

## INTERCAMBIO ACADÉMICO

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#### Detection of retinal nerve fiber layer changes in ocular hypertension with scanning laser polarimetry before the appearance of perimetric defects

Lauande-Pimentel, Roberto; Barton, Keith; Poinosawmy, Darmaligun; Maino, Anna; Heath, Ted Garway; Hitchings, Roger

**OBJECTIVE:** To evaluate the ability of the Confocal Scanning Laser Polarimeter (SLP) to detect glaucoma alterations before the appearance of perimetric defects. Design- retrospective, case-control. **METHODS:** Ocular hypertensive patients divided in to two groups: a) stable and b) converters (that have converted to perimetric defined glaucoma). Nerve Fiber Analyser/GDx parameters of retardation. **RESULTS:** A total of 108 stable and 13 converters were evaluated for a mean period over 35 months in each group. At the initial examination, several SLP parameters detected significant differences retinal nerve fibre layer thickness in stable and converter groups (a mean of 27.4 months before the appearance of perimetric lesion). The Number, Maximum Modulation and Superior Average remained different between the groups at the initial and final examination. The odds ratio for perimetric conversion, giving a altered The Number result ( $>32$ ), was estimated at 7.9 in this series. **CONCLUSION:** The SLP was capable of detecting significant RNFL alterations in the group of ocular hypertensive patients who developed a characteristic glaucomatous perimetric lesion. In this study an initial abnormal The Number result was a significant risk factor for the development future glaucomatous perimetric defect in ocular hypertensive patients.

Keywords: Glaucoma; Open-Angle [diagnosis]; Microscopy; Confocal; Perimetry [methods]; Nerve fibers [pathology]; Ocular hypertension [diagnosis]; Retrospective study; Case-Control Studies.

#### Evaluation of microbiological contamination of amniotic membrane and amniotic fluid

Souza, Carlos Eduardo Borges; Engel, Dinorah Piacentini; Branco, Bruno Castelo; Hofling-Lima, Ana Luiza; Freitas, Denise de; Gomes, José Álvaro Pereira; Souza, Luciene Barbosa de

**PURPOSE:** To verify and compare the possible microbiological contamination of amniotic fluid, and amniotic membranes at time zero and at different times after delivery. **METHODS:** Nine amniotic fluid samples were collected by intrauterine aspiration and nine amniotic membranes were collected after cesarean deliveries of patients with negative serology (HIV, syphilis, hepatitis B and C). Samples were collected at different times after delivery (zero, thirty, sixty minutes). The samples were inoculated in culture media for bacteria and fungi. **RESULTS:** Bacteria were retrieved from four amniotic fluid samples, as well as from all nine amniotic membranes. Coagulase-negative *Staphylococcus* was the most prevalent bacteria. At time zero, coagulase-negative *Staphylococcus* was revealed in all nine amniotic membranes, *Staphylococcus aureus* in two, *Neisseria sp.*, *Enterobacter* and *Streptococcus viridans* in one. Thirty minutes after delivery, coagulase negative *Staphylococcus* grew in all nine amniotic membranes and *Streptococcus viridans* in one. Sixty minutes after delivery, coagulase-negative *Staphylococcus* was shown in eight, *Staphylococcus aureus* in two and *Streptococcus viridans* in one sample. Coagulase-negative *Staphylococcus* was

found in three amniotic fluids and corresponding membranes. **CONCLUSION:** Amniotic membrane contamination was a problem in all samples, and the processing protocol used at the Federal University of São Paulo was efficient to decontaminate the AM. Care must be taken before the use of AM. Further studies are necessary to establish the accurate variation of AM contamination at different times after delivery.

Keywords: Contamination; Bacteria; Amniotic fluid; Cornea; Staphylococcus.

#### Mitomycin C toxicity in the corneal epithelium of rabbits

Holzchuh, Nilo; Holzchuh, Ricardo; Arieta, Carlos Eduardo Leite; Kara-José, Newton; Alves, Milton Ruiz

**OBJECTIVE:** To evaluate the effects of mitomycin C eye drops (0.2 mg/ml) on the corneal epithelium of rabbits. **METHODS:** Mitomycin C and distilled water (controls) were instilled 4 times daily for 14 consecutive days in the eyes with intact ocular surface. The animals were sacrificed in the 15<sup>th</sup>, 50<sup>th</sup> and 100<sup>th</sup> day of the experiment. The histopathologic analysis of the corneal epithelium was complemented by morphometry. Epithelium area, number of nuclei, nucleus-cytoplasm relation, epithelial cell and cytoplasm area were studied. **RESULTS:** The morphometric analysis was performed by point counting under light microscopy. It showed variations characterized by alteration of the epithelium area, nucleus area and cytoplasm area, epithelial cell hypertrophy, alteration of the nucleus-cytoplasm relationship and decrease of the number of nuclei. **CONCLUSION:** The results of this investigation, in the study conditions, showed that 0.02% mitomycin C, instilled 4 times daily for 14 consecutive days, has low toxic potential in the intact ocular surface.

