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ABSTRACT BOOK

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Hypotony, Endophthalmitis, Epidemiology, Experimental studies

Title:

Evaluation of endophthalmitis management with vitrectomy and silicone oil tamponade following cataract surgery

Authors:

Hua Yan, MD, PhD

Institution:

Tianjin Medical University General Hospital

Aim:

To evaluate the effects of vitrectomy combined with silicone oil tamponade on the treatment of endophthalmitis after cataract surgery without intraocular lens removal, and analyze the relative factors.

Patients and methods:

Vitrectomy combined with silicone oil tamponade without intraocular lens removal were performed in 10 eyes of 10 patients with endophthalmitis after cataract surgery. All clinical data were collected and analyzed. Silicone oil was removed in 8 eyes 3 to 6 months postoperatively. Preoperative visual acuity ranged from non light perception to hand moving. The mean preoperative intraocular pressure was 36 mmHg with a range from 31 to 56 mmHg. Follow-up ranged from 6 to 43 months with a mean of 13 months.

Results:

The postoperative visual acuity ranged from non light perception to 0.8. The visual acuity increased in 9 eyes (90%), and was stable in 1 eye (10%). The mean postoperative intraocular pressure was 15 mmHg with a range from 9 to 20 mmHg, and was significantly lower than preoperative one ($P<0.05$). Postoperative complications mainly included fibrosis exudates in the anterior chamber at early stage after the surgery (10 eyes) and temporary intraocular pressure elevation (1 eye). There was no retinal detachment and ocular atrophy.

Conclusion:

Under the assistant treatment with systemic antibiotics, vitrectomy combined with silicone oil filling without IOL removal may be a reasonable method in treating postoperative endophthalmitis following cataract surgery. It can increase the uncorrected visual acuity, prevent from ocular atrophy caused by the serious damage of retina and ciliary body, and reduce the unnecessary medical dissension. But the long-term therapeutic effect needs to be evaluated.

Title:

Prof.

Name:

Hua Yan

Title:

Intraocular efficiency of fluoroquinolones delivery in eye injuries and in preoperative prophylaxis of intraocular infections

Authors:

E. Boiko, D. Fokina, V. Reituzov

Institution:

Military Medical Academy named after S.M. Kirov

Aim:

To evaluate the efficiency of ophthalmic drug delivery through ionic hydrogel contact lenses in comparison with eye drops at the stages of medical evacuation in local military conflicts and also in the hospital before elective surgery.

Patients and methods:

The efficiency of moxifloxacin and levofloxacin delivered via SCL was compared to eye drops in patients having cataract surgery. Investigations were conducted with 1-DAY ACUVUE® TruEye® hydrogel SCL, saturated with moxifloxacin solution 0.16 % (Avelox) and levofloxacin solution 0.5% (Tavanic), which was put on the cornea (Group 1). Another group of patients were given five times the dosage of these drugs (Group 2). These manipulations were made one hour before phacoemulsification in both groups. Aqueous samples (0.1 mL) were collected at the beginning of the surgery. The antibiotic concentration in aqueous aliquots was determined using spectrofluorimetry (Hitachi) and liquid chromatography (Agilent Technologies). The data was analyzed using the standard deviation. To determine ant! ibiotic concentration in aqueous humor, regression analysis was used.

Results:

The therapeutic concentrations of moxifloxacin and levofloxacin in the aqueous humor appeared after 30 and 45 minutes. Maximum antibiotic concentrations were achieved after 4 hours 18.0 ± 2.0 μg/mL and 9.0 ± 1.2 μg/mL (Group 1), followed by gradual decrease of them and they lasted no less than 10 hours and 8 hours respectively ($p<0.05$). The minimum inhibitory concentrations were only achieved by eye drops of the same fluoroquinolones (Group 2) and were 2.8 +0.4 μg/mL and 1.65 +0.2 μg/mL respectively ($p<0.05$). Moxifloxacin and levofloxacin delivered via SCL in 10 and 5 times respectively increased the relative bioavailability in comparison with the eye drops of these drugs.

