonferroni criteria for multiple comparisons.

Results: : Statistically significant difference was found between the aberrometers regarding total HOA ($p<0.001$), SA ($p<0.001$), and Horizontal Coma ($p<0.0001$) measurements. Low ICC, in total HOA, was found between Visx Wavescan® and the other three devices. LADARWave® showed low agreement compared to Wavelight Allegro Analyzer® in total HOA and SA, as well as when compared to Visx Wavescan® in SA. Significant differences were observed between Wavelight Allegro Analyzer® and the other aberrometers in Horizontal Coma. Low agreement was also found between B & L Zywave® and Visx Wavescan®, in both SA and Horizontal Coma. All remaining aberrations were in good agreement between the four aberrometers.

Conclusion: Higher order aberrations measurements were not always consistent. Hence, interpretation of the results between aberrometers requires caution.

Keywords: aberrations; refractive surgery, optical quality, imaging analysis

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

R3

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

Service: (BE) OCULAR BIOENGINEERING (EX) EXPERIMENTAL SURGERY

CEP Number: 0091/11

5. ABSTRACT (REQUIRED):

Title: Analysis and development of new surgical instruments for ophthalmic pratice

Author and Co-authors (maximum 6): Juliana de Filippi Sartori, Paulo Schor, Milton Yogi, Anderson Teixeira

Purpose: To register the design, development and testing of new surgical instruments in order to establish a pipeline for creation of new technologies and products for the ophthalmologic practice.

Methods: This study was planned with the following landmarks: Production Selection, Functional Description, Numerical Evaluations of the Functions, Training Cost, Specification and Requirement, Rapid Prototyping and Re-Evaluation. All instruments were made with surgical grade stainless steel using the UNIFESP's Bioengineering Laboratory with strict dimensions set for ophthalmologic surgery. The instruments were used in ocular surface surgery, cornea and refractive surgery, cataract surgery, retinal and vitreous surgery. All surgeons were asked to answer survey about the performance and impressions regarding the instrument.

Results: Seven surgical instruments were built and tested in surgeries. The instruments were: atraumatic forceps for amniotic membrane surgery, atraumatic needle tweezers for penetranting keratoplasty, toric marker for refractive and cataract surgery, capsulorhexis forceps, IOL extraction forceps, chopper for phacoemulsification, microcannula with external lumen 20-gauge and internal lumen 23-gauge and microcannula for cromevitrectomy.

Conclusion: All instruments had an overall positive response from the surgeons. We are confident that this project was essential to propel further research and technological developments of surgical innovation in this still unexplored academic area.

Keywords: ophthalmological surgery, bioengineering, instrumental, experimental surgery

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70. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG0

Last Name: Aline
First Name: S.
Middle: Moriyama

Service: (CO) CORNEA AND EXTERNAL DISEASE (CO) CORNEA AND EXTERNAL DISEASE

5. ABSTRACT (REQUIRED):

Title: Comparison of therapeutic effect of topical, subconjunctival, intracameral and intrastromal bevacizumab on corneal angiogenesis in a rabbit model

Author and Co-authors (maximum 6): Crispim, J, Hofling-Lima AL

Purpose: Corneal angiogenesis is a pathological finding associated to a series of ocular conditions such as infection, inflammation and trauma that can ultimately restrict visual function. Current therapeutic options for corneal neovascularization includes corticosteroids, argon laser or thermal cauterization and, more recently, anti-VEGF agents.
Different administration routes of anti-VEGF drugs have been reported for the treatment of corneal neovascularization, however it is still necessary to compare efficacy of these routes. The purpose of this project is to compare the therapeutic effects of topical, subconjunctival, intracameral and intrastromal Bevacizumab on experimentally induced corneal neovascularization in a rabbit model.

Methods: A rabbit model of suture-induced corneal neovascularization will be used to assess the anti-angiogenic role of bevacizumab through different administration routes. After performing suture at day 0, animals will be divided into the following groups: A: Control Group (n=5): receiving no treatment, group B: Topical Avastin (n=5): receiving 25mg/ml bevacizumab eye drops qid for seven days, group C: Subconjunctival Avastin (n=5): receiving bevacizumab 2,5mg/0,1mL subconjunctival injection on dame day as suture is placed, group D: Intracameral Avastin (n=5): receiving 2,5mg/0,1mL intracameral injection on the same day as suture is placed, group E: Intrastromal Avastin (n=5): receiving bevacizumab 2,5mg/0,1mL intrastromal injection on the same day as suture is placed. Euthanasia will be performed in all the animals by the 7th day after suturing. Animals will be evaluated and biomicroscopic photographed. Images will be morphometrically analyzed using the image processing and analysis software

Results: research to be concluded

Conclusion: research to be concluded

Keywords: corneal angiogenesis, neovascularization, bevacizumab

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

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

R1

Last Name: Carlos
First Name: Eduardo
Middle: Barbosa Filho

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 1641/09

5. ABSTRACT (REQUIRED):

Title: Cases of bilateral Acanthamoeba keratitis

Author and Co-authors (maximum 6): Carlos Eduardo Barbosa Filho, Flavio E. Hirai, Juliana Ferreira, Fabio R. S. Carvalho, Annette Foronda, Denise de Freitas.

Purpose: To describe a series of bilateral cases of Acanthamoeba keratitis followed at the Cornea and External Diseases service at the Federal University of São Paulo.

Methods: Case series of bilateral keratitis followed at the Federal University of São Paulo from January 1987 and January 2010. All charts of patients with bilateral cases were reviewed for the analysis.

Results: Twenty one patients presented bilateral keratitis, 15 were female (72%) and 6 were male (28%). Mean age was 27 years; the diagnosis was made by lab culture of contact lenses in 15 patients (72%), corneal scrap only in 5 patients (23%), culture of both corneal scrap and contact lenses in 1 patient (4%). Nine patients were investigated for bacterial coinfection (43%); of these, 4 (2%) had positive culture. Seventeen patients were soft contact lens users.

Conclusion: This study described bilateral cases of Acanthamoeba keratitis.

Keywords: acanthamoeba, keratitis, contact lens

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Deadline: 10/2011

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

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

R1

Last Name: Jeferson
First Name: de
Middle: Lima

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 184976

5. ABSTRACT (REQUIRED):

Title: Discarded corneas due to positive donor´s serologic test in the Hospital Sao Paulo eye bank: a one year study.

Author and Co-authors (maximum 6): Jeferson de Lima Flavio Eduardo Hirai Elcio Hideo Sato Consuelo Bueno Diniz Adán

Purpose: To investigate discarded corneas due to positive serologic tests in donors from the Hospital São Paulo Eye Bank (BOHSP) during a one year period.

Methods: Retrospective study of records from cornea donors between January and december 2010. Information such as serologic test results (Hepatitis B, C, and HIV), source of corneal tissue, donor's gender and age were tested for correlation.

Results: The preliminary results of the study shows a large number of corneas processed by BOHSP were discarded due to a positive ou inconclusive result in the serological tests. The final results are in progress.

Conclusion: This study confirms the importance of serological tests in order to prevent disease transmission to corneal transplant recipients. However, new tests are necessary to decrease the number of inconclusive tests and decrease the number of discarded corneas.

Keywords: Eye banks; Eye infections, viral; Cornea/microbiology; Corneal transplantation; Serology; Hepatitis C/diagnosis; Tissue donors

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

R3

Last Name: Joyce
First Name: B.
Middle: Tsuchiya

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 0617/08

5. ABSTRACT (REQUIRED):

Title: Reasons for not harvesting corneas in the Hospital Sao Paulo Eye Bank

Author and Co-authors (maximum 6): Joyce Tsuchiya, Mariana Coelho, Priscila Cavalcante, Flavio E. Hirai, Consuelo B. D. Adán and Elcio H. Sato

Purpose: to investigate reasons for not harvesting corneas of potential donors in the Hospital Sao Paulo Eye Bank

Methods: this was a cross-sectional study. Records from the HSP Eye Bank were reviewed from January to May 2011. Information such as gender, age of donor, reasons for not interviewing donor?s family and reasons for refusal were collected.

Results: 627 deaths occurred during the study period. Mean age (standard deviation) of potential donors was 61.9 (18.7) years, ranging from 6 to 105 years; 56.5% were male; families were not interviewed in 86.0% of the time; reasons for not interviewing families included sepsis as main cause of death (44.8%), donor?s age above 80 years (12.1%), absence of legal representative (11.4%) and other reasons (31.7%).

Conclusion: our study showed that the reasons for not harvesting corneas were related to non-modifiable factors. Educational programs on a regular basis and advocacy are necessary to promote cornea donation.

Keywords: Cornea donation; Eye bank; Corneal transplantation

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Deadline: 10/2011

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

R3

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

Service: (CO) CORNEA AND EXTERNAL DISEASE and (EP) EPIDEMIOLOGY

CEP Number: 1656/11

5. ABSTRACT (REQUIRED):

Title: Cost-effectiveness study of deep anterior lamellar keratoplasty vs. penetrating keratoplasty for the treatment of keratoconus

Author and Co-authors (maximum 6): Maria Flávia de Lima Ribeiro, Flávio Eduardo Hirai, Denise de Freitas, Paola Zucchi

Purpose: To evaluate the cost effectiveness of deep anterior lamellar keratoplasty (DALK) versus penetrating keratoplasty (PK) for the treatment of keratoconus.

Methods: Systematic review of the literature was performed to assess the effectiveness of DALK vs. PK. Direct costs were determined based on hospital cost records. Indirect and intangible costs were not included. Tree-age decision analysis models were built to calculate the increment cost-effectiveness ratio (ICER).

Results: Eight articles were included in the analysis. The effectiveness of both techniques showed to be similar in previous studies. Costs will be determined and the ICER will be calculated.

Conclusion: Although both corneal transplant techniques seemed to be equivalent, costs might be different affecting the incremental cost-effectiveness ratio.

Keywords: corneal transplant, keratoplasty, cost-effectiveness

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

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

PG1

Last Name: Mário
First Name: Genilhu Bomfim
Middle: Pereira

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 47702

5. ABSTRACT (REQUIRED):

Title: Growth Factors Dosage in Fresh and Preserved Amniotic Membrane in Different Medium and at Different Temperatures and Correlation between Maternal and Gestational Age and Cytokines Concentration

Author and Co-authors (maximum 6): Mario Genilhu Bomfim Pereira, José Álvaro Pereira Gomes and 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 in two different media, during different periods of storage at different temperatures in order to determine which type of preservation is better, and also correlate the cytokines concentration and gestational and maternal age.

Methods: 8 amniotic membranes were retrieved from 8 placentas of cesarean deliveries at term. Informed consent were obtained.
Each membrane was divided in 17 pieces and preserved at saline solution 0,9% (1), DMSO 12%(8) and modified TC 199 preservation medium / glycerol (Ophthalmos) (8). 1 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, 1 sample of each membrane was placed in serum free and protein free hybridroma medium for 24 hours. The supernatant was submitted to ELISA. The procedure was repeated after being preserved at -80 C and 0 C for 7 days, 2 and 6 months.

Results: The membrane preserved at - 80 C had less decrease of cytokines concentration of most tested. The membranes preserved in Ophthalmos media were those who had less decrease of cytokines concentration in most tested. Regard to time, most cytokines remained with concentration with no significant difference in relation to fresh membrane, 24 hours after preservation. Less than half of them were found with no significant differences after seven days, and all showed significant differences in their concentration after 2 and 6 months. There was no significant difference between any cytokines related to age of the pregnant or her gestational age.

Conclusion: The amniotic membrane preserved at -80 C in Ophthalmos medium for 24 hours, shows less difference in cytokines in relation to fresh membrane. When compared with other forms of preservation seems to be the best form of preserving it. There was no correlation between any cytokines and maternal or gestational age.

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76. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Paulo
First Name: C.
Middle: Silber

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 0677/07

5. ABSTRACT (REQUIRED):

Title: Human Conjunctival Epithelial Cells cultivated ex vivo on Amniotic Membrane

Author and Co-authors (maximum 6): Silber PC, Cristovam PC, Dreyfuss JL, Ricardo JRS, Hazarbassanov R, Gomes JAP

Purpose: To establish human conjunctival epithelial cell culture on amniotic membrane

Methods: A conjunctival fragment of 2x5mm2 dimension was harvested from different living donors who underwent cataract or pterygium surgery (n=9). All donors signed a inform consent prior to the procedure. The conjunctival fragment was sent to the lab. Under sterile conditions, the tissue was divided into an anterior and a posterior portion. The anterior portion was divided into two symmetric 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), proliferation marker (Ki-67) and stem cells markers (p63, ABCG2). We also performed impression cytology , electron microscopy and confocal microscopy analysis.

Results: Conjunctival epithelial cells (n=9) expanded successfully either on culture plate or on amniotic membrane. Impression cytology demonstrated the presence of compact conjunctival epithelium and goblet cells. Immunocytochemical analysis showed positivity for K3, K19, MUC5, 20 to 30% positivity for Ki-67, p63 and 10% positivity for ABCG2. Cultures on the amniotic membrane got confluence in three weeks with a steady growth of the tissue.

Conclusion: Our results confirmed previous findings 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.

Keywords: 1. stem cells 2. conjunctiva 3. culture 4. ex vivo

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77. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R3

Last Name: Pedro
First Name: Vanalle
Middle: Ferrari

Service: (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 1641/09

5. ABSTRACT (REQUIRED):

Title: The influence of fourth generation fluorquinolones in patients with Acanthamoeba keratitis and coinfection

Author and Co-authors (maximum 6): Pedro Vanalle Ferrari; Maria Flavia de Lima Ribeiro; Flavio Hirai; Anette Foronda; Fabio Ramos de Souza Carvalho; Denise de Freitas

Purpose: To investigate the occurrence of coinfection among patients with positive culture results for Acanthamoeba keratitis (AK) in 11 years.