Keywords: Mitomycin [administration & dosage]; Mitomycin [toxicity]; Administration; topical; Ophthalmic solutions [adverse effects]; Epithelium, corneal [drug effects]; Rabbits.

#### Results of amblyopia treatment with levodopa associated with occlusion therapy

Procianoy, Edson; Procianoy, Letícia; Procianoy, Fernando

**PURPOSE:** To evaluate visual acuity improvement with levodopa/benzerazide associated with partial occlusion and followed by total occlusion therapy in patients with amblyopia considered irreversible. **METHODS:** A 9-week experimental open study was performed involving 37 patients, between 7 and 40 years old, with strabismic and/or anisometropic amblyopia. All patients were treated with levodopa (0.70 mg/kg/day) and 25% benzerazide associated with 4-hour/day occlusion of the dominant eye for 5 weeks. In the last 4 weeks, only the total occlusion (24 h) of the dominant eye was performed. Visual acuity was measured by the Early Treatment Diabetic Retinopathy (ETDR) table with the logarithmic minimum angle of resolution (logMAR) scale before the beginning of the treatment and after 1, 3, 5 and 9 weeks of treatment. Adhesions to occlusion therapy and to drug intake were checked through a written questionnaire and capsule counting. Adverse effects were evaluated by clinical examination and questionnaire. **RESULTS:** After 9 weeks of treatment visual acuity improved from  $0.58 \pm 0.16$  to  $0.23 \pm 0.16$  logMAR (4 lines of improvement in the ETDR table). **CONCLUSION:** Levodopa dose of 0.70 mg/kg/day is well tolerated and, when associated with occlusion therapy, significantly improves visual acuity in patients with amblyopia considered irreversible.

Keywords: Visual acuity; Clinical Trial [publication type]; Amblyopia [etiology]; Amblyopia [drug therapy]; Levodopa [therapeutic use]; Strabismus [complications]; Anisometropia [complications].

**Medial capsulotomy**

Gonçalves Neto, Paiva; Belfort Jr, Rubens

**PURPOSE:** To evaluate the benefits of an alternative technique of anterior capsulotomy created to guarantee the complete implantation of the IOL in the capsular bag, during extracapsular cataract extraction. **METHODS:** One hundred and nine eyes were operated on through this technique and followed during a period of 1 year. The possibilities of the technique were evaluated regarding two aspects: the guarantee of a perfect placement of the IOL in the capsular bag and ability of providing an effective fixation of the implant through the characteristics of the anterior capsule remains. The first aspect was analyzed considering the number of cases where the two flaps could be properly observed during the implantation. The second aspect was evaluated through the positioning of the lens after 1 year. Specific difficulties and complications of this technique were also investigated. **RESULTS:** The two flaps could be properly observed during the implantation in 96 (90.6%) cases. One year after the surgery, the lens was centered in 81.9% of the cases, slightly off the center (less than 1 mm) in 13.3% and off the center (more than 1 mm) in 4.8%. **CONCLUSION:** These results, if compared to those presented in relation to other types of capsulotomy, indicate that this technique is a good alternative to provide the appropriate implantation of the lens in the bag, in extracapsular cataract extraction.

Keywords: Cataract extraction; Intraocular lens implantation; Capsulotomy; Intercapsular; In the bag; Cataract; capsule; lens; Implantation; implant; intraocular; Visual disorders.

**Effect of ocular prosthesis on cornea sensitivity in *phthisis bulbi***

Lucci, Lucia Miriam Dumont; Itami, Cristina Nagako; Alves, Rosana Francisco; Montesano, Fabio Tadeu; Osaki, Midori Hentona; Sant'Anna, Ana Estela B. P.P.

**PURPOSE:** To compare corneal sensitivity between normal eyes and those with *phthisis bulbi* and also to analyze the alterations of corneal sensitivity in *phthisis bulbi* induced by wearing ocular prosthesis. **METHODS:** Prospective study of 23 patients with unilateral *phthisis bulbi*. Bilateral cornea sensitivity was evaluated using the Cochet-Bonnet esthesiometer before and after 3 months of wearing ocular prosthesis. **RESULTS:** In all patients, corneal sensitivity of the eye with *phthisis bulbi* was lower than that of the normal eye (control). In 96% there was decrease of corneal sensitivity after adaptation of ocular prosthesis. **CONCLUSION:** After wearing ocular prosthesis, there is a reduction in corneal sensitivity in *phthisis bulbi*. The pathophysiology seems to be the same as that found in contact lens wearers.

Keywords: Cornea; Eye; artificial; Dermatitis; contact; Anoxia.