The time indicators are also very important, during which therapeutic and minimum inhibitory concentrations are maintained in the aqueous humor. It should be noted that the maintenance of therapeutic concentration during 2-3 hours is enough in the case of planned surgery and then in military conflicts such prolonged periods of time are optimal, because they allow for the use preventive measures of intraocular infections at the stages of medical evacuation, without requiring of the lens replacement.

Conclusion:

The use of Ionic hydrogel soft contact lenses, saturated with moxifloxacin and levofloxacin, is an effective drug delivery method for the prevention of inflammatory complications at the stages of medical evacuation and in the performance of high-tech eye microsurgery in a hospital.

Title:

Mrs.

Name:

Diana Fokina

Title:

Endophthalmitis following penetrating injuries of the eye

Authors:

Nemec P., Ernest J., Rejmont L., Manethova K.

Institution:

Dept. of Ophthalmology of the 1st Faculty of Medicine and Military University Hospital Prague, Czech Republic

Aim:

Overview - Endophthalmitis following penetrating injuries of the eye

Patients and methods:

Retrospective study. October 2010 - December 2012 41 penetrating eye injuries (40 men, 1 women, average age 35,2 years /11-82 years/) From that number 9 cases with posttraumatic endophthalmitis (9 men, average age 40,2 years /11-64 years/)

Results:

1. Ultrasound monitoring is the best tool for diagnosis of the posttraumatic endophthalmitis.

2. In all nine cases of endophthalmitis minimally three risk factors were found.

3. Extraction of the foreign body during the primary treatment of high-risk cases (one or more risk factors) is advantageous from prognosis point of view.

4. Intravitreal application of antibiotics is fully indicated in high-risk cases of penetrating injuries of the eye. Developing endophthalmitis after penetrating injuries should be treated by urgent pars plana vitrectomy.

Conclusion:

Endophthalmitis following penetrating injuries of the eye is devastating uncommon pathological entity, which has in most cases very poor prognosis and causes severe destruction of the eye’s tissues. More than 60% of patients in our study have ended with the unusable visual acuity

Title:

Dr.

Name:

Pavel Nemec

Title:

Open globe injuries in east central Slovenia

Authors:

Katja Kuhta 1,Dušica Pahor 1,2 ,

Institution:

1Department of Ophthalmology, University Medical Centre Maribor, Maribor, Slovenia 2Faculty of Medicine, University of Maribor, Maribor, Slovenia

Aim:

To determine the population groups at risk in the east central Slovenia with a population of approximately 300.000 inhabitants.

Patients and methods:

In our retrospective study we reviewed medical records of all 216 patients (219 eyes) who had undergone surgical repair of an open globe injury at the Department of Ophthalmology, University Medical Centre Maribor, Slovenia, from January 1999 to January 2014, during a 15-year period.

Results:

The majority of patients were men (183 of 216, 84.7%).

Most injuries occurred at home (152 of 219, 69,4 %), followed by those at workplace (44 of 219, 20.1%).

The majority of the injuries were penetrating (170 of 219, 77.6%), followed by globe ruptures in one fifth of all the cases (49 of 219, 22.4%). An intraocular foreign body was present in 20.6% (49 of 219 cases).

The most common causes of injury in men were sharp objects (83 of 185, 44.8%), followed by blunt objects (38 of 185, 20.5%) and metal or stone hammering (29 of 185, 15.7%). In women the most common causes of injuries were falls (12 of 34, 35,3%) followed by blunt objects (10 of 34, 29,4%).

The majority of injuries (97 of 219, 44,3%) occurred in men aged between 30 and 50 years.

Conclusion:

According to our results, open globe injuries remain a significant cause of visual impairment. Young males at home are at most risk. Studying the causes of injuries for a determined region is of great importance in terms of directing preventable measures, like using eye protection and health education, in order to prevent severe visual loss. In conclusion, we believe that a national eye injury register for all eye injuries with a special prevention program should be introduced in our country in order to achieve the goal mentioned above.

Title:

Prof.

Name:

Dušica Pahor

Title:

Clinical features of ocular trauma in childhood in Split-Dalmatian county from 1998 to 2013.

