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Estudo epidemiológico do tracoma em comunidade da Chapada do Araripe - Pernambuco Brasil

*Epidemiologic study of trachoma in a community of "Chapada do Araripe", Pernambuco State - Brazil*

Abraão da Rocha Lucena, Antônio Augusto Velasco e Cruz, Ronald Cavalcanti

**Purpose:** To perform an epidemiologic study on trachoma in the village of Serrolândia, Ipubi country, situated in the "Chapada do Araripe", interior of Pernambuco. **Methods:** A crosssection study on 1239 patients was accomplished in October and November 2002. The age of the patients ranged from 1 to 96 years (average 25.3 years). The examination was done a binocular magnifying lens of X 2.5 magnification following the clinical classification approved by WHO.

**Results:** The diagnosis of trachoma was established in 250 (20.5%) patients, with a predominance of males. The mean age of the patients with follicular trachoma (TF) was 13 years and with cicatrizing trachoma (TS) was 49 years. The following stages of trachoma were observed: 107 (8.6%) cases of TF, 2 (0.2%) of inflammatory trachoma (TI), 139 (11.2%) of cicatrizing trachoma, 1 (0.1%) of trichiasis and no case of corneal opacities (CO). **Conclusion:** Trachoma in Serrolândia, Ipubi-PE presents low endemic potential (8.8% TF / TI), although being located in a low socioeconomic region of the Chapada do Araripe, an area known as endemic. Thus, trachoma is not a serious public health problem in that community.

**Keywords:** Trachoma/diagnosis; Trachoma/epidemiology; *Chlamydia trachomatis*; *Chlamydia* infections; Conjunctivitis; Blindness/prevention & control; Brazil/epidemiology

Adesão ao tratamento da ambliopia

*Compliance with amblyopia treatment*

Mara Regina Arakaki, Silvana Artioli Schellini, Felipe Jorge Heimbeck, Margareth Tiemi Furuya, Carlos Roberto Padovani

**Purpose:** To evaluate results of compliance with amblyopia treatment. **Methods:** A retrospective study was performed to evaluate the influence of compliance with amblyopia treatment

in 151 children, treated with all-day occlusion, which was variable according to the childrens' age. The patients were divided in to two groups according to compliance or not with the treatment. **Results:** The treatment presented best results in children 4 and 7 years of age and in children with a good compliance. These children took less time to be treated. Even children of 7 years or more had good results with the treatment. **Conclusion:** Occlusion is a very good treatment when the patients comply with it.

**Keywords:** Amblyopia/therapy; Occlusive dressings; Patient compliance; Refractive errors/therapy; Visual acuity

Padronização normativa de eletro-oculografia em adultos

*Normative values for electro-oculography in adults*

Juliana Simões Munhoz, Solange Rios Salomão, Adriana Berezovsky, Paula Yuri Sacai

**Purpose:** To determine normative values for EOG in a group of healthy adult volunteers, according to the standard protocol recommended by the International Society for Clinical Electrophysiology of Vision - ISCEV. **Methods:** 33 volunteers aging from 18 to 55 years (mean=26.75±10.50) were included in the study. EOG was recorded by skin electrodes positioned in the external canthi of the eyes, with LED stimulus presented in a Ganzfeld dome. Subject's task was to fix the LED stimulus

either straight ahead or with saccadic horizontal movements. The potential difference between the cornea and posterior pole of the eye was recorded each minute. The examination was done in 3 phases: 1- pre-adaptation; 2- dark (scotopic) and 3- light (photopic). The Arden ratio was calculated as the

proportion between the maximum peak amplitude in the light phase divided by the minimum peak amplitude in the dark.

**Results:** At the scotopic phase, the minimum peak amplitude occurred between 14 and 21 minutes after the beginning of the stimulation (mean=17.82±2.11 min) and the amplitude ranged from 206 to 635  $\mu$ V (mean 365.73±122.52  $\mu$ V). At the photopic phase the maximum peak amplitude occurred between 27 and 34 minutes (mean=30.06±1.80 min); the amplitude ranged from 646 to 1250  $\mu$ V (mean= 950.70±179.16  $\mu$ V). Arden ratio ranged from 1.85 to 4.02 with a lower normal limit of 1.92 and the upper limit of 4.00. **Conclusion:** The results obtained in this study are comparable to those previously reported in the literature, with a lower normal limit of 1.92 for Arden ratio. These values will be helpful to evaluate patients with several retinal disorders. Inclusion of other age groups will provide extended normative data. **Keywords:** Electrooculography; Reference values; Electrophysiology; Retina; Pigment epithelium of eye

Síndrome de Sturge-Weber: estudo ultrabiomicroscópico

*Sturge-Weber syndrome: ultrasound biomicroscopic study*  
Sebastião Cronemberger, Nassim Calixto, Déborah Aguiar Mendonça Assunção, Eduardo Gutemberg Milhomens