**Socioeconomic profile and satisfaction of individuals attended during the cataract project of the Vision Institute - Ophthalmology department - UNIFESP**

Silva, Luci Meire Pereira da; Muccioli, Cristina; Belfort Jr, Rubens  
**OBJECTIVE:** To identify the socioeconomic profile as well as epidemiological data and evaluate the satisfaction of patients examined during a community project for the treatment of senile cataracts conducted by the Instituto da Visão/Ophthalmology Department - UNIFESP-EPM. **METHOD:** During the Cataract Project which occurred on 5<sup>th</sup> Sept, 2002 at the Ophthalmology Department - UNIFESP/EPM, subjects were surveyed by questionnaires developed to identify their socioeconomic characteristics and evaluate their satisfaction regarding attendance. They were randomly selected from the waiting line. **RESULTS:**

The sample was composed of 133 subjects, which represents 50% of patients examined during this Cataract Project. Sixty-one (46%) were male and 72 (54%) female; 117 (87%) were older than 50 years; 111 (84%) finished high school; 74 (55%) were retired and/or pensioners; 99 (74%) had a family income of up to R\$ 500,00; 91 (68%) needed someone to assist or accompany them during the visit; 95 (71%) presented cataract with surgical indication. Regarding their satisfaction with the service, 122 (91%) considered the general quality of attendance good; 10 (8%) considered it regular and 1 (1%) bad. **CONCLUSION:** As a whole the population examined during this Cataract Project was satisfied with the services, but, some aspects have to be improved to better meet their expectations. It is a needy population, with low visual acuity, depends on public health services, has low level education and, most, need someone to accompany them during the visit to the hospital.

Keywords: Patient satisfaction; Cataract; Health Promotion; Public Health; Questionnaires.

**New surgical technique for treatment of the pterygium head - Excision with 50% ethanol**

Angelucci, Rodrigo; Simoceli, Rosângela; Oliveira, Marivaldo de Castro; Rehder, José Ricardo

**PURPOSE:** To demonstrate a new surgical technique for treatment of the pterygium head using 50% ethanol. **METHODS:** The pterygium head is exposed by ethanol, diluted 50% with distilled water, during 40 seconds and then removed with a surgical knife. **RESULTS:** Pterygium head excision was rendered easier by ethanol application. After surgery, biomicroscopy showed a regular aspect of the corneal surface allowing a better vision quality. **CONCLUSION:** The excision of the pterygium head by using 50% ethanol can be used as a new surgical technique for exeresis of the pterygium head.

Keywords: Pterygium [surgery]; Ethanol [therapeutic use]; Keratectomy; photorefractive; excimer laser.

**Visual acuity and rod function in patients with retinitis pigmentosa**

Berezovsky, Adriana; Pereira, Josenilson Martins; Sacai, Paula Yuri; Fantini, Sérgio Costa; Salomão, Solange Rios

**PURPOSE:** To investigate visual acuity and rod function, and correlate them to different clinical parameters in patients with retinitis pigmentosa (RP). **METHODS:** A cohort of 199 patients with retinitis pigmentosa (110 males and 89 females), aged 6-79 years (mean = 36.8±17.5) had their monocular visual acuity measured by the ETDRS chart and rod function assessed by full-field electroretinogram and dark-adapted thresholds. The distribution of different genetic subtypes of retinitis pigmentosa was 20.3% autosomal dominant, 14.2% X-linked, 24.2% autosomal recessive and 41.3% isolated. History of consanguinity was found in 41 (20.6%) patients. Forty-one patients (20.6%) were 20 years old or less, 77 (38.6%) ranged from 21 - 40 years, 61 (30.7%) from 41 - 60 years, and 20 (10.1%) were 61 years or older. Peak-to-peak amplitude and b-wave implicit time were measured and statistically analyzed (one-way ANOVA). Pearson correlation was performed between rod amplitude and dark-adapted threshold and rod amplitude and visual acuity. **RESULTS:** Analyzing the visual acuity data according to genetic subtypes, without considering age, showed that as a group, patients with autosomal recessive and isolated retinitis pigmentosa have less severe impairment of visual acuity, than those with X-linked retinitis pigmentosa. Nyctalopia begun earlier in X-linked groups, compared with the remaining groups (p=0.011). A negative correlation was found between dark-adapted

threshold and scotopic rod amplitude (Pearson correlation coefficient = - 0.772 and  $P = 0.000$ ). There were no significant relationships between visual acuity and rod response by electroretinogram (Pearson correlation coefficient = 0.0815 and  $P = 0.286$ ),  $P > 0.050$ . **CONCLUSIONS:** In a cohort of retinitis pigmentosa patients, 31.2% had vision of 20/40 or better. Rod function loss was highly correlated when assessed electrophysiologically (ERG) and psychophysically (dark-adapted threshold). No correlation was found between rod response measured by electroretinogram and visual acuity.