Authors:

Kajo Bućan, Anita Matas, Darko Batistić, Vesna Čapkun, Ivna Pleština Borjan, Davor Galetović, Josipa Marin Lovrić

Institution:

Clinical Hospital Centre Split – Eye Department

Aim:

The aim of this study was a retrospective analysis of ocular trauma in hospital-treated children at Eye Department of Clinical Hospital Centre Split from 1998 to 2013.

Patients and methods:

The study included 353 acute hospital-treated children (18 years old and younger) in period of sixteen years: from 1998 to 2013. The injuries were classified according to Kuhn et al. as closed eye globe injuries and open eye globe injuries (penetration, perforation, rupture and foreign body injury).

Results:

Eye injuries were more often among boys (82%) than girls (18%). There was ten times more of cumulative incidence of eye trauma among boys than girls within the age group from 15 to 18 years ($\chi 2=41$; $p<0,001$).

There was 299 (85%) children with closed eye globe injuries and 54 (15%) children with open eye globe injuries. Median of children age with closed eye globe injury was for two years higher than that in the group of children with open eye globe injury ($Z=2,98$; $p=0,03$). Study didn't proved statistically significant difference between the ages of children with self-inflicted injury and children who were injured by other person ($Z=1,02$; $p=0,307$).

The most injuries happened in spring and summer. It happened to be 1,6 times more of eye injuries in spring and 1,8 times more of eye injuries in summer than in autumn ($\chi 2=13,6$; $p<0,0035$). Outside the home, school and kindergarten, 9 times more children were injured than in school and kindergarten and 4 times more than in home ($\chi 2=412$; $p<0,001$). Partial and complete blindness was registered at 2 children with closed eye globe injury and 8 children with open eye globe injury.

Conclusion:

The ratio of eye globe injuries between boys and girls was 4.55:1. Eye globe injuries in childhood were predominantly unilateral (99,8%). Study showed statistically significant difference of distribution of children with eye globe injury according to the age between children that have been injuried outside the home, school and kindergarten and children that have been injuried on another places. Open eye globe injuries with intraocular body were very rare(0,57%).

The number of severe ocular trauma in childhood can be prevented by increasing the awareness of the causes and aggravating circumstances that are associated with ocular trauma.

Title:

Prof.

Name:

Kajo Bućan

Title:

Ocular trauma in geriatric population

Authors:

Inês Casal, Sílvia Monteiro, João Queirós, Nuno Correia, Bernardete Pessoa, Natália Ferreira, Angelina Meireles

Institution:

Centro Hospitalar do Porto - Hospital de Santo António

Aim:

To describe the epidemiologic profile and clinical findings of ocular trauma in patients aged 65 or more and to compare them with those in the remaining population.

Patients and methods:

Patients with ocular trauma between April 2003 and February 2013 were retrospectively evaluated and assigned to one of two groups: group 1 (under age 65) and group 2 (65 or more years old). Demographic data, place of occurrence, mechanism and type of eye injury, Ocular Trauma Score, initial visual acuity, number and type of surgeries performed, final visual acuity and time of follow-up were analyzed.

Results:

463 patients were included. 354 patients were assigned to group 1 and 109 were assigned to group 2 (23%). The average follow-up period was 11.2 months.

The mean age in group 2 was 75.1 years, 39.4% being females, a significantly greater proportion than the one found in group 1 ($p<0.001$).

In group 2, 70.6% of the patients suffered trauma at home and there was a significant percentage of injuries from falls (35.8% vs 4% in group 1). The blunt trauma was the most frequent mechanism of injury in group 2 (41.3%) and the rupture of the eyeball was the most frequent type of lesion (58.7%) compared to the presence of an intraocular foreign body (26.4%) in group 1.

The Ocular Trauma Score was lower in group 2 ($p=0.007$), with 85.1% of cases with a score ≤3 and 26.8% of patients in the same group had a history of previous ocular surgery compared to 4.1% in group 1 ($p<0.001$).