**Purpose:** To describe the ultrasound biomicroscopy findings in patients with Sturge-Weber syndrome with or without glaucoma. **Methods:** Ultrasound biomicroscopy was performed on 11 eyes from 8 patients with Sturge-Weber syndrome with or without glaucoma. **Results:** Ultrasound biomicroscopy showed images suggestive of dilated intrascleral vessels in all eyes with or without glaucoma. Supraciliary effusion was found in 8 (88.9%) of 9 eyes with glaucoma and in none of those without glaucoma. Sectorial pars plana detachment was present in one eye with and in two eyes without glaucoma. A round image with low to moderate echogenicity in the ciliary body was present in 8 (88.9%) eyes with glaucoma and in 2 eyes without glaucoma. This image is highly suggestive of a dilated vessel or angioma. **Conclusions:** UBM showed

paradoxically supraciliary effusion in the great majority of the eyes with glaucoma (89%), controlled by previous surgery in the Sturge-Weber syndrome. The images found in the anterior portion of sclera and in the ciliary body are highly suggestive of a scleral dilated vessel and an angioma, respectively, in eyes with or without glaucoma. These findings associated with increased episcleral venous pressure might contribute to explain not only the pathogenesis of the secondary glaucoma but also the peri- and postoperative complications eventually present during and after the antiglaucomatous surgeries in these eyes. **Keywords:** Sturge-Weber syndrome; Angiomatosis; Glaucoma/ ultrasonography; Microscopy; Sclera/ultrasonography; Ciliary body/ultrasonography

Avaliação espectrofotométrica do azul de Evans na reação inflamatória da córnea: estudo experimental em coelhos

*Spectrophotometric evaluation of Evans blue in inflammatory cornea reaction: experimental study in rabbits*

Márcio Luiz Gehlen, Hamilton Moreira, Luciane Moreira, Fábio Prado Sabag, João Carlos Domingues Repka

**Purpose:** To detect Evans blue in the normal cornea, attempting to determine the period of maximum concentration of the dye after intravenous injection and to study vascular permeability in an animal model of corneal inflammation induced by alkali burn, after Evans blue injection. **Methods:** Fifty rabbits were divided into 3 groups. Group I (25 animals): 20 mg/kg Evans blue were injected and the animals were sacrificed after 8, 10, 12, 14 and 16 hours. The corneas were removed and the dye concentration was measured by a spectrophotometric micromethod. Group II: in 15 animals, 10 hours after injection, the corneas were centrally fragmented with number 6, 8 and 10 mm trephines. Evans blue was extracted the same way as in Group I. Group III: alkali burn was induced in the cornea of the right eyes of 10 animals, using 1 N NaOH. Five days after the procedure, the animals were sacrificed. Ten hours prior to sacrifice, Evans blue was injected. The left corneas were the control. **Results:** In group I, mean Evans blue concentration is at 10 h:  $15.28 \pm 0.09 \mu\text{g}/\text{mg}$ . In group II, mean Evans blue concentrations are: 6 mm:  $0.93 \pm 0.01 \mu\text{g}/\text{mg}$ ; 8 mm:  $1.20 \pm 0.06 \mu\text{g}/\text{mg}$ ; 10 mm:  $1.32 \pm 0.05 \mu\text{g}/\text{mg}$ . In group III, mean Evans blue concentrations are: right eyes (alkali burns):  $23.74 \pm 2.64 \mu\text{g}/\text{mg}$  and left eyes (control):  $16.71 \pm 2.04 \mu\text{g}/\text{mg}$ . **Conclusions:** This is the first time that Evans blue has been quantified in rabbit's cornea. It was possible to detect the dye from 8 to 16 hours after intravenous injection. We can conclude that Evans blue detection is a good method to quantify the alteration of vascular permeability in rabbit's cornea. **Keywords:** Evans blue; Spectrophotometry; Permeability; Cornea; Rabbits.

Catarata pediátrica pós-trauma

*Traumatic pediatric cataract*

Fernando Antonio de M. Leal, Márcia Beatriz Tartarella

**Purpose:** To study the pediatric cataract after trauma, it's relation to the kind of the trauma, the time elapsed between trauma and surgery and the correlation between corrected visual acuity and treatment. **Methods:** We reviewed the medical records of all patients who presented diagnosis of traumatic cataract between August 1988 and December 2001 at the Congenital Cataract Service of Federal University of São Paulo. **Results:** Sixty-six patients with diagnosis of pediatric

cataract after trauma were studied, corresponding to an incidence of 4.80% of the total of cases attended in the service. Forty-seven (71.22%) were male and 19 (28.78%) were female. Forty-five (53.03%) sustained a blunt trauma, 21 (31.82%) a penetrating one, and 10 (15.15%) were not classified. The mean time between the injury and the surgery was 7 years and 6 months. The main described postoperative complications were uveitis sequels in 13 patients (21.12%) and posterior capsule opacification in 10 (15.15%). The initial and final visual acuity were obtained in 30 eyes. The mean follow-up was of two years, ranging from 1 to 96 months. **Conclusion:** The improvement of visual acuity was statistically significant (Wilcoxon test  $p < 0.001$ ), being more intense in the eyes submitted to surgical treatment ( $p < 0.001$ ) than in the eyes submitted to clinical treatment. **Keywords:** Cataract extraction; Cataract/pathology; Visual acuity; Wounds and injuries; Wounds, penetrating; Pseudophakia

Projeto Mutirão de Catarata em centro de referência oftalmológico, em Pernambuco: perfil, grau de satisfação e benefício visual do usuário