Keywords: Visual acuity; Visual fields; Retinitis pigmentosa; Rods (Retina); Electroretinography; Dark adaptation; Electrophysiology.

#### **Monocular vertical displacement of the horizontal rectus muscles in esotropic patients with «A» pattern**

Dias, Ana Carolina Toledo; Goldchmit, Mauro; Dias, Carlos Ramos de Souza; Reis, Frederico Augusto Costa

**PURPOSE:** To report the effectiveness of the vertical monocular displacement of the horizontal rectus muscles, proposed by Goldstein, in esotropic patients with A pattern, without oblique muscle overaction. **METHODS:** A retrospective study was performed using the charts of 23 esotropic patients with A pattern  $> 10^{\Delta}$ , submitted to vertical monocular displacement of the horizontal rectus muscles. The patients were divided into 2 groups in agreement with the magnitude of the preoperative deviation, group 1 ( $11^{\Delta}$  to  $20^{\Delta}$ ) and group 2 ( $21^{\Delta}$  to  $30^{\Delta}$ ). Satisfactory results were considered when corrections  $A < 10^{\Delta}$  or  $V < 15^{\Delta}$  were obtained. **RESULTS:** The average of absolute correction was, in group 1,  $16.5^{\Delta}$  and, in group 2,  $16.6^{\Delta}$ . In group 1, 91.6% of the patients presented satisfactory surgical results and in group 2, 81.8% ( $p = 0.468$ ). **CONCLUSION:** The surgical procedure, proposed by Goldstein, is effective and there was no statistical difference between the magnitude of the preoperative anisotropia and the obtained correction.

Keywords: Strabismus; Esotropia [surgery]; Oculomotor muscles; Eye movements.

#### **Visual prognosis for lens extraction: heine retinometer and multiple pinhole**

Reis, Frederico Augusto Costa; Cohen, Ralph; Neufeld, Carlos Roberto; Dias, Ana Carolina Toledo; Pereira, Daniel de Souza

**PURPOSE:** To evaluate Heine retinometer and multiple pinhole accuracy in the prognosis of the visual acuity after lens extraction. **METHODS:** 65 eyes were examined with Heine retinometer and with multiple pinhole. After surgery the patients were submitted to refraction and the result were compared with the prediction by the instruments. Group 1 is formed of patients with visual acuity worse than 20/100 and group 2, better or equal to 20/100. **RESULTS:** The Heine retinometer obtained good results in 21% and 44% of patients in both groups (1 and 2) respectively. The multiple pinhole had good results in 26% and 52% of patients concerning both groups (1 and 2) respectively. **CONCLUSION:** The Heine retinometer has an accuracy similar to the multiple pinhole in the prognosis of visual acuity after lens extraction. The instruments should not be used to contraindicate lens extraction due to the large number of false negative results.

Keywords: Cataract; Cataract extraction; Visual acuity; Visual tests; Visual perception; Phacoemulsification.

#### **Monoscleral fixation of IOL after extracapsular extraction of subluxated lenses in patients with Marfan syndrome**

Ghanem, Vinícius Coral; Ghanem, Emir Amin; Ghanem, Ramon Coral; Arieta, Carlos Eduardo Leite

**PURPOSE:** To describe a technique of monoscleral fixation of the intraocular lens (IOL) after extracapsular extraction of subluxated lens in patients with Marfan syndrome. Design: Noncomparative, interventional case series. **METHODS:** A retrospective study was conducted on 14 eyes of 7 consecutive patients with subluxated lens associated with Marfan syndrome. Surgery was indicated when: 1) a lens border was observed in the pupil area with the pupil under normal lighting causing glare; or 2) the best corrected visual acuity was less than 20/70; or 3) the patient complained of monocular diplopia. Patients with a history of glaucoma, retinal detachment, trauma or other systemic diseases were excluded. **RESULTS:** The mean postoperative follow-up was  $15.43 \pm 9.33$  months (range, 6 to 30 months). The best spectacle-corrected visual acuity varied from 20/25 to 20/60, where 71.43% reached 20/30 or better. No case showed a worsening of visual acuity, nor were there any intraoperative or postoperative complications (intraocular lens decentration, pupular block, glaucoma or retinal detachment). The most frequent postoperative complication was astigmatism, observed in 3 eyes (21.43%) presenting values greater than 1.5 D. **CONCLUSIONS:** This technique showed very good surgical and visual results and few complications, providing a surgical option for cases of ectopia lentis associated with Marfan syndrome, especially in some countries or regions where phacoemulsification is not available.

Keywords: Marfan syndrome; Ectopia lentis; Cataract extraction; Ophthalmologic surgical procedures; Intraocular lens implantation.