There were no significant differences between the groups in what concerns the initial visual acuity ($p=0.588$) or the number of surgeries performed ($p=0.228$). 51% of the cases required two or more surgeries. The primary surgical procedure more often performed was the suture of the eyeball (73.7% of cases) followed by pars plana vitrectomy (27.2%).

There was an improvement in the visual acuity in the end of the follow-up compared to the initial visual acuity in both groups ($p <0.001$) although the results were worse in group 2 ($p=0.003$): 55,8% had a visual acuity ≤ 4/200 (vs 37,7% in group 1) and 29,1% had a visual acuity ≥ 20/40 (vs 44,9% in group 1).

Conclusion:

There are some particular features in ocular trauma in the elderly. Females are more frequently affected, the ocular lesion is more serious and have a worse visual prognosis. Most often the trauma occurs at home, being the falls the main cause and the rupture of the eyeball the most frequent lesion.

Title:

Dr.

Name:

Inês Casal

Title:

Establishment of ocular hypotony animal model due to retinal defect

Authors:

Hui Ren , Xun Yang, Shu Du

Institution:

Chengdu Aier Eye Hospital

Aim:

To establish ocular hypotony animal models due to retinal defect after vitrectomy combined with retinectomy

Patients and methods:

14 Belgium rabbits (28 eyes)were included. The right eyes of all the rabbits underwent vitrectomy, retinectomy, lensectomy, silicon oil tamponade under general anesthesia , and underwent silicone oil removal surgery after 4 months. The left eyes was left untreated as normal control eyes. The intraocular pressure(IOP:mmHg) of all the eyes was measured respectively before retinectomy ,on the 2 week ,1 month ,1.5 month, 2 month , 2.5 month, 3 month ,4 month and on 4.5 month ,5month ,6 month after retinectomy by Schiotz tonometry. Intraocular pressure of the two groups at each time point were expressed by x±s and analyzed statistically by t test

Results:

The IOP of the experimental eyes was rapidly decreased after retinectomy. The average IOP was between 8.41~11.82.And the IOP of the experimental eyes continued to reduce after silicone oil removal gradually, the average IOP was 5.36 until the endpoint of the study. The average IOP of the normal control eyes was always at the normal level (range: 20.21~24.40).The 95% reference range of the IOP of two groups pre-operation was 24.42±2.0 for the experimental eyes and 24.10±2.80 for the normal control eyes.The 95% reference range of the IOP of two groups after retinectomy was 12.28±8.29 for the experimental eyes and 23.67±2.58 for the normal control eyes on the 2 week, 10.11±6.48 for the experimental eyes and 20.71±2.67 for the normal control eyes on the 1 month,8.41±4.34 for the experime! ntal eyes and 22.99±1.89 for the normal control eyes on the 1.5 month,8.68±7.07 for the experimental eyes and 22.66±5.68 for the normal control eyes on the 2 month,13.03±4.50 for the experimental eyes and 21.44±2.51 for the normal control eyes on the 2.5 month,10.78±6.66 for the experimental eyes and 22.50±2.56 for the normal control eyes on the 3 month,11.22+6.75 for the experimental eyes and 20.54+4.61 for the normal control eyes on the 4 month ,9.22+5.37 for the experimental eyes and 21.12+2.05 for the normal control eyes on the 4.5 month, 7.69+4.76for the experimental eyes and 20.21+2.22 for the normal control eyes on the 5 month, 5.36+1.82 for the experimental eyes and 21.27+2.69 for the normal control eyes on the 6 month, respectively. There was no statistically significant difference between the experimental eyes and the normal contral eyes before retinectomy P 0. 01, but statistically significant difference was found between the experimental! eyes and the normal contral eyes eyes in all the time point a! fter the operation (P 0. 01)

Conclusion:

Vitrectomy combined with retinectomy and silicon oil tamponade is the effective and simple method to establish the ocular hypotony model due to retinal defect that could play an important role in the study of the prevention and treatment of hypotony caused by retinal defect

Title:

Mr.