Methods: This was a cross-sectional study of records of patients who had diagnosis of AK confirmed by laboratory examination (culture). Results from corneal scrapings from the Ocular Microbiology Laboratory - UNIFESP/EPM from January 1998 to July 2009 were reviewed to determine concurrent bacterial growth. Analysis across 11 years was done. Data were stratified before and after 2004, the year that topical ocular moxifloxacin became commercially available in Brazil, to evaluate its influence in the occurrence of coinfection in patients with AK.

Results: AK was identified in 244 eyes. Bacteria were isolated in 95 (38.95%) eyes. An increase in the occurrence of coinfection was observed after 2004 comparing the period before 2004. In the period of 1998-2004, 40 of 129 cases had coinfection; and in 2005 - 2009, 55 of 115 cases was positive for co infection (Odds Ratio (95% CI): 1,91 (1.13 - 3.21), p= 0,015)

Conclusion: The coinfection rate in AK in our series is similar to the literature. It?s known that the presence of bacteria in patients with AK could lead to worse prognosis. The increase of coinfection after the introduction of fourth generation fluorquinolones in the treatment of infectious keratitis instead of fortified topical antibiotics may have a major role. Prospective studies are necessary to confirm these findings.

Keywords: Acanthamoeba; Keratitis; Coinfection

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78. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PIBIC

Last Name: Viviane
First Name: N
Middle: Peracini

Service: (CO) CORNEA AND EXTERNAL DISEASE and (LA) LABORATORY

CEP Number: 1346/08

5. ABSTRACT (REQUIRED):

Title: Impression cytology analysis before and after treatment with osmoprotective lubricant in patients with dysfunctional tear syndrome.

Author and Co-authors (maximum 6): Hazarbassanov, RM ;Loureiro, RR;Covre, JL; Barros J;Hofling Lima AL; Gomes, JAP.

Purpose: To evaluate Impression cytology patterns after treatment with osmoprotective lubricant compared to a lubricant without osmoprotective effect, in patients with evaporative dysfunctional tear syndrome (EDTS).

Methods: 16 patients (68,75% female)(age mean ± SD: 35.8 ±10.5) were enrolled in this study. 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 subsequent 2 months of either osmoprotective effect Optive® or without osmoprotective effect FreshTears® (Allergan, Inc., Irvine, California).They were divided into 2 groups, in group A, 8 patients (16 eyes) were treated with Optive® and in group B, 8 patients (16 eyes) were treated with FreshTears®. All 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).

Results: All exams pre-treatment were performed and 3 months follow-up completed. IC in temporal conjunctiva showed in all patients a significant worsening of total score after 3 months treatment with FreshTears® (Fisher?s exact test, p=0.0002) though for Optive® group did not change significantly after 3 months treatment.

Conclusion: Impression cytology showed a trend for total score worsening after treatment with non osmoprotective eye drops. This finding suggests that an osmoprotective eye drop might protect from worsening of IC patterns and treat patients with diagnosed EDTS.

Keywords: osmoprotective lubricant, Impression cytology analysis, evaporative dysfunctional tear syndrome

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79. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Thays
First Name: Moreira
Middle: Albhy

Service: (RX) REFRACTION-CONTACT LENSES

CEP Number: 122854846

5. ABSTRACT (REQUIRED):

Title: Contact lens fitting after ecstasies after refractive surgery

Author and Co-authors (maximum 6): César Lipener

Purpose: To evaluate the fitting and use of contact lens in patients with keratoconus after been submitted to refractive surgery.

Methods: This was case report patients submitted to refractive surgery who later started to use contact lens due to keratoconus

Results: Of theevaluated patients, they had undergone LASIK (Laser Assisted in Situ Keratomileusis), were fitted with rigid gas-permeable lenses and soper contact lentes. There was an improvement of visual acuity with few complications.

Conclusion: Due to the great number of performed refractive surgery, an increase in the number of patients unhappy with the postoperative result is expected, and for these patients, many times the use of contact lens is the best option. The fitting of contact lenses after refractive surgery demands knowledge, dedication and has good results principally regarding better visual acuity.

Keywords: Contact lenses; Refractive errors/surgery; Visual acuity; Case report

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

R1

Last Name: Huber
First Name: Martins
Middle: Vasconcelos Junior

Service: (EP) EPIDEMIOLOGY

CEP Number: 1538/11

5. ABSTRACT (REQUIRED):

Title: Clinical profile of ophthalmologic patients requiring hospitalization

Author and Co-authors (maximum 6): Huber Martins Vasconcelos Junior; Elisabeth Nogueira Martins

Purpose: To evaluate the clinical profile of ophthalmologic patients hospitalized at São Paulo Hospital (a referral tertiary center in São Paulo).

Methods: Registries of patients hospitalized from July 2010 to July 2011 were evaluated and 2,996 ophthalmologic patients were identified. Data regarding age, gender, diagnosis, concomitant illnesses, length of hospital stay, and procedures, were collected and analyzed. Clinical profile of patients requiring prolonged hospitalization (5 or more days) was also analyzed.

Results: Most patients were male (54.3%) and mean age was 48.4 (SD 23.8). In-hospital period was very brief in the majority of the patients (only one day for 72.0% of them) with only 5.8% staying for 5 days or more. Surgical procedures were performed in 2,697 patients (90,0%). Retinal detachment (18,7%) was the leading reason for hospitalization, followed by glaucoma (16,2%) and cataract (11,6%). Among patients with prolonged hospitalization (5 days or more), celulitis (16.9%), endophthalmitis (15.1%), and keratitis (9.9%) were the most common diagnosis.

Conclusion: Patients requiring survival procedures are the most frequent ones and retinal detachment is the leading cause for hospitalization. Opthalmologic in-hospital period tend to be very brief.

Keywords: epidemiology, ophthalmology; hospitalization

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

R3

Last Name: Bruno
First Name: Torres
Middle: Herrerias

Service: (GL) GLAUCOMA

CEP Number: 0868/11

5. ABSTRACT (REQUIRED):

Title: Measurement of corneal diameter: Agreement between methods

Author and Co-authors (maximum 6): Herrerias, Bruno Torres; Fernandes, Priscila; Oliveira, Ramon Antunes de; Rolim de Moura, Christiane

Purpose: Develop a easily method of measuring corneal diameter, reproducible and consistent with the standard method, to collaborate in the diagnosis of diseases such as pediatric glaucoma and megalocornea.

Methods: Fifty volunteers will be invited to take part in this study. Such individuals will undergo three photographs by one examiner and another one by a second examiner, of one eye of each patient that was determined by randomization, with a ruler along the same plane of limbo, with the iPhone ® cel distant ten centimeters. After these photos, the image of the device will be increased so that it is measuring the same rule in the picture measuring the real ruler. After that is done we will measure the corneal diameter in the photo. We will make the average of these four measures will be noted and a value of V1. The patient is then directed to another examiner, blinded to the value of V1 and perform new measurement of corneal diameter in the slit lamp with the help of a surgical compass and note a new value V2. After these two measurements we will have the diameter measurement by ATLAS Corneal Topography System Zeiss TM and will note a new value V3. We will analyze the reproducibility among e

Results: in Progress

Conclusion: in Progress

Keywords: pediatric glaucoma, corneal diameter, iPhone4®

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

R3

Last Name: Carolina
First Name: Pelegrini
Middle: Barbosa

Service: (GL) GLAUCOMA

CEP Number: 1453/04

5. ABSTRACT (REQUIRED):

Title: Weak agreement for cup disc ratios in a 3-dimension web based tool.

Author and Co-authors (maximum 6): Carolina P. Barbosa, Pedro F. Angelini, Sergio H. Teixeira, Rafael L. Furlanetto, Paulo Schor, Augusto Paranhos Jr.

Purpose: Evaluate the inter-observer ability to measure vertical and horizontal cup disc ratios (CDR) on digital stereoscopic pictures in a 3-dimension web based tool.

Methods: In a prospective, random, and masked setting, 43 stereoscopic optic nerve images from normal and glaucomatous patients with CDR ranging from 0.2 to 0.9 for vertical and horizontal were presented on a computer screen for 162 participants using a web based software. All of volunteers answered the questions using appropriated red and green stereoscopic glasses. To establish a gold standard three glaucoma specialists made the same measurements for vertical and horizontal CDR of each picture using software of Zeiss Renitograph (Visucam). The mean of the three measures was used as gold standard. Inter-observed agreement was measured using Bland-Altman analysis and intraclass correlation.

Results: The agreement between measures of Glaucoma specialists was very high (intraclass correlation = 0.92 and 0.90 for vertical and horizontal CDR, respectively). Bland- Altman analysis showed a worse agreement for intermediate CDR values (0.60 and 0.70 for horizontal and vertical CDR, respectively) and a trend to hyperestimate the CDR around 0.7.
Conclusion: The absolute agreement for intermediate CDR values was very poor for both horizontal and vertical values.

Conclusion: Despite a good agreement between the gold standard (3 Glaucomatous specialists) and the participants? responses, the absolute agreement for intermediate CDR values was very poor for both horizontal and vertical values.

Keywords: Cup disc ratio, diagnostic, glaucoma, Internet, measurement.

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

R2

Last Name: Daniel
First Name:
Middle: Colicchio

Service: (GL) GLAUCOMA

CEP Number: 0775/11

5. ABSTRACT (REQUIRED):

Title: Optic Nerve Head Evaluation Without Mydriasis: How Reliable is it?

Author and Co-authors (maximum 6): Daniel Colicchio, Moacyr A Campos, Luiz G M Pimentel, Aline S Sousa, Eglailson D Almeida, Pilar Moreno, Tiago S Prata

Purpose: To investigate the intra-observer and inter-observer agreement for optic nerve head (ONH) and peripapillary retinal nerve fiber layer (pRNFL) evaluation with and without mydriasis.

Methods: We prospectively enrolled glaucomatous patients/suspects and controls from a general outpatient clinic. Firstly, all patients were examined without mydriasis by three glaucoma specialists using the same slit lamp model and fundus lens (Volk 78D, Volk Optical). Pupil diameter was measured and characteristics of the ONH and pRNFL were analyzed and graded in a standardized manner. After the first evaluation, patients received 1 drop of a mixture of tropicamide 1% and phenylephrine 10%. After 25 minutes, patients were re-examined by the same physicians in a different sequence. Examiners were masked to their first evaluation and to the other physicians? analyses. Intra-observer and inter-observer agreement for ONH and peripapillary RNFL evaluation were calculated before and after mydriasis. Using digital retinography as the gold standard, we also compared the ability of each examiner to identify glaucomatous signs of the ONH and peripapillary RNFL.

Results: Data in analysis.

Conclusion: In progress.

Keywords: glaucoma, optic disc evaluation, mydriasis

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

R3

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

Service: (GL) GLAUCOMA

CEP Number: 1427/09

5. ABSTRACT (REQUIRED):

Title: EVALUATION OF RETINAL NERVE FIBER LAYER IN PATIENTS WITH MULTIPLE SCLEROSIS WITHOUT HISTORY OF OPTIC NEURITIS

Author and Co-authors (maximum 6): Fabiana F. Gonçalves, M.D., André S. de Camargo, M.D., Eric P. de Andrade, M.D., Luiz Filipe A. Lucatto, M.D., Denis Bichuetti, M.D., Enedina M.L. de Oliveira, M.D., Luiz Alberto S. Melo Jr, M.D., Marcos P. S. Dantas, Ivan M. Tavares, M.D.

Purpose: To determine whether the retinal nerve fiber layer (RNFL) thickness is affected in patients with multiple scleroris and no history of optic neuritis.

Methods: Twelve patients (24 eyes) with multiple sclerosis diagnosed according to clinical and neuroimaging criteria, but no previous episode of optic neuritis were enrolled. The participants underwent comprehensive ophthalmological examination including visual acuity, refraction, tonometry, and biomicroscopy. The RNFL thickness was evaluated using scanning laser polarimetry (SLP) and spectral-domain optical coherence tomography (SD-OCT). In the SLP, a NFI index above 50 was considered as indicative of abnormality in the retinal nerve fiber layer thickness. In the SD-OCT, an outside normal limits result was considered as indicative of abnormality in the RNFL thickness.

Results: Seventeen eyes were included in the analysis. Seven eyes were excluded due to high ametropia, poor quality scans or history of low visual acuity, despite absence of optic neuritis. Two eyes (11%) presented abnormality in the RNFL thickness and 4 eyes (23%) had borderline results in the OCT, but with normal results in the SLP.

Conclusion: The RNFL thickness is probably affected in multiple scleroris before the optic neuritis episode, and this abnormality is previously detected by the OCT.

Keywords: MULTIPLE SCLEROSIS, BIOMARKER, SCANNING LASER POLARIMETRY, OPTICAL COHERENCE TOMOGRAPHY, RETINAL NERVE FIBER LAYER

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85. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Ibraim
First Name: Viana
Middle: Vieira

Service: (GL) GLAUCOMA

CEP Number: 1614/09

5. ABSTRACT (REQUIRED):

Title: Influence of corporal position in ocular perfusion pressure in glaucoma patients : A comparison between trabeculotomy and clinically controlled patients.

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

Purpose: Compare posture-induced changes in ocular perfusion pressure in glaucoma patients in clinical treatment or who underwent a trabeculotomy and are not in use of any medication to low the IOP. It will also be compared the IOP stability proportioned by these 2 modalities of glaucoma treatment.