*Medical Social Cataract Project ("Mutirão de Catarata") in an ophthalmologic center - Pernambuco State, Brazil: user profile, patient satisfaction and visual outcome*

Liana O. Ventura, Carlos Teixeira Brandt

**Purposes:** To identify the social and demographic patient profile, and to evaluate the visual outcome of patients enrolled in the Medical Social Cataract Project, developed by the "Altino Ventura Foundation" - Pernambuco State, Brazil. **Methods:** 163 patients who underwent cataract surgery and were seen at follow-up in October and November 2002. Data were obtained by a questionnaire, which also included questions about the service qualities provided by several sectors of the institution. The patients were also evaluated as regards the visual acuity and clinical outcome. **Results:** The patient mean age was 68.4 years. Females were more frequent (67%). Illiteracy was present in 20% of the patients. Housewifeliness (44%) represented the majority of the patient activities. It was found that the relative frequency of several parameters used to assess patient satisfaction with the hospital care was greater than 95%. There was statistically significant improvement, of visual acuity after surgery, in both eyes. Right eye - preoperative =  $X \pm SD - 0.193 \pm 0.135$  - postoperative =  $0.650 \pm 0.293$  "t" = 13.469 -  $p < 0.0001$ . Left eye - preoperative =  $X \pm SD - 0.217 \pm 0.197$  - postoperative =  $0.666 \pm 0.301$ , "t" = 11.300 -  $p < 0.0001$ . **Conclusions:** The degree of satisfaction in this group of patients, with high illiteracy and excluded from the work force, was very good. An association between the quality of the provided services and benefit of visual acuity improvement was observed. These results were fundamental for greater credibility of the institution. **Keywords:** Cataract/pathology; Blindness; Patient satisfaction; Quality of life; Community health services

Quantificação da ação do músculo frontal

*Quantification of frontalis muscle action*

José Ribamar Souza da Cruz, Antonio Augusto Velasco e Cruz

**Purpose:** To quantify the frontalis muscle action. **Methods:** The motion range of the eyebrow was measured in 81 normal subjects divided into three age groups: 20 children (ages from 6 to 12 years), 33 adults (ages from 20 to 38 years) and 28

elderly (ages from 60 to 80 years). Measurements were made using digital image processing analysis. For each subject an image of the subjects' face was obtained with the brow in its resting position. A second image was taken with maximal frontalis contraction. The frontalis action was taken as the difference between the position of the brow with and without frontalis contraction. All measurements were performed at halfway between the medial and lateral canthi. **Results:** Brow motility in the central part of the lid fissure ranges from 7.57 to 9.02 mm. Despite a clear tendency to increase in brow motility with age, the differences between the age groups were not significant. **Conclusions:** The magnitude of the excursion of the central portion of the brow does not depend on age. **Keywords:** Facial muscles/innervation; Mus

Aderência bacteriana *in vitro* a lentes intra-oculares de polimetilmetacrilato e de silicone

*In vitro bacterial adherence to silicone and polymethylmethacrylate intraocular lenses*

Claudete Inês Locatelli, Gelsa Edith Englert, Sérgio Kwitko, Amauri B. Simonetti

**Purpose:** To evaluate bacterial adherence to silicone and polymethylmethacrylate (PMMA) intraocular lenses as a risk factor for postsurgery endophthalmitis by using an *in vitro* model with three potentially pathogenic microorganisms. **Methods:** *In vitro* experiments were carried out with the *Staphylococcus aureus* ATCC 29213, *Staphylococcus epidermidis* (clinical isolate) and *Pseudomonas aeruginosa* ATCC 27853 strains including growth curves, tests to verify capsule production, hydrophobicity and adherence to different materials as well as optical microscopy, scanning electronic microscopy (SEM) and atomic force microscopy (AFM). **Results:** No relation between capsule production, adherence of the strains tested and amount of microorganisms was observed; no statistically significant differences were detected between *S. aureus* and *S. epidermidis* adherence to polymethylmethacrylate and silicone intraocular lenses; *P. aeruginosa* was the most adherent microorganism to both materials. This adherence pattern was confirmed by SEM, while biofilm production by the three strains was visualized by AFM. **Conclusions:** *In vitro* experiments showed no differences of bacterial adherence between PMMA and silicone lenses, but *P. aeruginosa* displayed a greater level of adherence in relation to staphylococci. All three strains were shown to produce biofilm. Silicone was shown to be more hydrophobic when compared to polymethylmethacrylate. **Keywords:** Bacterial adhesion; Lenses, intraocular; Polymethylmethacrylate; Silicones; Pseudomonas; Staphylococcal Infections

Discriminação entre olhos normais e glaucomatosos mediante polarimetria de varredura a laser

*Discrimination between normal and glaucomatous eyes by scanning laser polarimetry*