Name:

Hui Ren

Title:

The effect of photocoagulation of retinal pigment epithelium on the intraocular pressure of hypotonic rabbit eyes due to retinal defect

Authors:

Xu Yang, Hui Ren, Shu Du, Xiaohui Tang, Chunyue Jia

Institution:

Chengdu Aier Eye Hospital

Aim:

to explore the effect of the photocoagulation of retinal pigment epithelium on the intraocular pressure of rabbits due to retinal defect after vitrectomy 、lensectomy、entire retinectomy combined with silicon oil tamponade

Patients and methods:

30 Belgium rabbits were included. The right eyes of all the rabbits underwent vitrectomy 、lensectomy、entire retinectomy and silicon oil tamponade under general anesthesia , 15 eyes underwent photocoagulation of retinal pigment epithelium intraoperatively (the experimental group)and the others didn't(the control group), and underwent silicone oil removal surgery after 4 months. The intraocular pressure(IOP) was measured preoperatively ,on the 2 week ,1 month , 2 month , 3 month ,4.5 month、5 month、6 month postoperatively by Schiotz tonometry.The IOP between preoperation and post-operation of each time point in each group and between two groups at each time point were analyzed statistically by t test

Results:

There was no statistically significant difference between the experimental group and the contral group preoperatively、on the 2 week postoperatively（ P ＞0. 01）,but statistically significant difference was found between the experimental group and the contral group on the 1 month , 2 month , 3 month postoperatively (P ＜0. 01),the average intraocular pressure of the experimental group was about 6 ~ 8 mmHg higher than the control group corresponding to time point after the operation before silicone oil removal surgery. There was statistically significant difference between the preoperative IOP and the post-operative IOP of each time point in the experimental or control group. Compared with the IOP before silicone oil removal surgery , the IOP of the two groups at each time point af! ter silicone oil removal surgery was all decreased ,but the IOP of the experimental group reduced more rapidly.

Conclusion:

Vitrectomy 、silicon oil tamponade combined with photocoagulation of retinal pigment epithelium can reduce the extent of the IOP decline effectively . The pathological section of rabbit's eyes under the light microscope and electron microscope indicated that retinal pigment epithelium and choroid atrophy and proliferation or membrane on the internal surface of choroidal membrane were observeded, it may maintain the IOP within certain range by preventing intraocular fluid from outflowing

Title:

Mr.

Name:

Xun yang

Title:

Experimental studies of traumatic lesions of the optic nerve

Authors:

Moyseyenko Nataliya, Lesikv Galyna, Liubow Kasiuk

Institution:

Ivano-Frankivsk national medical universety, chapter of neurosugery and ophthalmology

Aim:

The purpose was to improve the methodology of experimental studies of traumatic lesions of the optic nerve.

Patients and methods:

The simulation of traumatic lesions of the optic nerve was made on 7 rabbits weighing 3.5-4 kg. As controls, six rabbits. In the operating room vivarium carried out the operation .

Results:

The study found that clamping, stretching and twisting of the optic nerve for 5 minutes is sufficient for experimental injury to the optic nerve. One of the first manifestations of damage to the optic nerve has been a violation pupillary response on the affected side. In this case there was no direct reaction to light. Only at the end of the first month there was a slight recovery pupil mobility.

Similar features noticed Jiang Y. in 2007, which is also during operation poshkodzhuvav optic nerve canal surgical instruments. As a result occurred degeneration of nerve tissue, which was confirmed by light microscope . During the first day after the injury occurred swelling in the affected degenerative processes of the nerve fibers. After 4 weeks this thickening results in compression of the nerve fibers, causing functional disorders and deterioration of the electrical conductivity and sensitivity.

Conclusion:

Identified in the study, mydriasis and pupillary disorder response to light may be signs of deterioration of functional disorders and electrical sensitivity, due to the experimental optic nerve damage.

Title:

Dr.

Name:

Nataliya Moyseyenko

Title:

Consolidation of the corneal architectonics by tissue engineering construction based on a cultivated cartilage

Authors:

KanukovaT.A. Kiseleva E.V., Kapitonov Y.A., Gundorova R.A.