Methods: All patients will be subjected to the following exams: Refraction Biomicroscopy Central ultrasonic paquimetry SITA Standard White-on-White Automated Perimetry and FDT Matrix 24.2 Stereo retinography of the papilla Measure of intraocular and arterial pressure as described: Patients will be instructed to stay 10 minutes sat, and will have their IOP measured with a Tono-pen. Then, the patient will lie on a litter and will have their IOP remeasured every ten minutes, until their IOP comes to their basal level or until it stabilizes within a maximum of four measures. If possible both eyes will be avaliated, starting with the right eye. It will be instilled anesthetic eye drops (proximetacaine 0.05%) before every tonometric measure Arterial pressure will be measured right after every tonometry, preferably on the superior right arm.

Results: In Progress

Conclusion: In Progress

Keywords: glaucoma perfusion pressure position trabeculotomy

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86. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Karine
First Name: Duarte
Middle: Bojikian

Service: (GL) GLAUCOMA

CEP Number: 1781/08

5. ABSTRACT (REQUIRED):

Title: Primary Congenital Glaucoma: can we do the diagnosis in utero?

Author and Co-authors (maximum 6): Bojikian KD; Rolim CR; Melo Jr LAS; Leite MT; Tavares IM; Moron AF

Purpose: To establish a reference curve for normal fetal eyeball volume (FEV) using three-dimensional ultrasound Virtual Organ Computer-aided AnaLysis method (VOCAL). Compare the reproducibility of the two different contour modes [manual (FEVM) or sphere (FEVS)].

Methods: This prospective longitudinal observational study was performed in a single center (Centro Paulista de Medicina Fetal, Sao Paulo, Brazil) and it involved 71 fetuses? eye of 37 pregnant women. Only singleton pregnancies without fetal growth restriction, diabetes mellitus, hypertension or fetal malformation were included. All examinations were performed by a single investigator using a Voluson 730 Expert (GE Medical systems, Milwaukee, WI, USA) equipment. Each pregnant woman was examined 3 to 5 times between 17 and 40 weeks of gestation. Preferably, a coronal section of the fetal head at the orbital level was obtained, where both orbits were visible. The scans were stored and FEV (FEVM and FEVS) and ocular diameter measurements [tranverse ocular diameter(TD) and anterior-posterior ocular diameter(APD)] were performed after patient discharge using the 4D View software. All participants were followed until delivery, and only those with normal neonatal outcomes were included in the fina

Results: Mean FEVM went from 309.5 ± 80.1 mm3 at 17 to 18 weeks to 2552.1 ± 384.9 mm3 at 39 to 40 weeks. Mean FEVS went from 394.8 ± 71.8 mm3 at 17 to 18 weeks to 2682.1 ± 343.4 mm3 at 39 to 40 weeks. Both the FEVM (R^2= 0.90, P <0.001) and FEVS (R^2 = 0.91, P < 0.001) were strongly correlated with the gestational age (GA). The TD and APD ranged between 57 mm to 168 mm and 68 mm to 200 mm, respectively. Both the TD (R^2= 0.85, P <0.001) and APD (R^2 = 0.87, P < 0.001) were also strongly correlated with the GA. Although FEVM and FEVS measurements were highly correlated (R^2=0.97; p<0.001), there was a fixed bias between them. FEVS was consistently greater than FEVM. The agreement between these measurements showed no proportional bias (p=0.89).

Conclusion: This study showed a strong correlation between gestational age and eyeball volume in normal fetuses. In the future, this normal curve could be used to screen fetuses at high risk for fetal eye abnormalities, including Congenital Glaucoma.

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87. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R3

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

Service: (GL) GLAUCOMA

CEP Number: 1427/09

5. ABSTRACT (REQUIRED):

Title: CORRELATION BETWEEN THE RETINAL NERVE FIBER LAYER THICKNESS AND THE EXPANDED DISABILITY STATUS SCALE (EDSS) IN PATIENTS WITH MULTIPLE SCLEROSIS

Author and Co-authors (maximum 6): Luiz Filipe A. Lucatto, M.D., Denis Bichuetti, M.D., André S. de Camargo, M.D., Enedina M.L. de Oliveira, M.D., Eric P. de Andrade, M.D., Ivan M. Tavares, M.D.

Purpose: To determine whether the Expanded Disability Status Scale (EDSS) is related to defects in the Retinal nerve fiber layer demonstrated by Optical coherence tomography in patients with Multiple Sclerosis.

Methods: Twenty-nine patients with Multiple Sclerosis diagnosed according to clinical and neuroimaging criteria were enrolled. The participants underwent comprehensive ophthalmological examination including visual acuity, refraction, tonometry, and biomicroscopy. The EDSS was determined by the neurology sector of Federal University of São Paulo. The retinal nerve fiber layer was evaluated using spectral-domain optical coherence tomography (SD-OCT). In the SD-OCT, an outside normal limits result was considered as indicative of abnormality in the retinal nerve fiber layer thickness. EDSS greater than, or equal to 4 was considered as factor of severity.

Results: 25 females and 4 males were enrolled on study. The mean age was 40,3 years (ranging from 22 to 61 years). Five patients were excluded from the analysis because there was no data of the EDSS. 31 eyes were evaluated by SD-OCT (17 eyes were excluded due to missing data). Of the 9 eyes of patientes with EDSS greater than or equal to 4; 7 (77,7%) eyes had Outside Normal Limits and 2 (22,3%) eyes had Borderline result on SD-OCT. Of 22 eyes of patiens with EDDS less than 4; 6 (27,3%) eyes had Outside Normal Limits, 5 (22,7%) had Borderline, and 11 (50%) had Within Normal Limits on SD-OCT.

Conclusion: ongoing

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

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88. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R2

Last Name: Moacyr
First Name: Amaral
Middle: Campos

Service: (GL) GLAUCOMA

CEP Number: 1886/10

5. ABSTRACT (REQUIRED):

Title: Comparison of two OCTs tecnologies in assessing the RNFL in glaucoma patients

Author and Co-authors (maximum 6): Campos, MA.; Tavares, IM.

Purpose: To compare the accuracies of retinal fiber layer (RNFL) thickness measurements obtained with the Cirrus and RTvue OCTs in glaucoma patients

Methods: Cross-sectional study in witch 3 patients (six eyes) were assessed through three different tecnologies. Patients elegible for the study were those with visual acuity of 20/40 or better, transparent means and glaucoma diagnosis, either by visual field tests or optic nerve head biomicroscopic evaluation. Exams were performed in different days by the author (Campos, MA) and two other professionals. First Cirrus then RTvue. Data was analyzed as to agreement in both tecnologies to determine witch sectors (superior, nasal, inferior, temporal) were thickest and thinnest and RNFL thickness.

Results: Cirrus presents with a four sectors division (superior, inferior, nasal and temporal). RTvue OCT presents eitght sectors (superior nasal and temporal, inferior nasal and temporal, nasal upper and lower, temporal upper and lower). Means to this eight sector were calculated to compare with the four sectors from Cirrus OCT. OCTs agreed in 66,7% of the cases as to the thickest or thinnest sector. RTvue OCT overestimated thickness by 32,99%, on average.

Conclusion: More subjects are needed to compare these two tecnologies. Our goal was to compare this data with spectralis OCT as well. This data was unable to be presented in this study due to maintenance of the OCT.

Keywords: OCT, Retinal Nerve Fiber Layer, RNFL, Glaucoma

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89. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Patrícia
First Name:
Middle: Kakizaki

Service: (GL) GLAUCOMA

CEP Number: 0063/04

5. ABSTRACT (REQUIRED):

Title: Diagnostic Accuracy of Moorfields Regression Analysis and Glaucoma Probability Score Using Heidelberg Retina Tomograph

Author and Co-authors (maximum 6): P. Kakizaki, L.R. Fasolo, D.M. Freitas, D.P.E. Castro, J.A. Prata Jr., L.A.S. Melo Jr.

Purpose: To evaluate the Moorfields Regression Analysis (MRA) and Glaucoma Probability Score (GPS) classifications provided by the Heidelberg Retina Tomograph.

Methods: Glaucoma patients and healthy volunteers were enrolled. The glaucoma subjects were included if they had glaucomatous optic nerve head alterations with correspondent visual field defects in the standard automated perimetry (Humphrey 24-2). The subjects were classified as healthy if they had normal-appearing optic nerve head, automated standard perimetry without visual field defect and intraocular pressure lower than 22 mmHg. The subjects were excluded if they had significant ocular disease other than glaucoma. The participants underwent confocal scanning laser ophthalmoscopy.

Results: A total of 58 glaucoma patients (108 eyes) and 50 healthy subjects (98 eyes) were included in this study. The sensitivity of MRA and GPS were 71% (95% confidence interval [CI], 61%-79%) and 78% (95% CI, 69%-85%), respectively. There was no statistically significant difference in the sensitivity between the two classifications (P=0.21). The specificity of MRA and GPS were 91% (95% CI, 84%-95%) and 87% (95% CI, 77%-93%), respectively. There was no statistically significant difference in the specificity between the two classifications (P=0.46).

Conclusion: MRA and GPS classifications show similar diagnostic accuracy with moderate sensitivity and good specificity. The GPS classification has the advantage of identifying the optic nerve head without the operator's intervention.

Keywords: Accuracy, confocal scanning laser ophthalmoscopy, glaucoma, optic nerve head.

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90. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Paula
First Name: de Campos Prudente
Middle: Silva

Service: (GL) GLAUCOMA

CEP Number: 1742/10

5. ABSTRACT (REQUIRED):

Title: Evaluation the influence of a hands free speakerphone conversation simulation in the visual stimulus tested by the conventional perimetry and frequency-doubling technology perimetry.

Author and Co-authors (maximum 6): Silva, PCP; Melo, GR Paranhos Jr, Augusto;

Purpose: Assess the influence of a hands free speakerphone conversation simulation in the visual tested by the standard perimetry (SAP) and matrix frequency-doubling technology perimetry (FDT).

Methods: Inclusion criteria: eighteen years old, visual acuity better than 20/40 in the randomized eye , at least high school completed. Exclusion criteria: diagnosis of glaucoma or any other disease that can affect visual field in the study eye, or intra ocular pression greater or equal 21mmHG, large optic cup greater than 0,7, abnormal visual fields in the baseline test. Patients were asked to performed FDT and SAP with and without a standardized questionnaire to simulate a conversation during both psychophysics tests to simulate a hands free speakerphone conversation. The tests were performed in different days. The difference regarding fixation lost, false positive and negative and mean deviation among each situation were analyzed with ANOVA for repeated measurements and Tuckey HSD for multiple comparison.

Results: Thirty-nine eyes of 39 patients were analyzed. The questionnaire gives a statistically significant influence on the quality of performance for both SAP and FDT test for all analyzed parameters ($P<0.05$). There were no differences for any parameter when SAP and FDT were compared in the questionnaire situation ($P>0.05$).

Conclusion: Hands free speakerphone conversation simulation could affect significantly the ability to performer both SAP and FDT. These effects on a simple psychophysical test could be extrapolated for more complex activities like driving.

Keywords: conventional perimetry, frequency-doubling technology perimetry, visual fields, speakerphone conversation

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

R2

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

Service: (GL) GLAUCOMA

CEP Number: 1141/11

5. ABSTRACT (REQUIRED):

Title: The effect of diuretics in the ocular perfusion pressure in hypertensive patients using angiotensin-converting enzyme inhibitors.

Author and Co-authors (maximum 6): Paula Leal dos Santos Barros, Daniel Meira-Freitas, Pedro Vanalle Ferrari, Augusto Paranhos Jr.

Purpose: To evaluate the ocular perfusion pressure in hypertensive patients using angiotensin-converting enzyme inhibitors with or without diuretics.

Methods: A case-control study was carried out. Hypertensive patients treated for at least one year with angiotensin-converting enzyme inhibitors (ACEI) associated or not to diuretics were submitted to intraocular pressure measurement with Goldmann tonometry and arterial blood pressure. The ocular perfusion pressure was correlated with the current using antihypertensive medication.

Results: A total of 11 patients using ACEI only and 11 individuals using ACEI associated to diuretics were enrolled in this study. The mean (SD) ocular perfusion pressure was 55.07 (6.63) mmHg in the ACEI group and 46.28 (8.83) mmHg in the ACEI and diuretics group (p= 0.006). The mean (SD) intraocular pressure was 16.45 (2.89) mmHg in the ACEI group and 14.36 (3.01) mmHg in the ACEI and diuretics group (p= 0.07). The mean (SD) arterial blood pressure was 107.27 (8.83) mmHg in the ACEI group and 91.49 (15.02) mmHg in the ACEI and diuretics group (p= 0.002).

Conclusion: The use of diuretics associated with ACE inhibitors in hypertensive patients is associated with lower blood pressure and lower mean ocular perfusion pressure. These findings may have been caused by the depleting effect of intravenous fluid caused by diuretics, but also for better control of blood pressure in patients on combined antihypertensive therapy.

Keywords: Perfusion pressure, ACE inhibitors, hypertension, glaucoma.

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

PG1

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

Service: (GL) GLAUCOMA

CEP Number: 1243/10

5. ABSTRACT (REQUIRED):

Title: Comparison of Diagnostic Accuracies of Spectral Domain Optical Coherence Tomography and Confocal Scanning Laser Ophthalmoscopy in Eyes Suspected of Having Glaucoma

Author and Co-authors (maximum 6): Renato Lisboa, M.D., Mauro T. Leite, M. D., Robert N. Weinreb, M.D., Ali Tafreshi, B. S., Linda M. Zangwill, Ph.D. and Felipe A. Medeiros, M.D., Ph.D.

Purpose: To compare the diagnostic accuracies of Spectralis and HRT for detection of glaucoma in suspects of having the disease.

Methods: All eyes were scanned with the Spectralis SD-OCT and HRT confocal scanning laser ophthalmoscope and had normal standard automated perimetry results within 6 months. Eyes were classified as glaucomatous or normal based on documented evidence of progressive glaucomatous change of the optic disc occurring prior to the imaging sessions.