#### **Comparative study of diagnostic tests for dry eye disease between healthy and juvenile rheumatoid arthritis children**

Paula, Jayter Silva de; Bonini-Filho, Marco Antônio; Schirmbeck, Tarciso; Ferriani, Virginia Paes Leme; Rodrigues, Maria de Lourdes Veronese; Romão, Erasmo

**PURPOSE:** To compare dry eye diagnostic findings in juvenile rheumatoid arthritis patients and normal children. **METHODS:** For this transversal study, 30 eyes of 15 patients with juvenile rheumatoid arthritis (group 1) and 22 eyes of 11 normal controls (group 2) were examined clinically and underwent tests for keratoconjunctivitis sicca: Schirmer's 1, tear film break-up time and rose bengal staining tests. **RESULTS:** Six children with juvenile rheumatoid arthritis presented one or more symptoms of keratoconjunctivitis sicca (40%) and five of them (83.3%) presented meibomitis or other signs of this disease. In group 2, no child presented symptoms or signs of keratoconjunctivitis sicca. Mean Schirmer test did not differ between group 1 and 2 ( $p=0.156$ ). However, the mean tear film break-up time was significantly reduced in group 1 ( $p=0.0005$ ) and the mean rose Bengal staining score in group 1 was significantly greater than in group 2 ( $p=0.0038$ ). Five of the fifteen children of group 1 (33%) have two or more abnormal tests and were diagnosed as having definite keratoconjunctivitis sicca, while four children (26%) were labeled with probable keratoconjunctivitis sicca. No child of group 2 had more than one positive test. **CONCLUSIONS:** Signs and symptoms of keratoconjunctivitis sicca appear to be a common ocular finding in juvenile rheumatoid arthritis children. Although only tear film break-up time and rose bengal staining score were significantly different in these groups, there was a trend toward worsening of the other dry eye tests in juvenile rheumatoid arthritis children.

Keywords: Arthritis; juvenile rheumatoid [diagnosis]; Keratoconjunctivitis sicca [diagnosis]; Diagnosis techniques; ophthalmological; Tears [analysis]; Rose bengal [diagnostic use]; Children; Comparative study.

### Socioeconomic aspects influencing the attendance at ophthalmologic examination of schoolchildren with visual impairment

Abud, Alfredo Borghetto; Ottaiano, José Augusto Alves

**PURPOSE:** To identify socioeconomic aspects influencing the attendance of schoolchildren, who showed visual impairment, at ophthalmologic examination. **METHODS:** 237 schoolchildren were referred to examinations. A survey questionnaire was applied to the parents or those responsible who accompanied the schoolchildren during the ophthalmologic appointment, of the National Campaign for Visual Rehabilitation «Eye to Eye» 2002 in Lins (SP) city. The following parameters were analyzed: educational level of the parents or those responsible, family income level, possession of a vehicle, the distance between their homes and the place of the examination and the association with a private medical health plan. The same questionnaire was applied afterwards, by means of a personal house visit, to the parents or those responsible for the absent schoolchildren.

**RESULTS:** 163 schoolchildren (68.8%) attended the ophthalmologic examination and answered the questionnaire; 74 students were absent (31.2%) and 72 of them answered the questionnaire later. Educational level, family income level, possession of a vehicle and the distance between their homes and the place of the examination did not show significant difference between the students. There was a significant difference ( $p = 0,017$ ) between the schoolchildren who have a private medical health plan and attended the examination (27.6%) and the absentees (44.4%). **CONCLUSIONS:** The fact that the student was protected by a private medical health plan was associated with the fact that he/she did not attend the examination.

Keywords: Health promotion; School health; Visual disorders [diagnosis]; Vision tests; Socioeconomic factors; Questionnaires.

### Laboratorial findings of *Streptococcus keratitis* and conjunctivitis

Solari, Helena Parente; Sousa, Luciene Barbosa de; Freitas, Denise de; Yu, Maria Cecília Zorat; Höfling-Lima, Ana Luisa

**PURPOSE:** To evaluate laboratorial findings of *Streptococcus keratitis* and conjunctivitis, analyzing the different species and the results of bacterial susceptibility to an antibiotics. **METHODS:** Retrospective study of the records from the External Disease Laboratory of the Ophthalmology Department of the Federal University of São Paulo, with conjunctival or corneal positive bacterial culture for *Streptococcus* sp, between January 1995 and December 2001. The collected data were age, *Streptococcus* species and the bacterial susceptibility to the following antibiotics: cephalotin, amikacin, gentamicin, tobramycin, ciprofloxacin, lomefloxacin, ofloxacin, norfloxacin and vancomycin. **RESULTS:** The most frequent species were *Streptococcus pneumoniae* and *Streptococcus viridans*. Regarding bacterial susceptibility to antibiotics we found a higher susceptibility to the following antibiotics: cephalotin, quinolones and vancomycin. **CONCLUSIONS:** Considering the commercially available topic antibiotics, the quinolones presented better results when compared to the aminoglycosides.