Institution:

Moscow Helmholtz Research Institute of Eye diseases Koltzov Institute of Developmental Biology, Russian Academy of Sciences.

Aim:

to evaluate biocompatibility of the cultured tissue engineering construction based on autologous cartilage in subtotal corneal transplantation in the experiment.

Patients and methods:

Cartilage samples were obtained from the middle portion of the inner surface of the ear cartilage under local anesthesia. Square of biopsy specimens was 3mm2. In the laboratory, the samples were required for mechanical and chemical processing followed by centrifugation. To create a tissue engineered structure, we took biological basis, consisting of type I collagen, derived from carcass cords of rat tail. We chose cell concentration 5-6 million ed/1m of collagen gel. On 15th day we obtained cartilage disc 7mm diameter. After that discs were implantated into the native (unburnt) cornea of 5 rabbits. 2 weeks postoperatively, all rabbits received instillation of 0.3% tobramycin solution, 1% tetracycline ointment. Clinical picture was recorded daily.

Results:

During the first 10 days we observed increasing of the conjunctival hyperemia, covering area of cartilage equivalent in all 5 cases. First three days hyperaemia, was based on the opening of small caliber collateral vessels of the flap. During the next 7 days we found conjunctival vascular ingrowth of larger caliber. On the 30– 35th day clinical significant tissue reaction to the transplant eyes of rabbits were not detected in all 5 cases. On the 55th day all indicators were the same, comparing to the 30-35th day. Clinical signs of infection, like a toxic damage to the surrounding tissue were not found. Histological examination of the area of transplant showed postoperative healing of transplant cells in 60 days in 3 cases. The immunhistochemical analysis confirmed the presence of live ! cells cartilaginous tissue in the transplant area.

Conclusion:

We optimized methods for isolating and culturing autologous chondrocytes to allow quick increasing requiring cellular mass for the creation of cartilaginous equivalent. We found histotypical similarity of the tissue engineered construction and cartilaginous tissue. In the model with nonpenetrating corneal defect we showed the possibility of using tissue equivalent with autologous cartilage cells to enhance corneal leukoma. We expect further studies to enlarge field of cartilaginous tissue and its equivalent application.

Title:

Mr.

Name:

Nikolay Ovechkin

IOFB, Macular hole, Proliferative vitreoretinopathy

Title:

Multifocal intraocular lens implantation in patient with traumatic cataract having intraocular foreign body in the single eye able to see

Authors:

SV Sosnovskiĭ, NN Haritonova, RD Berezin

Institution:

Military Medical Academy, St. Petersburg, Russia

Aim:

implantation of multifocal intraocular lenses (IOL) is one of the fast developing areas in refractive ophthalmosurgery. It allows patients to see more clearly during a variety of indoor and outdoor activities both at near and far distances. Preexistent eye pathology and the risk of pregnable IOL fixation reduce the chances of restoring the optimal visual acuity (VA). The choice in favor of multifocal intraocular correction must be made individually and carefully

Patients and methods:

we implanted the multifocal IOL AcrySof ReSTOR to 32 year old patient who had undergone severe mine-blast trauma 10 years prior to the procedure. The examination revealed that his right eye had VA of light perception due to posttraumatic absolute glaucoma, phthisis bulbi. His only seeing left eye had uncorrected visual acuity (UCVA) 0.3 and there was a traumatic cataract, intraocular transparent foreign body (glass) in the thickness of the lens, local corneal scar outside the optical center at 9 o'clock, pupil was distorted by several peripheral anterior synechia, damage to the retina was not revealed. Our patient preferred not to wear any glasses. The surgical procedure in addition to uncomplicated phacoemulsification with IOL implantation through a standard tunnel corneal access i! ncluded synechia extraction and foreign body removal with the help of forceps

Results:

The first postop day. Far UCVA 0.7; Near UCVA: 0.4. The third postop day. Far UCVA 0.9; Near UCVA: 0.6 and best corrected VA (BCVA): 0.8 with a spherical correction of +0.5D. In a month after. Far UCVA: 0.9. Near UCVA: 0.8. In a year after surgery. Far: UCVA: 0.9 and BCVA: 1.0 with a spherical correction of -1D. Near UCVA: 0.8. During all period of postoperative observation the IOL was central in the capsular bag

Conclusion:

the case-report reviews the opportunity to widen indications for multifocal IOL implantation in traumatic cataracts that could provide fuller functional rehabilitation in patients with ocular trauma

Title:

Dr.