Results: 86 eyes were included in the normal group and 48 eyes were included in the glaucoma group. The AUC of the best paramenter of the Spectralis (temporal superior average thickness) was significantly larger than the best parameter of the HRT (rim area) (0.88 vs. 0.72, p = 0.007). The AUC of the temporal superior average thickness sectors of the Spectralis was statistically higher when compared to corresponding sector of the rim area (0.88 vs. 0.68, p = 0.001). The AUC of the temporal inferior average thickness of the Spectralis was also significantly larger than the temporal inferior rim volume of the HRT (0.81 vs. 0.65, p= 0.005).

Conclusion: The Spectralis SD-OCT is significantly better than HRT at detecting early glaucomatous damage in eyes suspected of having the disease. When combined with clinical assessments, information provided by the Spectralis SD-OCT may be a better tool than the HRT for glaucoma diagnosis.

Keywords: glaucoma, diagnosis, SD-OCT, CSLO

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93. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Vitor
First Name: Gomes
Middle: Prado

Service: (GL) GLAUCOMA

CEP Number: 1537/11

5. ABSTRACT (REQUIRED):

Title: Eyes with Occludable Angles Despite Patent Iridotomy: Is Laser Iridoplasty Efficient in These Cases?

Author and Co-authors (maximum 6): Vitor Gomes Prado, Aline K S Sousa, Pilar Moreno, Eglailson D Almeida Jr, Tiago S Prata.

Purpose: We aimed to investigate the efficacy of laser iridoplasty in eyes with occludable angles despite patent iridotomy.

Methods: A retrospective study was conducted. We analyzed the medical charts of patients who underwent laser iridoplasty between January 2010 and September 2011. Data collected included patients´ age, gender, race, presence (and type) of glaucoma, angle-closure mechanism, and pre-and post-laser IOP values and gonioscopy appearance. Laser treatment efficacy was evaluated by magnitude of IOP reduction and angle widening.

Results: "At analysis"

Conclusion: "In progress"

Keywords: iridoplasty, occludable angle, plateau iris, lens induced occludable angle

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94. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Technician

Last Name: Maria
First Name: Fernanda
Middle: Oliveira

Service: (LV) LOW VISION

CEP Number: 1558

5. ABSTRACT (REQUIRED):

Title: EVALUATION OF FUNCTIONAL VISION AND BASIC OCULOMOTOR IN CHILDREN WITH RETINOPATHY OF PREMATURITY

Author and Co-authors (maximum 6): Maria Fernanda de Oliveira, Marcia Caires Bestilleiro Lopes, Célia Regina Nakanami, Mirna Yae Yassuda, Larissa Godinho

Purpose: To assessment of functional vision and basic oculomotor children whith Retinopahty of Prematurity (ROP) aged 0 to 4 months referred to the Ambulatório de Estimulação Precoce ? Setor de Baixa Visão e Reabilitação Visual da Universidade Federal de São Paulo/ SP.

Methods: This study will be conducted from December 2010 to December 2011 at the Ambulatório de Estimulação Precoce – Setor de Baixa Visão e Reabilitação Visual da Universidade Federal de São Paulo. All participants will be informed and instructed about the purposes and importance of research, read the consent, agreeing and signing, thus allowing the use of data in this study. Inclusion of criteria will be the diagnose of ROP and aged 0 to 4 months without neurological problems. The evaluation will be based on Evaluation Method of Visual Ability in children (GAGLIARDO et al, 2004) and the physiological hypothesis proposed by Bütnner - Ennever (2007).

Results: None of the children (0%) in group with ROP (n = 10) could perform the tests of the operating environment of increased global movement when viewing an object, an attempt to reach an object (common in children from 4 months) and optokinetic nystagmus (physiological), regardless of gestational age and the degree of the disease. Children with more severe ROP (n = 1, V ROP (RY) and IV (LY), IGC: 32 2 / 7) failed to conduct any test or physiological factors.

Conclusion: All children in the control group (n = 5) were able to perform the tests of visual fixation (RN) and contact with the face (2 months) and showed physiological vestibulo-ocular reflex, but failed to perform the test of trying to reach the object being viewed (4 months).
Although premature children in the control group performed better on tests and physiological assessment of basic functional vision than children with ROP (regardless of the level and gestational age), which may indicate the best oculomotor function. The presence of ROP disrupts the child's visual development, it was therefore required an early evaluation so that problems are identified and appropriate treatment is offered in an attempt to minimize the impact of illness on the lives of premature babies.

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95. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Ana Estela
First Name: B. P. P.
Middle: Sant´Anna

Service: (PL) OCULAR PLASTIC SURGERY

CEP Number: 0427/08

5. ABSTRACT (REQUIRED):

Title: Minor salivary glands and labial mucous membrane graft in the treatment of severe symblepharon and dry eye in patients with Stevens-Johnson syndrome

Author and Co-authors (maximum 6): Ana Estela BPP Sant´Anna; Rossen M Hazarbassanov ; Denise de Freitas; José Álvaro P Gomes

Purpose: To evaluate minor salivary glands and labial mucous membrane graft in patients with severe symblepharon and dry eye secondary to Stevens-Johnson syndrome (SJS)

Methods: A prospective, non comparative, interventional case series of 19 patients with severe symblepharon and dry eye secondary to SJS, who underwent labial mucous membrane and minor salivary glands transplantation. A complete ophthalmic examination including Schirmer´s I test was performed prior to and following surgery. All patients had a preoperative Schirmer I test value of zero.

Results: Nineteen patients with severe symblepharon and dry eye secondary to SJS were included in the study. There was a statistically significant improvement in the best spectacle-corrected visual acuity (BSCVA) in 8 patients (t-test; p = 0.0070). Values obtained in the Schirmer I test improved significantly in 14 eyes (73.68%) six months following surgery (chi-square test; p=0.0094). A statistically significant increase in tear production (Schirmer I test) was found in eyes that received more than 10 glands per graft compared to eyes that received fewer glands (chi-square test; p=0.0096). Corneal transparency improved significantly in 11 (72.2%) and corneal neovascularization improved significantly in 5 eyes (29.4%), (McNemar test; p=0.001 and p=0.0005). The symptoms questionnaire revealed improvement in foreign body sensation in 53.64% of the patients, in photophobia in 50.17% and in pain in 54.78% (Kruskal-Wallis test; p=0.0167).

Conclusion: Conclusion: Labial mucous membrane and minor salivary glands transplantation were found to constitute a good option for the treatment of severe symblepharon and dry eye secondary to Stevens-Johnson syndrome. This may be considered a prior step to limbal stem cell and corneal transplantation in these patients.

Keywords: mouth mucosa, salivary glands, entropion, transplantation

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PG1

Last Name: Tammy
First Name: Hentona
Middle: Osaki

Service: (PL) OCULAR PLASTIC SURGERY

CEP Number: 1024/09

5. ABSTRACT (REQUIRED):

Title: Study of orbicularis oculi muscles in patients with hemifacial spasm ? Preliminary results

Author and Co-authors (maximum 6): Tammy H. Osaki*, Suely K. N. Marie, Midori H. Osaki, Rubens Belfort Jr
* Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, EUA

Purpose: To study the alterations in orbicularis oculi muscles in patients with hemifacial spasm (HS).

Methods: The orbicularis oculi muscles were obtained from 14 patients undergoing blepharoplasty or myectomy (10 with HS and 4 healthy, who underwent surgery for cosmetic purpose). Among those with HS, 3 had no previous treatment and 7 had received botulinum toxin-A injections 30 to 90 days before the surgical procedure. Fragments containing skin and orbicularis oculi muscle were obtained from HS patients and from healthy patients. The fragments were frozen in liquid nitrogen and were prepared by routine histological and histochemical staining, including hematoxilin eosin (HE), modified Gomori, cytocrome C oxidase, acid and alkaline phosphatases and ATPases 4.3 and 9.4.

Results: A morphological difference between normal and HS eyelids was observed. While the control group presented uniform fiber size, HS muscle fibers presented a variation in the fiber size; HS eyelids also showed marked basophilic intracytoplasmic alteration of muscle fibers suggesting mitochondrial proliferation. Modified Gomori also showed mitochondrial proliferation in HS eyelids. A proliferation of inflammatory cells was observed in HS eyelids. All HS eyelids previously treated with BTX-A injections before surgery presented a significant positivity to acid phosphatase.

Conclusion: Hemifacial spasm was associated to morphologic alteration in orbicularis oculi muscles, when compared to normal muscles.

Keywords: Hemifacial spasm, orbicularis, histological staining

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R2

Last Name: Adriana
First Name: Rainha
Middle: Mascia

Service: (TR) TRAUMA

CEP Number: 1671/11

5. ABSTRACT (REQUIRED):

Title: Epidemiology of traumatic closed globe injuries

Author and Co-authors (maximum 6): Natalia Yumi Valdrighi; Cinthia Meiry Yuki; Gustavo Pascoal Azevedo; Somaia Mitne

Purpose: The aim of this study was to evaluate the etiological factors and circumstances associated with the occurrence of closed eye injuries and to assess the visual outcomes of such injuries.

Methods: This was a retrospective study. All patients presenting with closed-globe injuries to the Hospital Sao Paulo between January 2008 and December 2009 were included. Each file was studied to find out the demographic data, mechanism and cause of injury. The definitions and classifications of ocular trauma in our study were modified from the Ocular Trauma Classification Group guidelines and Birmingham Eye Trauma Terminology. Presenting and final visual acuity were recorded along with details of anterior and posterior segment evaluation.

Results: Thirty and eight files of the patients admitted to ophthalmology ward with the diagnosis of closed ocular trauma between 2008 and 2009 were reviewed. The mean age was 29.52 years (range: 5-80 years), with 92.4% of males. All patients included had contusion and 34.2% (13 cases) were classified as zone III. We found Grade IV visual acuity (< 5/200) at presentation (55.2%) as the most important factor contributing to poor visual outcome.

Conclusion: In our sample, closed-globe injuries occurred predominantly in young males. Poor initial visual acuity and zone III trauma were associated with worst final visual acuity. Frequent complications associated were hyphema and angle recession.

Keywords: Closed eye injuries, epidemiology, ocular trauma classification, emergency service.

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98. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R2

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

Service: (TR) TRAUMA

CEP Number: 1535/11

5. ABSTRACT (REQUIRED):

Title: Ophthalmological Training in Medical Schools

Author and Co-authors (maximum 6): Luis Guilherme Milesi Pimentel, Elisabeth Nogueira Martins

Purpose: To evaluate the ophthalmological basic knowledge in recently graduated physicians from several schools entering different residence programs.

Methods: A questionnaire on basic ophthalmology concepts and also assessing physician´s perspective on their medical training in ophthalmology was developed. It was applied to students attending a basic science ophthalmology course which functions as the first rotation of many programs and also to physicians entering non-ophthalmology residencies at UNIFESP. Overall grading was compared using the Mann-Whitney test.

Results: Fifty students were included on the study (32 Ophthalmology residents). Most participants (92%) stated that they were not prepared to provide primary care for a patient with an ocular complaint and many (72%) credit this to medical school deficiencies. Quality of teaching was graded as 6.2 (SD 1.2) by the residents in a 1-10 scale. No significant difference was detected between ophthalmology and non-ophthalmology residents grade (p=0.130)

Conclusion: Recently graduated physicians consider themselves to be insufficiently trained and not prepared to provide primary care attention in ophthalmology.

Keywords: ophthalmological basic knowledge; Medical Schools

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R2

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

Service: (TR) TRAUMA and (EP) EPIDEMIOLOGY

CEP Number: 1631/11

5. ABSTRACT (REQUIRED):

Title: Ocular trauma in the elderly

Author and Co-authors (maximum 6): M Costa, AR Castro, RM Passos, EN Martins

Purpose: To describe the clinical and epidemiological characteristics of elderly patients (WHO definition, i.e.? 60 years) presenting with ocular trauma at the São Paulo Hospital ?UNIFESP, a tertiary ophthalmic center.

Methods: Retrospective study. Charts from patients seen at the institution from Jan/2002 thru Jan/11 were reviewed. Eighty-one elderly patients presenting with ocular trauma were identified. Data regarding gender, age, trauma mechanism, visual acuity (initial and at the last visit), past ocular and systemic medical history, and treatment were analyzed. In order to compare different groups, visual acuity was categorized into two values: hand movement or worse versus all other results). The Mann-Whitney test was used to compare the ages between groups and the ?2 test was used to analyze proportions between groups.

Results: Fifty-five patients (67.9%) were male. Mean age was 70.7 years (SD 8.4). Fall was described as the cause of trauma in 39.5% of the cases. As for personal medical history, 37% of the patients referred prior ocular surgery. Only 29.6% of the patients showed an improvement at the final visual acuity with treatment.
In approximately half of the patients, final visual acuity was the same or worse than hands movement. Patients with a history of prior ocular surgery had no difference in final visual acuity compared to the others (P=0.894). Age did not differ between patients within the two categorized final visual acuity groups(P=0.315).

Conclusion: Ocular trauma in the elderly is frequently associated with legal blindness. Despite treatment, most patients (70.4%) did not present improvement over presenting visual acuity.

Keywords: trauma; ocular; elderly

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Deadline: 10/2011

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

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ARVO Abstract Book (1.10 x 1.70m)

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

R2

Last Name: Natalia
First Name: Yumi
Middle: Valdrighi

Service: (TR) TRAUMA

CEP Number: 1671/11

5. ABSTRACT (REQUIRED):

Title: Epidemiological findings in open eye injuries

Author and Co-authors (maximum 6): Adriana Rainha Mascia; Cinthia Meiry Yuki; Gustavo Pascoal Azevedo; Somaia Mitne

Purpose: To evaluate the characteristics and outcomes of patients treated for open globe injuries.