Leopoldo Magacho, Ana Maria Marcondes, Vital Paulino Costa

**Purpose:** To test the ability of the scanning laser polarimetry to discriminate between normal and glaucomatous eyes. **Methods:** One-hundred and twelve patients with primary open-angle glaucoma and 88 normal individuals were enrolled in the study. All individuals underwent a complete ophthalmic evaluation, a 24-2 full threshold Humphrey visual field and a GDx examination. Cutoff points were selected, ROC curves

were created, and the sensitivity (Se) and specificity (Sp) were calculated for each individual GDx parameter. Finally, a multivariate logistic analysis was developed in order to achieve a better Se/Sp ratio for the diagnosis of glaucoma. **Results:** The best GDx individual parameters were: the number (Se: 79.5%, Sp: 81.8%, area under the ROC curve: 0.870), maximum modulation (Se: 83.0%, Sp: 76.1%, area under the ROC curve: 0.842) and ellipse modulation (Se: 65.2%, Sp: 88.6%). The multivariate logistic analysis resulted in an area under the ROC curve of 0.920 (Se: 85.7%, Sp: 90.9%). **Conclusions:** The combination of 2 or more parameters in a multivariate logistic analysis increases the ability of scanning laser polarimetry to discriminate between normal and glaucomatous eyes. **Keywords:** Optic disk; Glaucoma/diagnosis; Lasers; Diagnostic techniques, ophthalmological

Satisfação do paciente com degeneração macular relacionada à idade após terapia térmica transpupilar

*Satisfaction of the patient with age-related macular degeneration after transpupillary thermotherapy*

Jhony de Polo, Carlos Augusto Bastos, Alexandre Lass Siqueira, Luciane Bugmann Moreira, Carlos Augusto Moreira

**Purpose:** Comparison of subjective outcome (patient's satisfaction) with objective data (improvement of visual acuity-VA) after treatment of age-related macular degeneration (ARMD). **Methods:** In a retrospective study we analyzed 23 charts of patients with angiofluoresceinographic diagnosis of age-related macular degeneration submitted to only one application of transpupillary thermotherapy (TTT). Visual acuity was recorded before and one month after the application, and the satisfaction of the patients with the treatment. **Results:** 23 patients (15 females and 8 males), 53 to 88 years old (mean 74.8) were evaluated. 12 eyes were found with improvement of visual acuity, 6 eyes without alteration of visual acuity, 6 eyes with worse visual acuity. Regarding satisfaction the results were: 4 eyes, very satisfied; 13 eyes, satisfied; 7 eyes, not satisfied, and checking the data we found 3 eyes, very satisfied with the improvement of visual acuity and 1 eye, very satisfied without improvement of VA. Satisfied with improvement of visual acuity there were 7 eyes, satisfied without improvement of VA, 3 eyes and satisfied with worsening of VA, 3 eyes. **Conclusion:** Visual acuity was improved in 12 eyes of the 24 studied eyes; the number of very satisfied patients reached 17 eyes within one month. Observing these results transpupillary thermotherapy may be considered as alternative or adjunct treatment for age-related macular degeneration. **Keywords:** Macular degeneration/therapy; Retinal neovascularization; Visual acuity; Hyperthermia, induced/methods; Patient satisfaction

Metodologia para implantação de programa de manutenção de um aparelho de facoemulsificação

*Methodology for implementing a maintenance plan for a phacoemulsification machine*

Wagner Koji Aragaki, Marinho Jorge Scarpi, Eduardo Linzmayer

**Purpose:** To implement a plan of preventive maintenance developed for users of the phacoemulsification machine. **Methods:** In order to implement a maintenance program for a phacoemulsification machine, Alcon's Legacy 20000™ was chosen. Its operating manual was used as a primary search, so that the probability of equipment malfunction or breakdown

could be quantified. The maintenance condition of Legacy 20000™ was checked in some hospitals in São Paulo through an interview with the responsible clinical engineers. Surgeons working at the Cataract Sector of UNIFESP (Universidade Federal de São Paulo) were asked their opinion about the functioning of Legacy 20000™, in order to identify the main sources of malfunction. After research had been carried out in hospitals and with the surgeons, a maintenance manual for the Legacy 20000™ was proposed, based on preventive maintenance tools. **Results:** The analysis regarding error messages showed that most potential problems and corrective measures to be taken are due to problems of connection or fixation of the cables. The Legacy 20000™ main sources of malfunction were identified in the São Paulo Hospital, which had acquired its own piece of equipment. In most cases they were related to broken ultra-sound handpiece, broken electronic and mechanical components, faulty setup and problems of priming, vacuum and aspiration. The interview with the cataract surgeons of the Universidade Federal de São Paulo showed lack of technical knowledge due to their lack of familiarity with the manual and no training regarding equipment functions. **Conclusions:** There is no complete plan of preventive maintenance for the Legacy 20000™ in the hospitals considered for this research only corrective maintenance. The manual of preventive maintenance item proposed for Legacy 20000™ was prepared based on the research results using preventive maintenance tools. **Keywords:** Phacoemulsification; Surgical Instruments; Cataract extraction/instrumentation; Equipment safety; Equipment failure analysis, Time factors

Análise da aferição dos tonômetros de aplanção de Goldmann em serviços oftalmológicos de Recife

*Analysis of calibration of Goldmann applanation tonometers in ophthalmology services in Recife*

Ricardo Tomás da Costa, Raquel Barbosa Paes Barreto, Fábio Pedrosa Lopes, Rodrigo Pessoa Cavalcanti Lira