Name:

Sergey Sosnovskii

Title:

Management of intra-ocular foreign body with deep choroidal involvement

Authors:

Zlatko Slezak MD, Ante Ercegovic MD

Institution:

department of ophthalmology general hospital varazdin, department of ophthalmology general hospital sibenik

Aim:

to compare the surgical outcome of patients with intra-ocular foreign bodies with deep choroidal involvement managed with and without retino-choroidectomy

Patients and methods:

Final outcome including the visual acuity and the status of the retina were compared in a series of patients which had intra-ocular foreign bodies and were managed in different way

Results:

In all patient which had intra-ocilar foreign with deep choroidal involvement where retino-choroidectomy was done there was no proliferative vitreo-retinopathy or retinal fold development

Conclusion:

Retino-choroidectomy is an extra manoeuvre during intra-ocular foreign body removal. This manoeuvre requires some skill, it is not very time consuming but may be of utmost importance in prevention of proliferative vitreo-retinopathy or retinal fold development which may compromise an otherwise successful surgery

Title:

Dr.

Name:

Zlatko Slezak

Title:

Deffered management of retained intraocular foreign bodies

Authors:

DR. GREGORIO GABELA

Institution:

HOSPITAL METROPOLITANO

Aim:

IOFB COULD BE REMOVED IN A DELAYED WAY WITH GOOD RESULTS

Patients and methods:

48 CONSECUTIVE RETAINED IOFB, TREATED IN TWO STEPS: 1) CLOUSURE OF THE WOUND AND INTRAOCULAR PROPHILACTIC ANTIBIOTICS 2) VITRECTOMY AND REMOVAL OF THE IOFB IN A DELAYED SECOND SURGERY

Results:

0% OF ENDOPHTALMITIS

GOOD RECOVERY OF VISUAL ACUITY IN 100% OF CASES, DEPENDING IN THE SITE OF IMPACT OF THE FOREIGN BODY

Conclusion:

THE APROACH OF RETAINED INTRAOCULAR FOREIGN BODIES WITH TWO STEPS SURGERIES, WITH A DELAY OF 4 TO 15 DAYS CAN OBTAIN GOOD VISUAL RESULTS, WITH 0% OF ENDOFTALMITIS.

Title:

Dr.

Name:

GREGORIO GABELA

Title:

Traumatic macular hole with central retinal detachment und choroidal rupture with ora serrata dialysis

Authors:

Fiorentzis M, Seitz B, Viestenz Arne

Institution:

Department of Ophthalmology, Saarland University Medical Center, Homburg/Saar, Germany

Aim:

A macular hole is a rare complication after contusion or rupture of the eyeball. The management is discussed controversially because of the chance of spontaneous hole closure.

Patients and methods:

A 26 years old male was injured by a hit with orbital and nasal fracture. Visual acuity (VA) was hand motion (HM) OD. A central choroidal rupture with subretinal bleeding and a macular hole stage IV was observed. The positioning of a drainage for the subretinal bleeding was possible preoperatively. Because of a large (diameter 3mm) central retinal detachment a pars plana vitrectomy with ILM-peeling was performed and a 180° ora serrata dialysis was treated with laser retinopexy.

Results:

ILM-peeling and subretinal drainage did lead to a significant improvement of visual acuity up to 20/120. The macular hole was closed.

Conclusion:

The vitrectomy with lavage of subretinal fluid and ILM-peeling may lead to restoration of visual acuity especially in cases of severe ocular trauma with choroidal rupture and macular hole formation.

Title:

Mr.