Methods: This was a retrospective study. All patients presenting with open-globe injuries to the Hospital São Paulo between January 2008 and December 2009 were included. Each file was studied to find out the demographic data, mechanism and cause of injury. The definitions and classifications of ocular trauma in our study were modified from the Ocular Trauma Classification Group guidelines and Birmingham Eye Trauma Terminology. Presenting and final visual acuity were recorded along with details of anterior and posterior segment evaluation

Results: 68 files of the patients admitted to ophthalmology ward with the diagnosis of open ocular trauma between 2008 and 2009 were reviewed. The mean age was 31.78 years (range: 5-68 years), with 86% of males. 84 had penetrating trauma (58 cases) and 23.5% (16 cases) were classified as zone III. Most of the injuries happened at home and at the working place. In 80.8% (55 cases), metal or glass was responsible for the trauma. An intraocular foreign body was found in 4.4 % (3 cases). Worst final visual acuity was observed in patients classified as zone III and with poor initial visual acuity.

Conclusion: The majority of ocular trauma in our population was due to penetrating mechanism occurring mainly in males. Globe lacerations were more common than ruptured globes that had the worst visual outcomes. The initial visual acuity correlated well with the final visual acuity. Immediate and comprehensive medical care is mandatory for ocular trauma patients. Educating the public is essential if we wish to prevent eye injuries.

Keywords: Open eye injuries, epidemiology, ocular trauma classification, emergency service.

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101. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Gustavo
First Name: Amorim
Middle: Novais

Service: (TU) TUMORS AND PATHOLOGY

CEP Number: 0390/09

5. ABSTRACT (REQUIRED):

Title: Immunohistochemistry of conjunctival melanocytic lesions: COX-2, C-KIT as possible therapeutic targets.

Author and Co-authors (maximum 6): Gustavo A. Novais, Maria E. Orellana, Bruno F. Fernandes, Sebastian Di Cesare, Emilia Anteka, Miguel N. Burnier Jr.

Purpose: Evaluate the expression of cyclooxigenase-2 (COX-2) and C-KIT in melanocytic lesions of the conjunctiva and their role as new therapeutic targets.

Methods: Formalin-fixed, paraffin-embedded sections of 45 melanocytic conjunctival lesions were retrieved from the archives of the Henry C. Witelson Ocular Pathology Laboratory, McGill University. Twenty-two nevi, 17 primary acquired melanosis (PAM) and 6 Conjunctival melanomas (CM) were stained with Hematoxylin and Eosin (H&E) for histopathological assessment. Immunohistochemistry using the antibodies against COX-2 and C-KIT was performed using the Ventana BenchMark (Ventana Medical Systems Inc, Tucson, AZ, USA) fully automated machine. Samples were classified as negative, weak and strong by two independent pathologists based on the intensity of the immunostaining. Conflicting results were resolved by mutual agreement.

Results: All the markers, especially COX-2 and C-KIT, showed at least in some extent high positivity in the melanocytic lesions. The expression of COX-2 was positive, in all the nevi, PAM and CM studied. C-KIT expression was positive in 95.5 % of nevi, 94.1% of PAM and 100% of CM. Expression of COX-2 was found to be significantly higher in nevi melanocytes (90.9%) compared with CM melanocytes (33.3%) (P=0.009).

Conclusion: In the present study, for the first time, the expression of COX-2, C-KIT was evaluated in melanocytic lesions of the conjunctiva. Significant expression of those markers was observed. Thus, treatment options modulating these targets may prove beneficial as an additional modality in the management of pre-malignant and malignant disease.

Keywords: Immunohistochemistry, melanocytic lesions,conjunctiva,COX-2

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

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

PG1

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

Service: (TU) TUMORS AND PATHOLOGY and (RE) RETINA AND VITREOUS

CEP Number: McGill Ethics Comitee

5. ABSTRACT (REQUIRED):

Title: The Role of HIF-1-alfa in Retinoblastoma. Immunohistochemical and In vitro Study.

Author and Co-authors (maximum 6): Patricia R P Odashiro, Alexandre N Odashiro, Sebastian Di Cesari, Shawn Maloney, Macanori Odashiro, Miguel N Burnier Jr.

Purpose: Retinoblastoma (RB) is a rapidly growing tumor usually presenting necrosis and hypoxia. Although hypoxia can have negative effects on cell growth, tumor cells acquire adaptations that can mitigate those effects, allowing them to survive and continue proliferation resulting in a more aggressive tumor. Some of those adaptations are mediated through the Hypoxia Inducible Factor-1-? (HIF-1a). The purpose of this manuscript is to investigate the hole of HIF-1a in RB.

Methods: 21 cases of paraffin-embedded RB were immunostained for HIF-1a (fully automated Ventana). In vitro studies: Cell culture: the human RB cell line Y-79 was cultured following the standard protocol. Cobalt Chloride (CoCl2) treatment was performed in order to stabilize HIF-1a in the Y-79 cells. siRNA Transfection was performed to knock down HIF-1a gene. Reverse Transcription ? PCR was performed to measure the RNA levels of HIF-1a. Western Blot Analysis was performed to measure the HIF-1a protein levels. Cell Proliferation Assay (MTT assay) was performed to measure the proliferation of RB cells with or without HIF-1a estabilization (CoCl2) and gene knock down.

Results: 18 of 21 cases of RB expressed HIF-1a by immunohistochemistry. After the treatment with CoCl2, HIF-1a RNA levels were increased in all Y-79 cells observed by RT-PCR. After transfection of HIF-1a-specific siRNA into Y-79 cells, both PCR and western blot data indicate that knockdown cells had reduced levels of HIF-1a. There was a significant decrease in proliferation after a knockdown of HIF-1a in both normoxic condition (without CoCl2-treatment; control= 0.161; SiRNA=0.078; p = 0.000015) and hypoxia conditions (CoCl2-treated; control=0.128; SiRNA=0.064; p = 2.15 x 10-9). These results suggest that HIF-1a is involved in the proliferation of Y-79 retinoblastoma cells. To our surprise, CoCl2-treatment did not cause an increase in proliferation of the RB cells (p = 0.50).

Conclusion: In conclusion, most cases of RB expressed HIF-1a. Blocking HIF-1a by SiRNA decreased the proliferation rates of RB cells. It seems that HIF-1a could be part of the machinery of proliferation of RB cells. Further investigation is necessary to confirm these findings.

Keywords: HIF-1-alfa, Retinoblastoma, Hypoxia

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103. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R2

Last Name: Igor
First Name: Rodrigo Lins
Middle: Silva

Service: (CA) CATARACT

CEP Number: In progress

5. ABSTRACT (REQUIRED):

Title: Pseudoexfoliation in Amazonas state, Brazil

Author and Co-authors (maximum 6): Lins IR ; Vianna LMM, Cohen J, Cohen MJ, Nosé W

Purpose: To report the prevalence of pseudoexfoliation (PXF) in patients among patients treated by a program of cataract surgery performed in October 2011 in the state of Amazonas and its relation to the type of cataract, pupillary mydriasis, and surgical complications.

Methods: Retrospective revision of consecutive clinical report forms of 139 patients who underwent cataract surgery in a program performed in October, 2011, in Amazonas state, Brazil. Data were collected and the incidence of PXF, its relation with the type of cataract, mydriasis and surgical complications were analyzed. The data were analyzed using Fisher's test.

Results: Data from 139 patients undergoing cataract surgery were analyzed. Of all patients, 9 (6.4%) had PXF. Among the patients with PXF, 8 (88%) were bilateral. Among the patients with PXF, 4 (44.4%) had nuclear cataract ≤ 3+ and 5 (55.6%) had nuclear cataract ≥ 4+, according to the LOCS III classification (Lens Opacification Classification System III). In the group without PXF, 86 (66.2%) had nuclear cataract ≤ 4 + and 44 (33.8%) had nuclear cataract ≥ 4 +. Of the total patients with PXF, 5 (55.6%) had adequate pupillary mydriasis, defined as ≥ 6mm after three drops of tropicamide 1% + phenylephrine 10% in 5 minutes, and 4 (44.4%) had no adequate pupillary mydriasis for performing cataract surgery. In the group without PXF, 103 (79.2%) had adequate pupillary mydriasis and 27 (20.8%) did not have adequate pupillary mydriasis.Of the total patients, patients with PXF had no complications during cataract surgery. Of the patients without PXF, 8 (6.5%) had intraoperative complications (zonular disinsertion and/or conversion of phacoemulsification to extracapsular cataract extraction). Of these, 5 were in the group with nuclear cataract ≤ 3+ and 3 of the group with nuclear cataract ≥ 4+ (Table 3). The analyzed results were not statistically significant.

Conclusion: The prevalence of PXF among patients undergoing cataract surgery in a program realized in the Amazonas state was 6.4%. There seems to be the relationship between PXF and cataracts in more advanced stages and poor pupillary mydriasis. There are no studies showing the genetic association of PEX in Brazil.

Keywords: Pseudoexfoliation, cataract, Amazonas state, Brazil

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

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104. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R2

Last Name: Mariana
First Name: Kaori
Middle: Yasuta

Service: (CA) CATARACT

CEP Number: 1889/10

5. ABSTRACT (REQUIRED):

Title: Contra-chop: a new technique of phacoemulsification

Author and Co-authors (maximum 6): Yasuta, M; Osaki, T; Marques, D; Henriques, M; Soriano, E; Nosé, W

Purpose: To describe a new technique of phacoemulsification and its advantages

Methods: The patients underwent phacoemulsification and IOL implantation using the technique of contra-chop. The nucleus is fractured by sliding two sinskeys hooks from half periphery towards the center.

Results: The contra-chop is an alternative to other forms of nuclear division and it is safe and low-energy consuming technique.

Conclusion: The contra-chop is an alternative to other forms of nuclear division and it is safe and low-energy consuming technique.

Keywords: phacoemulsification, contra-chop

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105. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Fellow

Last Name: Teissy
First Name: Hentona
Middle: Osaki

Service: (CA) CATARACT

CEP Number: 1889/10

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Poster guidelines:
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5. ABSTRACT (REQUIRED):

Title: Comparison of corneal astigmatism in temporal and nasal incisions after cataract surgery

Author and Co-authors (maximum 6): Osaki, T; Henriques, M; Marques, D; Soriano, E; Nosé, W

Purpose: To compare corneal astigmatism changes induced by temporal clear corneal incision versus nasal clear corneal incision after cataract surgery.

Methods: This prospective study comprises 50 eyes of 25 pacients having sutureless, small incision phacoemulsification by the same surgeon between July and September 2011 at the Department of Ophthalmology, Federal University of Sao Paulo. A temporal clear corneal incision was used in all right eyes and a nasal clear corneal incision in all left eyes. Astigmatism was measured using topography before surgery and at the 30th and 90th days postoperatively; OCT was performed at the 2nd, 30th and 90th days postoperatively and aberrometry at the 30th and 90th days postoperatively.

Results: In progress.

Conclusion: In progress.

Keywords: Astigmatism, incision, cataract surgery

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106. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R2

Last Name: Ana Carolina
First Name: Almeida Brito
Middle: Garcia

Service: (UV) UVEITIS

CEP Number: 1390/05

5. ABSTRACT (REQUIRED):

Title: Immunity stimulation in patients with Toxoplasma retinochoroiditis: one-year follow-up

Author and Co-authors (maximum 6): Ana Carolina Garcia, Maíra França, Ticiana Correa, Luciana Campi, Kimble Matos

Purpose: To evaluate the effect in inducing polyclonal immunity in patients with Toxoplasma retinochoroiditis after one year.

Methods: Randomized, double – blind, clinical trial. Sixteen patients with established diagnosis, through fundus examination, of recurrent Toxoplasma retinochoroiditis were selected from the Uveitis sector – University of São Paulo. Patients under 18 years old, immune compromised, pregnant, with active ocular toxoplasmosis, allergic to any of the substances used on the immune stimulant or with past diagnosis of any other infectious disease (such as syphilis or tuberculosis) were excluded from the study. All patients received one subcutaneous injection. Four of these injections contained placebo and ten contained an immune stimulant. Randomization determined whom received placebo and only the laboratory knew the components of each injection. Five substances that induce polyclonal immunity formed the immune stimulant. All patients had their cellular and humoral immunity checked by specific tests. A follow-up of 1 year was performed to check recurrence with fundus examination on the 1st, 30th

Results: The patients were followed from April/2010 to October/2011. Out of the sixteen patients studied there were 9 (56,25%) men and 7 (43,75%) women. Ten patients (62,5%) had previous episodes of bilateral retinochoroiditis. Considering the amount of recurrences, 9 patients had two previous episodes and 7 had three previous episodes. Three of the sixteen patients (18,75%) presented recurrence of ocular toxoplasmosis but only one had received placebo.

Conclusion: Toxoplasmosis infection accounts for up to 50% of all cases of posterior uveitis worldwide and can affect immune competent and immune compromised patients. Retinochoroiditis can lead to severe visual impairment and is a main concern in endemic countries. This study aimed to induce immunity in patients against the Toxoplasma gondii by providing a polyvalent immune stimulant. The patients are still being followed and at this point the majority of the patients did not present recurrence of ocular toxoplasmosis.

Keywords: Toxoplasma retinochoroiditis, immunity, uveitis

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Poster guidelines:
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107. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Fellow

Last Name: Heloisa
First Name: Moraes
Middle: Nascimento

Service: (UV) UVEITIS (CO) CORNEA AND EXTERNAL DISEASE

CEP Number: 0858-11

5. ABSTRACT (REQUIRED):

Title: Subconjunctival Ozurdex® (Off-label indication) for scleritis

Author and Co-authors (maximum 6): Heloisa Nascimento, Luciana García, Maíra França, Cristina Muccioli, Rubens Belfort Jr.