**Purposes:** To verify the frequency of non-calibrated Goldmann's applanation tonometers and the influence of the following variables: model, age, number of daily examined patients and how often the tonometers are gauged. To evaluate the degree of knowledge by ophthalmologists about checking the calibration of this device. **Methods:** The study was developed in Recife, Brazil. Seventy-nine Goldmann's tonometers in use were identified. The functioning of the tonometers was checked at the 0, 20 and 60 mmHg positions. Measurements with an error greater than  $\pm 2$  mmHg were considered significant. The following data were also recorded: model, age, number of daily examined patients and the frequency of calibration checking. One third (92) of the city's ophthalmologists were interviewed and asked whether they knew how to check the tonometer and if they did the checking themselves. **Results:** Twenty tonometers (25.3%) were not calibrated. Thirty eight tonometers (48.1%) were fixed to the slit lamp and 41 (51.9%) were removable. Twenty-eight tonometers (35.4%) were less than 5 years old. Forty-eight devices (60.8%) were used daily in 20 patients or less. The frequency of calibration checking was annual or more frequently in 36 (45.6%) devices. Non-calibrated tonometers were more common among the removable ones and those older than 5 years ( $p=0.008$  e  $p=0.050$ , respectively). Only 37 (40.2%) of the ophthalmologists knew how to check the

tonometers. **Conclusions:** A quarter of the tonometers was not calibrated. The removable ones and those with more than 5 years of use were more prone to be non-calibrated. The majority of the ophthalmologists did not know how to check the tonometer. **Keywords:** Tonometry/methods; Equipment and supplies; Measurement equipment

Retinopatia solar após ritual religioso na cidade de Londrina  
*Occurrence of solar retinopathy after religious ritual in Londrina, Paraná, Brazil*

Elaine Regina Ferraresi Sampaio, Antonio Marcelo Barbante Casella, Michel Eid Farah

**Purpose:** To present a series of patients with solar retinopathy after direct solar observation during a religious ritual in Londrina City, Paraná, Brazil. **Methods:** 24 patients with visual alterations were evaluated after their participation in a religious ritual. Data of the initial and final visit after 6 months of follow-up are presented and include best corrected visual acuity, refraction, color fundus picture, macular biomicroscopy, Amsler's screen and contrast sensibility. **Results:** A total of 24 cases was reported. Of these, 21 (87.5%) were females and 3 (12.5%) males. Age varied from 18 to 46 years. A total of 43 eyes were damaged. The lesion was bilateral in 19 (79.2%) patients and in 5 (20.8%) it was unilateral. The initial visual acuity ranged from 20/20 to 20/70, and the final visual acuity was 20/25 or better in 40 (93%) eyes. Of these, 33 (76.7%) eyes reached 20/20 or the last follow-up visit. Only 2 (4.6%) eyes presented alteration in the sensibility to contrast and 3 (6.9%) remained with persistent scotoma. **Conclusion:** This is the largest series of solar retinopathy after religious ritual. The cases herein presented showed a quite favorable evolution. However recovery of visual acuity is not complete, once scotoma and residual metamorphopsia persisted in a few patients. **Keywords:** Eye/pathology; Retina/pathology; Visual acuity/radiation effects Sunlight/adverse effects; Cerimonial behavior

O uso do laser de argônio no tratamento da triquíase  
*Argon laser in the treatment of trichiasis*

Nilson Lopes da Fonseca Junior, Lúcia Miriam Dumont Lucci, Leonardo Verri Paulino, José Ricardo Carvalho Lima Rehder

**Purpose:** To evaluate the effectiveness of thermoablation of eyelashes in trichiasis with Argon laser and to observe the patients' choice of topic or local anesthesia. **Methods:** Prospective study of 55 eyelids of 39 patients with trichiasis treated with photocoagulation of the eyelash follicle with Argon green laser (Alcon® - USA). Age, sex, number of applications in each session, evolution after the application and preference for the anesthetic method were evaluated. The laser settings were: 150  $\mu$ m aim 750 mW potency; 0.2 seconds exhibition. Each eyelash received no more than 9 applications per procedure. **Results:** Of the 39 patients, 58.9% were female and 41% were male. Mean age was 71 years. There was resolution in 69% (38 patients), and 29% (16 eyelids) underwent a single procedure. The preference for local anesthesia is statistically significant. **Conclusion:** The results suggest that most patients chose local anesthesia for the treatment of trichiasis with argon laser and the thermoablation of eyelashes with argon green laser is an effective treatment of trichiasis. **Keywords:** Cilia/pathology; Lasers/therapeutic use; Argon/therapeutic use; Light coagulation; Anesthesia, local; Trachoma/therapy

Estudo da síndrome da ceratoconjuntivite seca de pacientes soropositivos para o vírus da imunodeficiência adquirida humana tipo 1 e com síndrome da imunodeficiência adquirida, em uso ou não de terapia anti-retroviral combinada (HAART)

*Study of keratoconjunctivitis sicca in patients infected with the human immunodeficiency virus type 1 and acquired immune deficiency syndrome, in use or not of highly active anti-retroviral therapy (HAART)*

Márcia Lopes Rodrigues, Maria de Lourdes Veronese Rodrigues, João Alberto Holanda de Freitas

**Purpose:** To determine the presence of dry eye and the changes in the conjunctival epithelium of patients infected with HIV-1 and with AIDS; to investigate the relation of the changes with the characteristics and with other ocular conditions of patients; to study the influence of HAART an eyes with keratoconjunctivitis sicca in patients with AIDS.