Keywords: Conjunctivitis, bacterial [microbiology]; Conjunctivitis, bacterial [drug therapy]; Keratitis [microbiology]; Keratitis [drug therapy]; Eye infections, bacterial [microbiology]; *Streptococcus pneumoniae* [isolation & purification]; *Viridans*, streptococci [isolation & purification]; Fluoroquinolones [therapeutic use]; Quinolones [therapeutic use]; Antibacterial agents [therapeutic use].

### Knowledge on glaucoma prevention and treatment of patients in a hospital unit

Silva, Marcelo Jordão Lopes da; Temporini, Edméa Rita; Neustein, Isaac; Araújo, Maria Emília Xavier Santos

**PURPOSE:** To verify information related to glaucoma and level of self-evaluation of knowledge about the disease, in order to help doctor-patient relationship and to stimulate the observance regarding treatment. **METHODS:** In the Provincial Public Hospital, São Paulo, Brazil, a cross-sectional survey was performed by applying a questionnaire. The variable «self-evaluation of the knowledge» was measured by an ordinal scale (to know well, to know more or less, to know badly and knowing nothing). **RESULTS:** The population was consisted of 405 patients with glaucoma; 72.6% female; mean age 66.17 years. Of those who «know well» about the control of the disease, 95.8% declared having received explanations ( $p < 0.000$ ); there was a larger proportion of patients who stated «know more or less» when compared to other groups ( $p < 0.000$ ); eye specialist as the source of information on glaucoma was mentioned by 50% of the patients. **CONCLUSION:** The patients' knowledge in regarding glaucoma was related to the level of received explanations. The level of knowledge about the disease was directly related to the educational level. This study confirms the need of maintenance of guide lines, continuous popularization of information on prevention, which would help to treat patients with this problem and improve visual prognosis.

Keywords: Glaucoma [therapy]; Glaucoma [prevention & control]; Patient education; Public health [education]; Blindness [prevention & control]; Hospitals, public.

### Prevalence of strabismus among students in Natal/RN - Brazil

Garcia, Carlos Alexandre de Amorim; Sousa, Araken Britto de; Mendonça, Marcelo Bezerra de Melo; Andrade, Luciana Luna de; Oréfice, Fernando

**PURPOSE:** To estimate the prevalence of strabismus in Natal, Brazil, among elementary and high school students of the public and private educational systems, in addition to detecting etiological factors. **METHODS:** 1024 students were randomly selected and submitted to a questionnaire and a complete ophthalmologic examination, by professors and resident physicians in Ophthalmology at the Federal University of Rio Grande do Norte. **RESULTS:** Of 1024 students, 1015 were examined; 29 were found to have strabismus (2.9%), 20 of whom had manifest exotropia (2%), 2 had intermittent exotropia (0.2%), 6 had esotropia (0.6%) and 1 had V anisotropies (0.1%). **CONCLUSIONS:** The strabismus prevalence of the student population of Natal falls within the range of the worldwide population. There was ocular lesion in only one student (retinochoroiditis scar on the posterior pole in both eyes) related to strabismus.

Keywords: Strabismus [epidemiology]; Strabismus [prevention & control]; Eye health; School health services; Students.

### Association of depressive aspects with visual impairment caused by cataract in the elderly

Ribeiro, João Eduardo Caixeta; Freitas, Michelle Márcia de; Araújo, Gilberto de Sousa; Rocha, Tiago Humberto Rodrigues

**PURPOSE:** To investigate the association of depressive symptoms with visual impairment caused by cataract in the elderly. **METHODS:** Twenty-three patients with cataract and visual acuity less than 20/200 were studied. Ages ranged from 60 to 93 years. Before the cataract operation and one month there after the patient's depression was tested using the Geriatric Depression Scale-GDS. **RESULTS:** The cataract surgery restored visual acuity to 20/50 or better in all patients. Before and after the surgery, 11 (47.82%) and 10 (43.47%) patients had scores indicative of depression, respectively ( $p = 1.0$ ; McNemar test). The average GDS score for all subjects before operation was 5.0 and after the cataract surgery it

was 4.0 ( $p=0.012$ ; paired Wilcoxon). After the operation the subjects' depression symptoms had significantly diminished, from 3 to 8 points before to 3 to 6 points after surgery. **CONCLUSION:** Depressive symptoms are prevalent and persistent among elderly patients however depression rates decrease with improved visual acuity.

**Keywords:** Cataract; Phacoemulsification; Depression; Depressive disorder [diagnosis]; Depressive disorder [etiology]; Geriatric assessment; Psychiatric status rating scales; Vision disorders; Activities of daily living; Aged.