Purpose: To report the management of scleritis with off-label subconjunctival implant of Ozurdex® (slow release 0.7mg dexamethasone drug delivery system).

Methods: Five patients with clinical diagnosis of scleritis (diffuse and nodular) were submitted to subconjunctival injection of Ozurdex®. The injection was performed under topical anesthesia at the slit lamp. All patients reported only mild discomfort. Two patients had subconjunctival hemorrhage. Patients were followed on days 1, 7, 15, 30, 45 and 60. Visual acuity, intraocular pressure, anterior and posterior biomicroscopy and fundus exam were performed in all visits.

Results: In all patients symptoms disappeared befire day 7 and most of them were symptoms free on day 2. The implant was visible at least up to day 45. No recurrence was noted in the 2-month follow-up. No patient developed ocular hypertension or any kind of complications during the follow-up period.

Conclusion: Ozurdex® was safely and effectively used for the local treatment of scleritis. Potential advantages could include easier steroid removal in case of complications such as scleral melting or glaucoma. Also it would not mask systemic diseases signs and symptoms allowing proper diagnosis of the scleritis cause. Cost-effective relationship should be assessed.

Keywords: Scleritis, management, dexamethasone

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Poster guidelines:
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108. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Julia
First Name: Dutra
Middle: Rossetto

Service: (UV) UVEITIS

CEP Number: 184968

5. ABSTRACT (REQUIRED):

Title: Ozurdex® for corticosteroids refractory chronic uveitis

Author and Co-authors (maximum 6): Dra Julia Dutra rossetto, Dra Heloisa Nascimento, Prof Cristina Muccioli, Prof Rubens Belfort Jr

Purpose: Evaluation of effectiveness of Ozurdex for refractory chronic uveitis.

Methods: Evaluation of effectiveness of Ozurdex for refractory chronic uveitis Twenty patients with non infectious, chronic, corticosteroids refractory uveitis were selected to receive a biodegradable dexamethasone intra-vitreous implant. The patients will be re-evaluated at 1, 15, 30, 60 e 180 days after the injection for visual acuity, intra-ocular pressure, anterior biomicroscopy and fundoscopy.

Results: Preliminary results are being collected and analyzed

Conclusion: In progress.

Keywords: Uveitis, Ozurdex, dexamethasone

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

PIBIC

Last Name: Daniel
First Name: Felipe
Middle: Silva

Service: (PH) PHARMACOLOGY and (UV) UVEITIS

CEP Number: 638-10

5. ABSTRACT (REQUIRED):

Title: DEVELOPMENT OF VEHICLE TO INTRAVITREAL APPLICATION OF RAPAMYCIN

Author and Co-authors (maximum 6): DFP Silva, A Lima, LMP Silva, C Muccioli, R Belfort Jr

Purpose: To identify and develop a safe and non toxic vehicle to intravitreal application of rapamycin.

Methods: Initially 10 mg of rapamycin were obtained to develop the desired vehicle. A suspension was chosen to be the vehicle through which the drug will be delivered. Due to intraocular sensitivity it is necessary to ensure the absence of microorganisms, so the biological indicator Bacillus subtilis was added to the 10 mg of raw material and then has undergone sterilization in an oven (dry heat) at 140 ° C for 150 minutes. At the end of this process no traces of the biological indicator was found. An optimal pH is also required when preparing an ophthalmic solution (approximately 7.4, equal to the tear) so the following buffer system was prepared: Disodium phosphate dihydrate (1,40g), Monosodium phosphate monohydrate (0,20g), Sodium chloride (42,50g). It was also added to the buffer system, Polysorbate 80 (2,00g), a surfactant, which provides a reduction in surface tension of the solution, thus facilitating the interaction between vehicle and drug. The buffer system was prepared in 5000

Results: Sterile test samples were obtained from the main solution in 4 different concentrations of rapamycin: 20?g, 50?g, 200?g, 1000?g which showed the following physico-chemical properties: hydrogenionic potential approximately equal to the tear and osmolarity equal to 300 mOsm/l. The suspensions proved to be stable and non toxic when applied to rabbit eyes, once none of the eyes showed relevant changes by biomicroscopy, fundoscopy and histological examinations.

Conclusion: This Rapamycin suspension showed to be stable, non toxic, and safe to intravitreal applications.

Keywords: rapamycin, intravitreal, vehicle, toxicity

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110. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Ramon
First Name: Antunes de
Middle: Oliveira

Service: (NO) NEURO-OPHTHALMOLOGY

CEP Number: 1536/11

5. ABSTRACT (REQUIRED):

Title: Idiopathic Intracranial Hypertension in Children: case series

Author and Co-authors (maximum 6): Ramon Antunes de Oliveira, Luciana da Cruz Noia, Elisabeth Nogueira Martins

Purpose: To describe clinical findings of three children with Idiopathic Intracranial Hypertension (IIH).

Methods: Retrospective case series.

Results: Case 1: 8 year-old girl presented with papilledema in routine ophthalmological examination. No alteration was detected in brain CT and MRI. Lumbar puncture revealed an open pressure of 620 mmH2O in lateral decubitus. Visual field (VF) disclosed a nasal defect in the right eye. Intracranial pressure was controlled with acetazolamide 500 mg qd. Case 2: 6 year-old boy presented with moderate headache and convergent strabismus. He had been diagnosed with Henoch-Schönlein purpura one year before then. Ophthalmological examination showed left eye esotropia with normal ocular motility and papilledema. Brain CT showed the empty sella signal. CSF open pressure was 820mmH2O and 190 mm H2O after two days of acetazolamide. All symptoms were relieved after lumbar puncture. Case 3: 7 year-old boy presented with mild headache which had started 7 months before then. Ophthalmologic examination showed papilledema and intracranial pressure was 170 mmH2O. Acetazolamide / repeated lumbar punctures regimen was not effective and he underwent a ventriculoperitoneal shunt and required prednisone during the follow-up. VF shows 360º constriction.

Conclusion: Symptoms and visual findings related to IIH have a wide spectrum in children. Diagnosis is challenging and a careful lumbar puncture with recording of the open pressure is crucial.

Keywords: Idiopathic Intracranial Hypertension; Pseudotumor cerebri; pediatrics; visual field; papilledema.

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111. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R1

Last Name: Mariana
First Name: de Andrade
Middle: Coelho

Service: (EF) ELECTROPHYSIOLOGY and (RE) RETINA AND VITREOUS

CEP Number: 0644/06

5. ABSTRACT (REQUIRED):

Title: Retinal function in patients with isquemic diabetic retinopathy using full-field electroretinogram

Author and Co-authors (maximum 6): Coelho MA, Mitne S, Noia LC, Berezovsky A, Watanabe SES, Paranhos Jr A.

Purpose: Evaluate full-field electroretinogram findings in patients with isquemic diabetic retinopathy and correlate with visual prognosis

Methods: A group of 30 patients with isquemic diabetic retinopathy had retinal function evaluated by full-field electroretinography according to the International Society for Clinical Electrophysiology of Vision standard protocol. ERG responses were compared with normal group.

Results: 30 eyes of diabetic retinopathy group (15 males) and 20 eyes of normal were randomly selected. Mean age of diabetic retinopathy group (± 1 SD) was 53.56 ± 9.91 years. Mean values amplitude for rod response was 184.23 ± 62.29 μV, 322.47 ± 93.76 μV for maximal response; 59.02 ± 38.04 μV for oscillatory potentials; 84.15 ± 38.19 μV for single-flash cone response and 59.43 ± 23.55 μV for light adapted 30 Hz flicker response. Mean values b-wave implicit time was 97.48 ± 11.02 ms for rod response; 35.81 ± 6.02 ms for single-flash cone response and 36.18 ± 6.39 ms for 30 Hz flicker response. No statistically difference was found for rod response, maximal response, cone response and amplitude of light adapted 30 Hz flicker response by gender. Statistically significant difference (p-value < 0,001) was found in oscillatory potentials and also b-waves implicit times for all responses. Diabetic patients with more severe condition, as vitreous hemorrhage and tractional retinal detachment (5 patients), had lower responses for oscillatory potentials (4 patients), maximal response (4 patients) and cone response (all the 5 patients) when comparing to normal group.

Conclusion: These findings suggest that changes in the oscillatory potentials and b-waves implicit times in the diabetic retinopathy may be the first sign of injury of the retina. The oscillatory potentials derive from the inner plexiform layers involving bipolar cells, amacrine cells and ganglion cells, which are also involved in the physiopathology of diabetic retinopathy. Further prospective studies may be useful to evaluate if the full-field electrorretinogram can be a potential prognostic factor for the development of complications in the diabetic retinopathy.

Keywords: diabetic retinopathy, full-field electrorretinogram

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112. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Bruno
First Name:
Middle: Diniz

Service: (RE) RETINA AND VITREOUS

CEP Number: 10990 USC

5. ABSTRACT (REQUIRED):

Title: Microbubble sonothrombolysis for the treatment of Branch Retinal Vein Occlusion

Author and Co-authors (maximum 6): Bruno Diniz, Mauricio Maia, Mark Humayun

Purpose: The arteriosclerosis and the mechanical compression of the arterial vessel bring a narrowing of the venous lumen, with subsequent endothelial damage and thrombosis in the BRVO. Ultrasound (US) has proven its therapeutic potential in the field of thromboembolic processes (Sonothrombolysis). Microbubbles (MB) are air or gas filled microspheres, usually encapsulated in a lipid or protein solid shell. MB have been studied as a possible adjuvant to mechanically enhance the effects of US. The purpose of our study is to evaluate the effectiveness of microbubble-augmented ultrasound in treating experimentally created BRVO in rabbits.

Methods: Eight rabbits were used in accordance the Institutional Animal care and Use Committee of University of Southern California. Rose Bengal mediated laser-induced photothrombosis was used in all animals to create the BRVO. FA confirmed the occlusion on the day of the US experiments and was used for follow up comparisons. Rabbits received continuous MB infusion and therapeutic US for 30 min. A transcutaneous hand-held transducer was placed at the inferior eyelid and aimed toward the eyeball, parallel to the retina vessels.

Results: There was no blood flow in the treated segment of the retinal veins in all cases following laser application. The mean number of laser shots needed to achieve the occlusion was 20. Retinal venous blood flow was restored in 50% of rabbits treated with microbubble sonothrombolysis. The FA showed perfusion in venous segments that were previously hypo fluorescent due to the occlusion. Histopathology studies showed no evidence of retinal damage that can be attributed to the ultrasound.

Conclusion: Sonothrombolysis shows promise as a therapeutic tool for retinal vein occlusion. Particle movement and cavitation effects are possible working mechanisms. Limitations of the current study are the inability to study the effect of this approach in long term occlusions as the photothrombosis of the vessels are transient. Further studies are needed.

Keywords: branch retinal vein occlusion, sonothrombolysis, microbubbles

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113. FIRST (PRESENTING) AUTHOR (REQUIRED):
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PG1

Last Name: Cristina
First Name:
Middle: Miyamoto

Service: (RE) RETINA AND VITREOUS

CEP Number: 0665/10

5. ABSTRACT (REQUIRED):

Title: 3,4 Dihydroxyphenyl Ethanol Reduces the Expression of Genes Involved in Angiogenesis in a Retinal Pigment Epithelial Cell Line

Author and Co-authors (maximum 6): Miyamoto C, Granner TJ, Di Cesare S, Maloney SC, Antecka E, Burnier MN Jr

Purpose: 3,4 dihydroxyphenyl ethanol (DPE) is a polyphenol with anti-inflammatory properties. The purpose of this study is to investigate the effects of DPE on retinal pigment epithelial (RPE) cells, as well as how DPE modulates various genes involved in angiogenesis.

Methods: Sub-lethal levels of DPE were determined by exposing retinal pigment epithelial cells (ARPE-19) to varying doses and performing a TOX-6 proliferation assay (Sigma). ARPE-19 cells were then treated with the sub-lethal dose (0.1?M DPE) for 24 hours in culture before RNA extraction (RNeasy Mini Kit, Qiagen). RT-PCR was then used to determine the expression of VEGFA in treated (0.1?M DPE) and control ARPE-19 cells. Finally, a PCR array was used to analyze at the effects of DPE in ARPE-19 cells on 84 genes involved in modulating angiogenesis (RT² Profiler PCR Array System, SABiosciences). Transcripts with a greater than three-fold change were considered significant.

Results: A proliferation assay demonstrated that a concentration of 0.1?M DPE resulted in the least amount of toxicity in the ARPE-19 cell line. RT-PCR demonstrated that VEGFA was decreased in DPE treated cells compared to the control. Lastly, the PCR array confirmed a general decrease in many genes associated with angiogenesis. The most significant include: ANPEP, EFNA3, EREG, FGFR3, and PLXDC1 which were down regulated by -3.33, -4.14, -3.03, -4.41, and -4.66 cycles respectively.

Conclusion: To the best of our knowledge, this is the first time that the effects of DPE on RPE cells have been investigated with respect to angiogenesis. We have shown that DPE is capable of reducing the expression of genes that are crucial for the angiogenic process. Considering the implications of angiogenesis in age-related macular degeneration, these results provide the framework for future studies to further investigate a potential therapeutic role for DPE.