**Methods:** Patients with laboratory diagnosis of HIV infection, were examined and divided into two groups: I. HIV+ (without clinical diagnosis and with a CD4+ count of more than 200 cells/mm<sup>3</sup>); II. Patients with AIDS (CD4+ count less than 200 cells/mm<sup>3</sup> and/or with clinical manifestations). The following were assessed: modes of transmission of HIV; ocular manifestations; laboratory findings, tear production and conjunctival impression cytology. **Results:** 43 patients of group I e 77 patients of group II were studied. The internal ocular findings were decreased significantly after the use of HAART; however, this did not occur regarding external findings. 65,1% of the patients with dry eye were men. The changes of the Schirmer test and the tear film break up time were neither related to the severity of HIV disease nor to CD4+ count. All patients with changes in the conjunctival impression cytology showed KCS, and 88,8% of the patients were of the group II. Increase in frequency of these changes was found in patients with disease time of more than 4 years. **Conclusion:** The decrease in tear production has not been related to the severity of HIV infection and the use of HAART did not affect the frequency of dry eye syndrome in HIV- positive patients.

**Keywords:** Keratoconjunctivitis sicca; HIV seropositivity; Acquired immunodeficiency syndrome; Antiviral agents; Combined modality therapy; HIV-1/drug effects

Adesivo biológico da fibrina na mioescleroplexia posterior em coelhos - Estudo experimental

*Fibrin biological adhesive for posterior mioscleral fixation of superior rectus muscles - An experimental study in rabbits*  
Ana Tereza Ramos Moreira, Juliana Mantovani Bottós, Kátia Mantovani Bottós, Michele Buquera, Adilson dos Anjos

**Purposes:** 1. To evaluate the adhesion capacity of the fibrin biological adhesive in surgery of posterior fixation of the superior rectus muscle, when it is used for the reduction of the arc of contact. 2. To compare the reduction of the superior rectus muscle's action of eyes in which the biological adhesive has been used with those used as a control group.

**Methods:** The sample consisted of 30 animals, 60 eyes. One of the eyes of each animal was treated with biological adhesive (30 eyes), while the other was used as a control (30 eyes). All animals were sacrificed on the 60th postoperative day. Muscle reduction was analyzed and the sizes of the adhesences produced at surgery and after 60 days were measured.

**Results:** The fibrin clot was produced immediately after applying the biological adhesive and at the end of few

seconds all muscle fibers were adhered to the sclera. All muscles treated with biological adhesive showed reduction in motor function on the 60th postoperative day when compared with the control group. The sizes of the initially produced adherence compared with those after 60 days was reduced 28.48%. There was an ascending and positive but weak correlation ( $r=0.367204$ ). There must exist other variables affecting adherence reduction. There was no significant inflammatory reaction or any other complication related to the surgery. **Conclusions:** The clinical results of motor function demonstrated that the biological adhesive of fibrin produced muscledscleral adhesion, reducing the arc of contact of the superior rectus muscle in rabbits. **Keywords:** Fibrin tissue adhesive; Oculomotor muscles/surgery; Suture techniques; Animal; Rabbits/surgery

Comunicação visual por computador na esclerose lateral amiotrófica

*Computerized visual communication in amyotrophic lateral sclerosis*

Cesar Rizzo Casemiro, Carlos G. Arce

**Purpose:** To describe the electronic systems a patient with amyotrophic lateral sclerosis (ALS) uses for communication. To review the ophthalmic manifestations of amyotrophic lateral sclerosis and the importance of vision, ocular motility, communication, and a home care system in the treatment of severely handicapped patients. **Methods:** Case series report, description of equipment, and literature review. **Results:** The patient with amyotrophic lateral sclerosis has bulbar symptoms, deficiency of lung and limb muscles, oculomotor system partially spared, and intellect intact. Using his facial and ocular motility, electronic equipment, and a computer, the patient has achieved close and distant communication, and works as graphic designer. Presently, multiprofessional teams like the home-care system of Unimed-Campinas (ADUC) provide recommended supporting treatment for chronic in-bed patients. A wide range of ophthalmic pathology may be found among these patients. **Conclusions:** Amyotrophic lateral sclerosis and other chronic diseases may reduce the quality of life. Treatment and long-term cost management must seek the physical and psychological health of patients and their family, and provide a greater possible autonomy, good communication, and appropriate environment. Ophthalmologists must be prepared to deal with this type of patients. Simple techniques, like blinking in front of a chart, or more sophisticated approaches using a computer are possible and allow patients' "visual communication" (expression of ideas and thinking using eyes and lids). **Keywords:** Amyotrophic lateral sclerosis; Eye manifestations;

Nonverbal communication; Kinesics; Medical informatics; Home care services; Saccades; Computers

Dacriocistorrinostomia externa em hospital universitário - Avaliação dos resultados

*Evaluation of the external dacryocystorhinostomy - Result in a university hospital*

Silvana Artioli Schellini, Regina Hitomi Sakamoto, Jorge Taveira Samahá, Flavio Arangon, Carlos Roberto Padovani