#### **Subconjunctival injection of autogenous blood in the treatment of ocular alkali burn in rabbits**

Cypel, Marcela Colussi; Goulard, Denise Atique; Lima, Fabiana Amorim de; Lake, Jonathan Clive; Uesugui, Eliane; Nishiwaki-Dantas, Maria Cristina; Dantas, Paulo Elias Correa

**PURPOSE:** To determine the activity of subconjunctival injection of autogenous serum in the treatment of ocular alkali burn induced experimentally in rabbits. **METHODS:** Thirty eyes of 30 New Zeland albino rabbits were divided into two groups of 15 and submitted to ocular alkali burn. One group (treated group) received immediately after the alkali burn a subconjunctival injection of autogenous serum. The results were compared and recorded immediately after the alkali burn and on days 1, 3, 7, 15, and 30 by external ocular examination and manual portable slit lamp. **RESULTS:** The treated group presented a better reepithelialization of the cornea than the control group, in the beginning of the process, with a statistically significant difference; and a final result with less complications, in the study group. **CONCLUSION:** The results obtained in this experimental study suggest that the autogenous serum may have a primary effect on the process of scarring of the eyes after ocular alkali burn, decreasing late complications and improving the prognosis related to the stability of the inflammatory scarring process.

**Keywords:** Cornea [injuries]; Alkalies [adverse effects]; Eye burns [chemically induced]; Injections; Ophthalmic solutions [therapeutic use]; Wound healing; Microscopy; electron; Rabbits.

#### **Endonasal dacryocystorhinostomy with Nd: YAG laser and diodo laser**

Moura, Eurípedes da Mota; Volpini, Marcos; Ianase, Maurício

**PURPOSE:** To evaluate the technique of Dacryocystorhinostomy for the treatment of nasolacrimal duct obstruction, by transnasal endoscopic video-assisted approach with Nd:YAG laser and diode laser. **METHODS:** Fifty one surgeries dacryocystorhinostomy transnasal endoscopic video assisted were performed in 42 patients, 36 females, 6 males, aged between 3 and 92 years, mean age 52.3 years, in the period of April 1997 to February 2003. **RESULT:** The surgery successfully relieved lacrimal duct obstruction in 92.15% of the patients. **CONCLUSION:** The technique was efficient for the treatment of nasolacrimal obstruction. In all patients bicanalicular silicone stents were inserted at the time of surgery and removed after six to eight weeks. There is no difference in the results between Nd:YAG and diode laser. The postoperative period in all cases was comfortable and there was no hemorrhage. **Keywords:** Dacryocystorhinostomy; Lacrimal duct obstruction; Endoscopy; Laser coagulation; Lasers.

#### **Nanophthalmos: case report**

Moreno, Gerson López; Morales, Maira S.; Nunes, João Cláudio Rebelo; Lopes, Yara Cristina; Ribeiro Junior, Manoel J.

To report a case of nanophthalmos, its clinical characteristics and calculation of intraocular lens power. A case report of a patient

attended at the Ultrasonography Sector of the Federal University of São Paulo. The patient presented a reduced axial diameter in both eyes approximate (transpalpebral measure of 14 mm), shallow anterior chamber and narrow angle seen by gonioscopy and also detected on ultrasound biomicroscopy (UBM). The patient presented scleral thickening, optic disc drusen and angleclosure glaucoma in both eyes. Nanophthalmos and primary microphthalmia are rare and not always bilateral. The patients should be followed-up due to complications. The calculations of intraocular lens power is difficult because of the decreased axial diameter.

**Keywords:** Microphthalmos [diagnosis]; Eye [ultrasonography]; Glaucoma; angle-closure; Optic disc drusen; Biometry; Female; Adult; Case report.

#### **Conjunctival corneal intraepithelial neoplasia (CIN): report of an atypical case**

Santos, Luciene Alves da Silva; Barbosa, Renata Leal; Sousa, Luciene Barbosa de

The authors report a case of CIN with atypical presentation and epidemiology as well as its evolution with different modalities of treatment. A forty-one-year-old female was referred to the Department of Cornea and External Diseases complaining about low visual acuity in the right eye and was submitted to complete ophthalmologic examination. The patient presented with corneal epithelial opacities with pseudopodia-like extensions in both eyes. The hypothesis for the case was CCIN and the patient received 3 cycles of topical 0.02% mitomycin C drops 4 times daily for 14 days in the right eye and surgical excision associated with cryotherapy in the left eye. After detection of recurrence of the lesion in the right eye, this lesion was submitted to excision and cryotherapy, which was followed by recurrence. The patient underwent excision and cryotherapy in the right eye once more and there was no recurrence since then. The lesion in the left eye never recurred (3 years of follow-up).