Keywords: angiogenesis, gene expression

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114. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R3

Last Name: Emmerson
First Name: Cardoso
Middle: Badaró

Service: (RE) RETINA AND VITREOUS and (EF) ELECTROPHYSIOLOGY

CEP Number: 1388/10

5. ABSTRACT (REQUIRED):

Title: Intravitreal biocompatibility of acid violet dye for Chromovitrectomy

Author and Co-authors (maximum 6): Emmerson Badaró, Rodrigo A. Souza-Lima, Milton Moraes-Filho, Eduardo B. Rodrigues, Elaine F. Costa, Carsten H. Meyer, Michel Eid Farah

Purpose: To investigate in-vivo retinal biocompatibility of Acid violet dye in two different concentrations (0.25g/L and 0.50g/L) injected intravitreally into rabbits eyes with clinical examination, histology and cell counting with light microscopy (LM) and electroretinography (ERG)

Methods: Six Dutch-belted rabbits weighing 1.5 to 2 kg were assigned in two groups (n = 3 in each group). The animals in group 1 (V1, V2 and V3) received Acid Violet in the dose of 0,25 g/L and group 2 (V4, V5 and V6) received 0,5g/L. The right eyes received the drug as study eyes, whereas the left eyes received the same volume of balanced salt solution (BSS) and served as a control group. ERG responses were recorded and the responses at 1 week after injection were compared with baseline levels. A decrease in b wave scotopic maximal response post-injection of 50% or more was considered remarkable. For histologic evaluation of the degree of cellular injury, cellular abnormalities such as vacuolization, edema, or necrosis were analysed. The rabbits were sacrificed seven days after the injection with intravenous injection of 2 ml of phenobarbital and the eyes removed by enucleation technique and conserved in buttered formalin.

Results: At clinical examination by indirect ophthalmoscopy 7 days after dye injection, all eyes were negative for cataract, hemorrhage, retinal detachment, and intraocular opacities. The injection of the dye did not induce considerable ERG or histologycal alterations. No functional difference was noted between the two different doses of the dye and no adverse effects were observed in our study. Concerning the retinal damage 7 days after intravitreal dye injection, the control group examination showed only sparse regions in the retina of vacuolization. The lower dose of the dye caused focal cellular changes within the retinal tissue at 7-days, not differing from control.

Conclusion: These preliminary results indicate that Acid Violet should be applied in future studies in order to prove its capacity to stain preretinal membranes and vitreous with tolerable toxicity. The dye did not induce significant ERG toxicity or in histology in this preliminary research with animal model. Acid Violet may be a promising vital dye for ocular surgery

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115. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R3

Last Name: Franklin
First Name: Souza
Middle: Santos

Service: (RE) RETINA AND VITREOUS

CEP Number: 1567/09

5. ABSTRACT (REQUIRED):

Title: Photoreceptor inner segment/outer segment junction aspects and visual outcomes in commotio retinae: spectral-domain optical coherence tomography analysis

Author and Co-authors (maximum 6): Franklin de Souza Santos, Daniel Lavinsky, Nilva S. Moraes, Andre R. Castro, Michel E. Farah

Purpose: To describe the characteristics of photoreceptor Inner segment/outer segment junction in commotio retinae using Spectral domain OCT and evaluate its utility in prognosis

Methods: Patients with commotion retinae following blunt ocular trauma with no surgical requirement were included. All patients underwent complete ophthalmic examination, with visual acuity measurement, slit lamp biomicroscopy, indirect ophthalmoscopy, color fundus photography, Spectral Domain OCT (Spectralis OCT, Heidelberg Engineering, Heidelberg, Germany), fundus autofluorescence (Heidelberg Retina Angiograph 2 System, HRA2, Heidelberg Engineering, Heidelberg, Germany). The data obtained were analyzed with frequency and descriptive statistics. Categorical analysis was performed using the Fisher exact test. A P value of <0.05 was considered significant. Statistical analysis was performed with PASW Statistics (version 19.0, SPSS Inc., Chicago, IL).

Results: In progress

Conclusion: In progress

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

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

Fellow

Last Name: Helio
First Name: Francisco
Middle: Shiroma

Service: (RE) RETINA AND VITREOUS

CEP Number: 0705/10

5. ABSTRACT (REQUIRED):

Title: Development of an anesthetic gel for ophthalmic surgery

Author and Co-authors (maximum 6): Helio Shiroma/Eduardo Rodrigues/Giuliana Alves/ Beatriz Silveira/Renata Nunes/Michel Farah

Purpose: To develop a novel anesthetic gel for ophthalmic surgery. The chemical characteristics, industry production and development, ex-vivo animal experiments, and the design of a prospective clinical trial will be presented.

Methods: Research on the characteristics of the vehicle hypromellose in concentrations from 1 to 4% was performed. The viscosity of the solutions were measured with Brookfield, LVT (MA, USA), and the pH with a pHmeter Metrohm (Swiss). Five concentrations of lidocaine gel (2; 3,5; 5; 8 e 12%) were considered. Two types of vials were evaluated, ophthalmic tube and bottle. Next, we placed gel at different viscosities onto the ocular surface in porcine eyes; the dynamic speed and gel dispersion were recorded with a digital camera (Canon, NY, USA). A prospective comparative clinical trial will be performed in 250 patients undergoing intravitreal drug injections divided into five groups of different concentrations (2% lidocaine, 3.5%, 5%, 8% and 12%) of lidocaine. The safety to the cornea will be evaluated with the Oxford Keratitis Classification and lissamine.

Results: A preservative-free solution was achieved by excluding methylparaben or similar substances. The pHs of gels varied from 6.08 to 6.53, similar to the FDA-approved Akten (Akorn,IL,USA) for ocular surgery. Viscosity ranging from 300 to 20.500 cP were evaluated in a preliminary study. The solubilization of hypromellose was performed in either room temperature or by heating, and the latter induced more viscous solution thereby the chosen method for the final product. A disposible tube was chosen as vial for a better cost-efficacy. Experiments in porcines showed better dispersion and settling of gel in viscosities of ~1.700 cP. In very high viscosities, the gel settled heteregenous over the ocular surface and did not promote the expected lubrification. A stronger and more prolonged anesthesic effect is expected as the concentration of lidocaine is increased. Toxic effects as keratitis and hyperemia should be evaluated.

Conclusion: An optimal ophthalmic anesthetic gel may have been produced at physiologic characteristics to the ocular surface tissue. An appropriated choice of viscosity, pH, anesthetic, and vial should enable better anesthesia for ocular surgery.

Keywords: anesthetic gel, intravitreal injection, keratitis, lidocaine

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

R2

Last Name: João
First Name: C
Middle: Ribeiro

Service: (RE) RETINA AND VITREOUS

CEP Number: 1576/10

5. ABSTRACT (REQUIRED):

Title: The Relationship Between Macular Sensitivity and Retinal Thickness in Eyes with Central Serous Retinopathy: Is the Initial Lost of Macular Sensitivity an Early Predictor of Chronicity?

Author and Co-authors (maximum 6): Joao C Ribeiro, Luiz Roisman, Nilva Moraes, Mauro Campos

Purpose: Fundus microperimetry evaluates macular sensitivity and fixation stability. We investigated relationship between macular sensivity and retinal thickness in Central Serous Retinopathy (CSC) and then we analyze if the initial lost of macular sensitivity is an early predictor of chronicity of CSC.

Methods: This is a prospective observational study. From june to september of 2011, twelve eyes from 12 patients with the diagnosis of acute CSC with OCT-neuroretinal detach were followed for at least 3 months. Volunteers with associated vitreous opacity were excluded, as well as any lens opacity, or any eye surgery within 6 months before measurements. After informed consent, patients underwent routine eye examination and were submitted to dilated spectral-domain optical coherence tomography (SD-OCT) and fundus microperimetry with MAIA. After 3 months of follow up without any treatment, visual acuity measurement, quantification of retinal thickness SD-OCT and fundus microperimetry analysis were performed again. The main outcome measures were visual acuity (VA), quantification of macular sensitivity, fixation pattern, and relationship between macular sensitivity and retinal thickness. Abnormal macular sensivity was defined to be < 26 by the average threshold.

Results: Fixation stability revealed that 12 eyes (100%) had stable and central fixation (P1 ≥ 92% and P2 ≥ 97%). The correlation between the macular sensivity measured by the average threshold and the macular thickness was -0.4260 (Pearson r) in the acute CSC, and the correlation between the VA in LogMAR and the macular sensivity was 0.3969, both with no significant correlation. We verified that eyes with abnormal microperimetry and acute CSC had a relative risk of 2.5 to progress to be chronic, with 71.43% of sensitivity and 80% of specificity.

Conclusion: In this on going study, all eyes with CSC had stable and central fixation. Due to the small sample size followed until now, no correlation among macular sensivity, macular thickness and visual acuity was observed. In addition, we observed that microperimetry might be useful to predict if the acute CSC detachment will progress to chronicity.

Keywords: Central Serous Chorioretinopathy, SD-OCT, Microperimetry

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118. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R3

Last Name: João
First Name: Rafael de Oliveira
Middle: Dias

Service: (RE) RETINA AND VITREOUS and (BE) OCULAR BIOENGINEERING

CEP Number: 1509/10

5. ABSTRACT (REQUIRED):

Title: Experimental model to quantify the retinian phototoxicity of two different wavelengths during vitreoretinal surgeries.

Author and Co-authors (maximum 6): João Rafael de Oliveira Dias, Fabiana da Fonte, Vespasiano Rebouças, Eduardo Rodrigues, Michel Eid Farah, Anderson Teixeira.

Purpose: To quantify the retinian phototoxicity of two different wavelengths in simulated vitreoretinal surgeries performed in an experimental model.

Methods: An experimental study will be conducted using rabbit eyes. The animals? right eye will be submitted to a simulation of a vitreoretinal surgery, in which a vitrectomy probe will be exposed into the retina of the animals; the other eye will be the control. The animals will be divided in two groups. In one of them, the animals? eyes will be submitted to a focal illumination (simulating a macular surgery) with a blue wavelength. The other group will be submitted to a focal illumination with a green wavelength. Electroretinogram, optical coherence tomography and fluorescein angiography will be performed in the preoperatory phase and so during the seventh and thirtieth day after the simulated surgery in both the groups. In the thirtieth day, all the eyes will be fixed in formol saline solution for histological analysis.

Results: The exams' results will be analyzed through quantitative records to evaluate the anatomical and electrophysiological alterations and will be compared with the preoperatory and seventh day exams.

Conclusion: This study will be useful to determine the phototoxicity of two 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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R2

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

Service: (RE) RETINA AND VITREOUS

CEP Number: 1529/11

5. ABSTRACT (REQUIRED):

Title: Fundoscopy findings in pediatric patients with sickle cell disease and analysis of macular status using Optical Coherence Tomography (OCT)

Author and Co-authors (maximum 6): Juliana Prazeres, Carolina Pelegrini, Nilva Bueno de Moraes, Josefina Pellegrini

Purpose: The objective of the present study is to evaluate the main fundoscopy findings in pediatric patients and analyze the macular status using the Optical Coherence Tomography (OCT) in patients with sickle cell disease.

Methods: This is a transversal study conducted at Ophthalmology department and pediatric department of Federal University of São Paulo (UNIFESP). We have reviewed so far, 10 sickle cell patients (20 eyes), aged 3-18 years old, without other systemic or ocular diseases. The study included patients with sickle cell hemoglobinopathies in all its subtypes (SS, SC, SD, S-beta thalassemia). The patients were submitted to exams like visual acuity (Snellen Table), fundoscopic examination with indirect ophthalmoscope and OCT Spectralis (Heidelberg Engineering, Alemanha). Central macular thickness measurements were taken and comparative analysis of macular thickness were done between patients with any degree of sickle cell retinopathy and without sicke cell retinopathy.

Results: 10 patients were evaluated. 7 were man and 3 were female. The visual acuity was better than 20/40 in all patients. Among the patients 2 had sickle cell retinopathy with vascular tortuosity while the other patients don't have any retina changes. The patients with sickle cell retinopathy were brothers, male and 12 and 15 years old respectively. The central macular thickness were within normal limits in all patients

Conclusion: Awaiting more results

Keywords: Sickle cell retinopathy, Optical Coherence Tomography (OCT)

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120. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Fellow

Last Name: Letícia
First Name: Fernandes
Middle: Barroso

Service: (RE) RETINA AND VITREOUS

CEP Number: 0345/10

5. ABSTRACT (REQUIRED):

Title: The effect of anti-VEGF therapy in choroidal thickness in patients with exudative age-related macular degeneration.

Author and Co-authors (maximum 6): Letícia Fernandes Barroso, Eduardo Buchele Rodrigues, Renata Portella Nunes, Flavio Eduardo Hirai, Michel Eid Farah

Purpose: To evaluate choroidal thickness in patients with exudative age-related macular degeneration (AMD) after anti-VEGF therapy using spectral-domain optical coherence tomography (OCT).

Methods: Seven eyes from seven patients with exudative AMD evaluated between June 2010 and September 2011 at the Federal University of São Paulo, São Paulo, Brazil, were analyzed. Choroidal thickness was measured before anti-VEGF therapy and after three monthly intravitreal injections of anti-VEGF. Images were obtained using Spectralis OCT's linear measurement tools, 2 independent observers measured the choroidal thickness perpendicularly from the edge of Bruch membrane to the inner sclera. Measurements were taken at the fovea, 750 ?m temporal and nasal to the fovea. Pre- and post-injection data were compared using the Wilcoxon signed rank test.

Results: The mean subfoveal and temporal choroidal thickness decreased from 169.14?m ± 58.50 at baseline to 161.14 ± 56.15 (p= 0.0218) and from 169.85 ± 59.64 to 163.14 ± 63.81 (p=0.018) respectively. Nasal choroidal thickness decreased from 160.571 ± 61.41 to 147.43 ± 57.17 with no statistical significance (p=0.0910).

Conclusion: Little currently is known about the choroids of patients with AMD and its response after intravitreal injections of anti-VEGF. Our study showed significant decreased in subfoveal and temporal choroidal thickness after three intravitreal injections performed monthly.