**Purpose:** To know the results of nasolacrimal obstruction treatment using external dacryocystorhinostomy in a university hospital. **Methods:** 245 surgical procedures were evaluated regarding age, sex, complaints, previous factors

and surgery complications. **Results:** The age of the patients was approximately 45 years and 70.0% were female. The main complaints were tearing (93.1%) and ocular secretion (58.8%). Complications during the surgery like bleeding (5.3%), mucous nasal lesion (2.8%) and lacrimal sac lesion (1.2%) occurred in 9.4% of the patients and 15.5% needed further surgery. **Conclusion:** The rate of cure with external dacryocystorhinos-tomy was 71.4%. Due to the low rate of complications and successful chances, we agree that this is a safe procedure to use in nasolacrimal obstruction treatment. **Keywords:** Dacryocystitis; Dacryocystorhinostomy/methods; Lacrimal apparatus disease/physiopathology; Lacrimal duct obstruction/surgery; Ophthalmologic surgical procedures

Cirurgia de catarata: otimização do centro cirúrgico com utilização de pacote cirúrgico pré-montado

*Cataract surgery: optimization of the operating room when custom pack is used*

Newton Kara-José Junior, Marcio Cursino, Eduardo Whitaker  
**Purpose:** To evaluate the ability to optimize the operating room when custom pack is used in cataract surgery. **Methods:** A prospective study of 60 surgeries was carried out at the "Hospital das Clínicas" of the Medical School of the University of São Paulo in 2003. **Results:** In this study, the use of custom pack in this hospital contributed to reduce the time of surgery to one minute and fifty seconds and in to optimize the surgery theater by 6.7% of its efficiency. **Conclusion:** According to the conditions of the "Hospital das Clínicas" of the Medical School of the University of São Paulo, we concluded that the use of custom pack contributed to optimize the surgery theater. **Keywords:** Cataract extraction; Optimization; Surgical instruments/supply & distribution

Impacto da Campanha Olho no Olho em escolas de ensino fundamental - Percepção do pessoal de ensino

*Effectiveness of visual screening in elementary schools - Educator's perception*

Heloisa Helena Abil Russ, Edméa Rita Temporini, Newton Kara-José

**Purposes:** To identify knowledge of educators before visual screening training. 2) To identify educator perceptions about quality of training. 3) To identify benefits and compliance with the campaign. **Methods:** Analytical transversal survey. Public schools of Curitiba-PR. Self-application of questionnaire. **Results:** Of the 89% interviewed people, only 13% were school teachers. The global training was considered good by 85.9%. All teachers had more than 10 years of teaching activities. The teachers asked for more information in a future training about how to manage children whose treatment was necessary (59.3%). Of the screened children, 94.2% were seen by the doctors and 84.9% had prescriptions for spectacles. Of these, 85.7% improved their learning performance. The health agent (36.1%) and the ophthalmologist (29.7%) were taught to be responsible for the visual screening; only 0.9% considered this a teacher's duty. About 50.5% of parents participated in the activities of the campaign, and the majority justified abstention due to their work (68.5%) besides the lack of knowledge about visual difficulties of their children (50%). **Conclusions:** 1) The educators had a satisfactory knowledge about visual screening. 2) Visual training was considered good, but additional information is necessary. 3) There were

improvement of learning, parents' compliance was good and the number of children seen by doctors was excellent. **Keywords:** Mass screening; Refractive errors/diagnosis; School health; School health services; Inservice training; Teaching

Uso da fásia temporal na suspensão frontal: descrição da técnica cirúrgica - Relato de caso

*Use of temporal fascia in frontalis suspension: description of the surgical technique - Case report*

Tânia Pereira Nunes, Mariluze Sardinha, Laura Cardoso, Flávio Buzalaf, Suzana Matayoshi

**Purpose:** To familiarize the ophthalmologist with the anatomy of the temporal region, to describe the surgical technique of temporal fascia harvest and frontalis suspension and to demonstrate advantages and disadvantages of temporal fascia in frontalis suspension. **Methods:** Review of the clinical and surgical data of one case with severe blepharoptosis who underwent frontalis suspension using temporal fascia. Review of the anatomy of the temporal fossa and the surgical techniques. **Results:** Good esthetic and functional results were obtained in this case. **Conclusion:** Temporal fascia is a good choice for frontalis suspension with some advantages: it is autogenous, it is easily harvested and it yields minimal post-operative morbidity. **Keywords:** Fascia/surgery; Blepharoptosis/surgery; Surgical flaps/utilization

Síndrome de Horner na infância - Relato de caso

*Horner's syndrome in childhood - Case report*

Claudia Akemi Shiratori, Rony Carlos Preti, Silvana Artioli Schellini, Plínio Ferraz, Márcia Lima

The purpose of this is to describe a child with Horner's syndrome, a rare condition. A male child, 2 years and 1 month old, showed since birth ptosis of the left upper eyelid and miosis associated with sweating on the left hemiface. 2.5% phenylephrine eyedrop test diagnosed similar mydriasis in both sides. The history and clinical examination help to localize the level and to establish the origin of the lesion. **Keywords:** Horner's syndrome; Blepharoptosis; Miosis; Hypohidrosis; Sympathetic nervous system/injury