**Keywords:** Conjunctival neoplasms [drug therapy]; Cornea [pathology]; Mitomycin C [therapeutic use]; Cryotherapy.

#### **Ocular penetrating wound caused by a wire attached to a political propaganda poster on the streets of the Federal District (BR): a case report**

Costa, João Luiz Pacini; Paiva, Valter Resende de; Baleeiro, Frederico Nobre; Barreto, Luciana Fernandes

**PURPOSE:** Report a case of ocular penetrating wound caused by a wire attached to a political propaganda poster on the streets of the DF (BR). **METHODS:** Case report of a teenager, male, 16-year-old. **RESULTS:** Visual acuity of 20/25 was obtained with a secondary intraocular lens implantation in the ciliary sulcus and a posterior surgical capsulotomy 90 days after the ocular perforation. **CONCLUSION:** We alert the readers about the severity and the risk that citizens are exposed to in this period of elections due to lack of safety inspection measures in the Federal District and the importance of stricter laws to prevent such accidents.

**Keywords:** Wounds; stab; Eye injuries; Propaganda; Adolescent; Male; Case report.

#### **Chronic dacryocystitis secondary to sarcoidosis: case report**

Sardinha, Mariluze; Nunes, Tânia; Santo, Ruth; Matayoshi, Suzana A case of chronic dacryocystitis secondary to sarcoidosis is described. Review of the clinical pathological findings and surgical technique used to treat the patient. Dacryocystorhinostomy with silicone intubation on the left side was performed. Biopsy specimens of lacrimal sac mucosa showed a histological findings compatible with

sarcoidosis, an uncommon diagnosis.

Keywords: Sarcoidosis [complications]; Dacryocystitis [etiology]; Lacrimal duct obstruction; Dacryocysthorinostomy; Case report.

**Giant conjunctival inclusion cyst associated with pterygium: case report**

Dias, Vanderson Glerian; Martins, Marcos Paulo; Bezzon, Ana Karina Teixeira; Aguni, Jonathan Seiji; Cavalheiro, Rodrigo

The giant conjunctival inclusion cyst (GCIC) can cause serious esthetic defects and incomplete eyelid closure. The authors present a 57-year-old patient with a giant conjunctival inclusion cyst in the right eye with an associated pterygium. The physiopathologic aspects of the inclusion cyst formation and the possible surgery techniques are discussed.

Keywords: Cysts [physiopathology]; Cysts [surgery]; Conjunctiva [pathology]; Pterygium [surgery]; Orbital diseases [surgery]; Case report.

**Paranasal mass: congenital dacryostenosis? Case report**

Shiratori, Claudia Akemi; Schellini, Silvana Artioli; Palhares, Aristides; Schellini, Ricardo de Campos; Yamashita, Seizo

Report of a child presenting a paranasal mass, and discussion of the importance of the differential diagnosis. **CASE REPORT:** ACS, 6 months old, female, presenting a non inflammatory nodulation on the left medial canthus; tearing and redness in the right eye since birth. On examination, there were bilateral lagophthalmos and corneal ulceration and opacity at the right side; on the left medial canthus there was a rounded lesion with a smooth surface, without inflammation, with an approximately 2-cm diameter. On palpation, the lesion was elevated, fibroelastic, non-mobile, painless, and irreducible. Tear or discharge reflux was absent on lacrimal pathway compression, Milder's test was negative on both sides. Dacryocystographic examination showed normal lacrimal drainage of the paranasal sinus system. Computadorized tomography

revealed a fronto-ethmoidal meningocele. **COMMENTS:** The authors emphasize the importance of the investigation of paranasal masses, in order to apply adequate therapy.

Keywords: Lacrimal duct obstruction [congenital]; Encephalocele [diagnosis]; Meningocele [diagnosis]; Ethmoid sinus [pathology]; Paranasal sinus [pathology]; Differential diagnosis; Child; Case report.

**Iontophoresis for ocular drug delivery**

Fialho, Sílvia Ligório; Cunha Júnior, Armando da Silva

The most traditional method of ocular drug delivery is through the use of eyedrops. However, by this method, the therapeutic concentration in deep ocular fluids and tissues can not be efficiently reached. Systemic administration presents poor access to the posterior segment of the eye due to ocular barriers. Subconjunctival and retrobulbar injections are not able to produce adequate levels of the drug, and intravitreal injection is an invasive and problematic procedure that may involve the risk of ocular perforation or retinal detachment. Thus, iontophoresis presents an alternative technique for the delivery of therapeutic drug doses to the posterior segment of the eye. Iontophoresis is a technique that consists of the administration of drugs to the body through tissues using an electric field involving a small potential difference. The active electrode, which is in contact with the drug, is placed at the site to be treated, and a second electrode, with the purpose to close the electric circuit, is placed at another site of the body. The electric field facilitates the transport of the drug that should be mainly ionized. Iontophoresis is considered to be a safe and noninvasive technique of drug delivery to specific sites of the eye. This technique, experimentally applied to the treatment of ocular diseases, has advanced in the last years and, at present, phase III clinical trials are in progress.

Keywords: Iontophoresis [methods]; Eye diseases [therapy]; Drug delivery systems; Eye [metabolism]; Technology; pharmaceutical.