Keywords: Age-related Macular Degeneration, Choroidal Thickness, Optical Coherence Tomography

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121. FIRST (PRESENTING) AUTHOR (REQUIRED):
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R3

Last Name: Mariann
First Name: Midori
Middle: Yabiku

Service: (RE) RETINA AND VITREOUS

CEP Number: CEP 1763/10

5. ABSTRACT (REQUIRED):

Title: STRUCTURAL ASSESSMENT OF HYPERAUTOFLUORESCENT RING IN PATIENTS WITH CONE-ROD DYSTROPHY

Author and Co-authors (maximum 6): Mariann Midori Yabiku, Luiz Lima, Sung Eun Song Watanabe, Juliana Sallum

Purpose: To analyze the retinal structure underlying the hyperautofluorescent ring visible on fundus autofluorescence (FAF) in patients with cone-rod dystrophy (CRD).

Methods: Twenty eyes of eleven CRD patients, aged 18-36 years, were studied. The integrity of the photoreceptor cilia also known as the inner/outer segment (IS/OS) junction of the photoreceptors, the outer nuclear layer (ONL), and retinal pigment epithelium (RPE) were evaluated outside, across and within the ring with spectral-domain optical coherence tomography (SD-OCT).

Results: Within the foveal area, FAF revealed hypoautofluorescence compatible with photoreceptor/RPE dysfunction. Outside the ring, FAF did not detect abnormalities. SD-OCT outside the hyperautofluorescent ring revealed intact retinal structure in all eyes and total retinal thickness values that were within normal limits. Across the ring, IS/OS junction disruption was observed and the ONL was decreased in thickness in a centripetal direction in all eyes. Within the hyperautofluorescent ring, the IS/OS junction and the ONL appeared to be absent and there were signs of RPE degeneration.

Conclusion: Disruption of the IS/OS junction and a decrease in outer retinal thickness were found across the central hyperautofluorescent ring seen in CRD. Abnormal outer segment phagocytosis by RPE is necessary for the formation of the hyperautofluorescent ring.

Keywords: hyperautofluorescent ring, cone-rod dystrophy, autofluorescence

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122. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Fellow

Last Name: Milton
First Name: Nunes
Middle: Moraes-Filho

Service: (RE) RETINA AND VITREOUS and (EF) ELECTROPHYSIOLOGY

CEP Number: 0479.10

5. ABSTRACT (REQUIRED):

Title: Full field ERG in albino and pigmented rabbits using a portable handheld system

Author and Co-authors (maximum 6): Milton N Moraes-Filho, Emmerson Badaró, Tarcísio Guerra, João Dias, Elaine Costa, Eduardo B Rodrigues, Michel E Farah, Solange R Salomão, Adriana Berezovsky

Purpose: First to compare full-field ERGs from albino and pigmented rabbits; secondly to determine reliable technique and repeatability characteristics for assessing amplitude and implicit time.

Methods: ERGs recordings were performed from both eyes on 15 New Zealand and 15 Chinchila rabbits at baseline and 14 days after, using same anesthesia protocol. Fully portable ERG system (Ephiós AB, Rejmyre, Sweden) was used for data acquisition and analysis. ERG-jet and skin electrodes were used. Amplitude and implicit time were obtained by transferred data to software Mjolner v1.3:0.5. The right eye data was analyzed between races (Paired t test).To assess the inter-ocular and inter-session repeatability limits of agreement (LoA) were calculated by a percentage of the mean value i.e. % LoA = ([1.96 9 (SD test- retest)] / (mean all test and retest) x 100), where test = ERG baseline and retest = ERG after 14 days (substituted for OD and OS for inter-ocular calculations), to allow between-eye and between-session findings to be compared across techniques as described by Bland and Altman. The coefficient of variation (CoV) was also calculated.

Results: Representative recordings showed larger amplitudes in albino rabbits ($p<0.05$), except MAX. Interocular analysis revealed lower variability in pigmented rabbits, except ROD. Implicit time variability was shorter in albino, except MAX b-time. A normal interocular variability until 53.8% for amplitudes and 59.6% for implicit times were expected in albino rabbits. Whereas, pigmented showed 58.9% and 37.1%, respectively. Intersession amplitude and time showed higher variability in pigmented for photopic curves and lower for scotopic curves. Overall, normal intersession variability until 66.2% for amplitudes and 72% for implicit times were expected in albino rabbits. Meanwhile, pigmented showed 65.9% and 43.3%, respectively.

Conclusion: Albino rabbits showed larger amplitudes than pigmented. Amplitude showed a normal variability until 60% (for interocular) and 66% (for intersession). The handheld full field ERG system showed representative curves and acceptable interocular and intersession variability of recordings.

Keywords: ERG; portable; albino; pigmented; interocular; intersession

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123. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Fellow

Last Name: Renato
First Name: Magalhães
Middle: Passos

Service: (RE) RETINA AND VITREOUS

CEP Number: 733/10

5. ABSTRACT (REQUIRED):

Title: Efficacy and safety of different panretinal photocoagulation strategies with the PASCAL laser system for diabetic retinopathy

Author and Co-authors (maximum 6): Passos RM, Lavinsky D, Badaró E, Moraes NBS, Palanker D

Purpose: To analyze the benefits, efficacy, and complications of the PASCAL® photocoagulation laser system (Topcon, Santa Clara, CA, USA) using different strategies of panretinal photocoagulation in patients with diabetic retinopathy.

Methods: Single-center, randomized clinical trial of 30 eyes. Proliferative or severe non-proliferative diabetic retinopathy eyes (with absent or mild maculopathy) were treated with panretinal photocoagulation in the PASCAL laser, using one of 3 strategies: 1) 100ms single-shot moderate burns, 2) 20ms multiple-shot moderate burns or 3) 20ms multiple-shot barely visible burns. Visual acuity, OCT, fluorescein angiography, retinography and automated perimetry (Humphrey and FDT 24-2) were recorded at baseline and 1, 3, 6 and 12-month visits (not all exams in every visit). The main outcome was incidence of severe visual loss at 1 year. Secondary outcomes were: regression of new vessels, among others.

Results: So far, 23 patients have been recruited and 3 excluded (1 missed follow-up visits, 1 developed severe worsening of macular edema and 1 went to vitrectomy due to severe vitreous hemorrhage). Of the remaining 20, 10 have completed the 6m visit and 6 have completed the 3m visit. The distribution by severity of retinopathy was: 4 (20%) with high risk proliferative, 7 (35%) with low risk proliferative and 9 (45%) with severe or very severe non-proliferative retinopathy. Among the 10 eyes that completed the 6m visit, all have maintained baseline visual acuity, 6 exhibited persistence of disease activity at the 3m or 6m visit despite initial treatment and were retreated (2 patients in each group). The number of sessions to complete the initial treatment varied among groups; with a mean number of 2,5 sessions for group one, 1,5 for group 2 and 1,14 for group 3. Total number of laser spots was 1265 for group one, 2990 for group 2 and 4239 for group 3.

Conclusion: Although not all patients have completed the 1 year endpoint, so far the three strategies of panretinal photocoagulation with PASCAL seem to work at least equally. The necessity for retreatment seems to be much more related to the severity of the retinopathy at presentation. It?s early to say if any strategy is safer than the other.

Keywords: diabetic retinopathy, pascal, photocoagulation, laser

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

R2

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First Name: Arantes
Middle: Souza-Lima

Service: (RE) RETINA AND VITREOUS

CEP Number: 1388/10

5. ABSTRACT (REQUIRED):

Title: Investigation of new dyes for chromovitrectomy: preclinical biocompatibility of Trisodium, Orangell and Methil Violet

Author and Co-authors (maximum 6): Rodrigo A. Souza-Lima, Emmerson Badaro, Milton Moraes-Filho, Eduardo B. Rodrigues, Mauricio Maia, Fernando M. Penha, Carsten H. Meyer, Michel Eid Farah

Purpose: To investigate the retinal toxicity by Electroretinography(ERG) and fundoscopy after intravitreal injection of the biological stains in two concentrations: Trisodium (0.50 g/L and 1.00 g/L), Orangell (0.25 g/L and 1.00 g/L) and Methil Violet (1.00 g/L and 0.50 g/L)

Methods: Nineteen Dutch-belted rabbits weighing 1.5 to 2 kg were assigned in six groups (n=3 in each group except for the group 5 n=4). The animals in group 1 received Trisodium in the dose of 0.50 g/L and group 2 received 1.00 g/L. The animals in group 3 received Orangell in the dose of 0.25 g/L and group 4 received 1.00 g/L. The animals in group 5 received Methil Violet in the dose of 1.00 g/L and group 6 received 0.50 g/L. The right eyes received the drugs as study eyes, whereas the left eyes received the same volume of balanced salt solution (BSS) as control group. The rabbits were sacrificed with intravenous injection of 2 ml of Phenobarbital. The eyes removed by enucleation technique and conserved in buttered formalin. ERG recordings were performed before intravitreal injection of the drugs to serve as baseline and 7 days after with the Ephios handheld system (Ephiós AB, Rejmyre, Sweden). The responses at 1 week after injection were compared with baseline levels. A decrease in the post-

Results: At clinical examination by indirect ophthalmoscopy 7 days after dye injection, all eyes were negative for cataract, hemorrhage, retinal detachment, and intraocular opacities. The injection of the dye did not induce considerable ERG alterations No functional difference was noted between the two different doses of the dyes ($P<0.05$). One rabbit in group 5 (Methil Violet 1.00g/L) was found dead 7 days aftes dye injection. No other adverse effects were observed in our study

Conclusion: Trisodium, Orangell and Methil Violet should be applied in future studies in order to prove their capacity to stain preretinal membranes and vitreous with tolerable toxicity. The three dyes did not induce significant ERG toxicity in this preliminary research with animal model. Trisodium, Orangell and Methil Violet may be promising vital dyes for ocular surgery

Keywords: chromovitrectomy

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125. FIRST (PRESENTING) AUTHOR (REQUIRED):
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First Name: Nunes
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Service: (RE) RETINA AND VITREOUS

CEP Number: 184945

5. ABSTRACT (REQUIRED):

Title: Spectral-Domain Optical Coherence Tomography Imaging of the Macula in Rhegmatogenous Retinal Detachment

Author and Co-authors (maximum 6): Vespasiano Rebouças-Santos, MD; Octaviano Magalhães Júnior, PhD, MD; Nilva Simeren Bueno de Moraes, MD, PhD; André Maia, MD, PhD; and Michel Eid Farah, MD, PhD.

Purpose: To demonstrate morphologic changes in macula, in patients with rhegmatogenous retinal detachment, seen on spectral-domain optical coherence tomography (SD-OCT).

Methods: In this observational and transversal study, after a complete ophthalmologic exam, all rhegmatogenous retinal detachment patients were underwent a SD-OCT examination. Before start the examination, all patients received a detailed explanation of the study and informed consent was obtained. SD-OCT scans were acquired with Spectralis SD-OCT (Heidelberg Engineering, Heidelberg, Germany), in vertical and horizontal scans. The central fovea was identified at the patient's fixation point or by the foveal depression in the fundus image on device's monitor. Two investigators independently evaluated the images looking for macular structural abnormalities, as intraretinal cyst formation, intraretinal splinting, undulation of outer retinal layer, disruption of the photoreceptor inner and outer segment junction line and epiretinal membrane. The retinal thickness and the height of the detached retina at the fovea were measured, defined as the distance between the outer border of the external

Results: Six patients were included in this study, the mean age was 49.46 ± 14.46 years old. The best correct visual acuity were worse than 20/400 in all patients. SD-OCT revealed macular structural abnormalities, such as small cystoid cavities in the retina in all patients, undulations of the photoreceptor layer (4/6 eyes, 66,67%) and retina splitting (3/6 eyes, 50%). Two patients with the worst visual acuity (hand motion) had more macular structural abnormalities cysts, retina undulation and retina splitting.

Conclusion: Retinal SD-OCT images maybe a good tool for evaluate patients with rhegmatogenous retinal detachment previously to surgical procedure.

Keywords: Retinal Detachment

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126. FIRST (PRESENTING) AUTHOR (REQUIRED):
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Service: (RE) RETINA AND VITREOUS

CEP Number: 184935

5. ABSTRACT (REQUIRED):

Title: Initial Clinical Experience with MAIA Microperimeter in Patients with Age-Related Macular Degeneration

Author and Co-authors (maximum 6): Vinícius Silbiger De Stefano, André Cicone Liggieri, Renata Portella, Letícia Barroso, Eduardo Büchele Rodrigues, Michel Eid Farah

Purpose: Microperimetry regards to the evaluation of specific retinal points concerning its functional capabilities, correlating them with anatomical findings. The objective of the study is to evaluate the initial clinical experience with a novel microperimeter, MAIA (CenterVue; Padova, Italy), in patients with neovascular form of age-related macular degeneration (AMD).

Methods: Twenty-nine exams of 29 patients with neovascular form of AMD were analyzed regarding the parameters obtained from the fundus perimeter scanning: central point threshold (CPT) of the thirty-seven points analyzed over the central 10° of the retina; average threshold (AT) of the same points and fixation pattern; i.e. the percentage of fixation points within 2° and 4° from examination center.

Results: Examination showed a mean CPT of 12.5 dB (± 5.8) and a mean AT of 16.5 dB (± 2.1), a not statistically relevant difference (p = 0.17). The percentage of fixation points within 2° and 4° from the fixation center was, respectively, 42.4% (± 28.7) and 72.0% (± 24.7).

Conclusion: Using CPT or AT to evaluate retinal functionality in MAIA microperimeter does not appear to change the evaluation of patients with neovascular form of AMD. These patients show, in addition, unstable fixation pattern.

Keywords: Microperimetry, Age-related Macular Degeneration, Retinal examination, Retina

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