Melanocitoma de corpo ciliar - Relato de caso

*Melanocytoma of the ciliary body - Case report*

Bernadete Ayres, Hugo Soares Maia, Sandra Molles, Adriane Brazuna

The authors report the clinical and histopathologic findings of a rare case of melanocytoma of the ciliary body. The pigmented ciliary body tumor was found in a 40-year-old man, with a clinical diagnosis of melanoma of the ciliary body. Histopathologic examination after enucleation showed typical features of melanocytoma. This case illustrates the pattern of ciliary body melanocytoma to help in the differential diagnosis of pigmented tumors of the ciliary body. **Keywords:** Eye neoplasms; Melanoma; Ciliary body; Uveal neoplasms; Diagnosis, differential; Case report

Síndrome de Dubowitz - Relato de caso

*Dubowitz Syndrome - Case Report*

Vanderson Glerian Dias, David Ribeiro de Mendonça Filho, Marcia Abelin Vargas, Flávia Fauaz Gonçalves, Edmilson Gigante, Fátima Jesus Passador Valério

The authors present a 7-year-old child with Dubowitz syndrome, diagnosed by means of a clinical-genetic

examination, showing manifestations in various systems, including ophthalmologic alterations such as: epicanthal folds and exotropia associated with a small incomitant vertical component and discret alphabetic A variation. We discuss the importance of the ophthalmologist in the early diagnosis and early indication for treatment of the patients with this syndrome and propose the most adequate follow-up of these patients. **Keywords:** Eye diseases/genetics; Multiple abnormalities/genetics; Chromosome aberrations; Growth disorders/genetics; Syndrome; Case report

Síndrome de Aicardi - Relato de dois casos

*Aicardi's syndrome - A description of two cases*

Paula Piccoli da Costa, Priscilla de Cássia Silva Haas, Elson Yamasato, Maria Eulina Quilião

Aicardi's syndrome is thought to be an X-linked dominant disorder. Females are exclusively affected, the disorder being lethal in males. This syndrome is characterized by infantile spasms, agenesis of the corpus callosum and ocular lesions. Clinically it presents as severe mental retardation, severe limitation of motor development and of language, with a prognosis of survival for only a few months or years. We present two cases of this uncommon syndrome and describe the clinical symptoms and signs, and prognosis. **Keywords:** Syndrome/diagnosis; Spasms, infantile; Retina/abnormalities; Choroid/abnormalities; Corpus callosum/abnormalities

Uso de Polietigel® intra-orbitário em paciente com atrofia hemifacial progressiva - Relato de caso

*Use of intraorbital Polietigel® in a patient with progressive hemifacial atrophy - Case report*

Amilton de Almeida Sampaio Junior, Fabrício Kafuri, Silvana Artioli Schellini, Romualdo Rossa

The purpose is to report the case of a patient with progressive hemifacial atrophy assisted at the Faculdade de Medicina de Botucatu-UNESP: a 43-year-old white woman, complained of left progressive hemifacial and orbital fat atrophy starting 10 years ago. Pain was in the orbito-palpebral region and there was also visual impairment. Tomography confirmed the clinical hypothesis and the treatment was done using Polietigel® injected into the orbital cavity with good results.

The authors propose Polietigel® to treat enophthalmos in Parry-Romberg's syndrome. **Keywords:** Enophthalmos/therapy; Visual acuity; Facial hemiatrophy; Polyethylene/therapeutic use

Endoftalmite por *Candida albicans* após transplante penetrante de córnea - Relato de caso

*Candida albicans endophthalmitis following penetrating corneal graft - Case report*

Gláucio de Godoy, Sâmia Ali Wahab, Ana Luísa Höfling de Lima, Hamilton Moreira

The authors report a case of a patient submitted to penetrating corneal graft for keratoconus with an exaggerated inflammatory response during the postoperative period. The patient was suspected of having an atypical rejection to the donor button. There were periods of improvement, followed by periods of worsening of the inflammation at each attempt of reducing the topical corticosteroid. After initiating immunosuppressive therapy with cyclosporin and high doses of topical corticosteroid, the patient developed *Candida albicans* endophthalmitis affecting the anterior segment of the eye and the vitreous body, but sparing the chorioretina. The patient improved after three injections of 5 µg intravitreal amphotericin B, 400 mg oral ketoconazole daily and topical clotrimazole every four hours. The authors also discuss the main possibilities of contamination of the patient, the infectious picture probably being related to the surgical procedure. **Keywords:** Endophthalmitis/drug therapy; Eye infections, fungal; *Candida albicans*; Keratoplasty, penetrating; Cyclosporine/therapeutic use; Candidiasis

Degenerações periféricas da retina do olho míope x LASIK  
*Peripheral retinal degenerations in myopic eye x LASIK*

João J. Nassaralla Jr., Belquiz A. Nassaralla

The purpose of this paper is to present the most frequent peripheral retinal degenerations in myopic eyes and discuss those degenerations which are a great risk for the retina and to point out the features associated with retinal detachment, its relation to LASIK and the indication for prophylactic treatment. **Keywords:** Retinal degeneration/prevention & control; Myopia/complications; Keratomileusis, laser in situ.