Name:

Miltiadis Fiorentzis

Title:

Vitrectomy and internal limiting membrane peeling in traumatic macular holes

Authors:

Sílvia Monteiro, Inês Casal, Natália Ferreira, Angelina Meireles

Institution:

Centro Hospitalar do Porto - Hospital de Santo António

Aim:

To report the anatomic and functional results of patients who underwent pars plana vitrectomy for traumatic full-thickness macular holes.

Patients and methods:

Five eyes of 5 patients with macular holes following blunt trauma who underwent pars plana vitrectomy, internal limiting membrane peeling and fluid-gas exchange at Centro Hospitalar do Porto.

Results:

All patients but one were male, with mean age of 14 years (range 9 to 23). Initial visual acuity was 20/200 or less. The surgery was performed early after the diagnosis of full-thickness macular hole (between two days and 6 weeks). All patients achieved postoperative hole closure with a single procedure. Best corrected visual acuity (BCVA) improved between 20/50 and 20/30 except in one case with severe pigmentary macular changes. No surgery-related complication was observed.

Conclusion:

Although spontaneous traumatic macular hole closure is described in the literature, especially in pediatric age, early pars plana vitrectomy associated to internal limiting membrane peeling seems to be a safe and effective choice of management.

Title:

Dr.

Name:

Sílvia Monteiro

Title:

PROLIFERATIVE VITREORETINOPATHY SEVERITY SCORING SYSTEM APPROACH

Authors:

SV Sosnovskiĭ, NN Haritonova, EV Boĭko

Institution:

Military Medical Academy, St. Petersburg, Russia

Aim:

Traumatic retinal detachment (RD) often follows up the open globe injuries with involvement of the posterior segment of an eye and determine poor functional prognosis if adequate timely surgical procedure is not performed. Reattachment surgery success depends vitreoretinopathy (PVR) severity. In this regard, development of the PVR severity scoring system would be beneficial for planning the most appropriate extent of reattachment surgery

Patients and methods:

Using Machemer's PVR severity classification (1991), qualitative PVR description was transferred to score by ranking grades and types according to their potential severity in points. Here the following criteria chosen based on clinical experience were relied on: diagnostic complexity, extent of surgery usually required, retinal and vitreal morphological changes, and other intraocular structures involvement. A 15-point scale (PVR severity index, or PVR SI) was proposed to access the severity of PVR. The initially assigned scores for grades/types A, B, C1 to C5 were 1, 2, 2, 3, 3, 4 and 5, respectively. The resultant severity score (PVR SI) for grades/types A, B, C1 was considered equal to the proper initially assigned score, while that for any of types 2 to 5, grade C, was calculat! ed by summing the proper assigned points only for the actually simultaneously occurring types. PVR activity was calculated as ratio of PVR SI to the time from the first signs of RD to the moment of examination.PVR SI and PVR activity were assessed in a retrospective analysis of medical records of 443 patients with RD and recurrent RD (RRD), predominantly of traumatic etiology. The influence of the following PVR-course-related factors on the index and activity value was analyzed: presence of RRD(s), number of RRDs, extent of damage to the eye wall and intraocular structures, open- or closed globe injury, presence of intraocular foreign bodies and inflammatory complications, and number of reattachment procedures. Student's two-independent-sample t-test was used to identify the differences in PVR SI values between the groups, p value <0.05 was considered statistically significant. Besides, Spearman rho correlation analysis was applied

Results:

In patients with and without recurrence, PVR SI value was 4.12±0.18 and 8.06±0.34, respectively ($p<0.001$), PVR activity value was 4,56±0,27 and 9,38±1,18 respectively ($p<0.001$) . In patients with one, two, three and four recurrences, PVR SI value was 7.92±0.64, 7.75±0.56, 10.4±0.97, and 11.0±1.21, respectively. There was a moderate positive correlation between PVR SI value and the presence of RD recurrences (rho=0.503, $p<0.001$), number of RD recurrences (rho=0.47, $p<0.001$), and number of performed reattachment procedures (rho=0.45, $p<0.001$). There was a moderate positive correlation between PVR activity value and the presence of RD recurrences (rho=0.63, $p<0.001$), number of RD recurrences (rho=0.51, $p<0.001$), and number of performed reattachment procedures (rh! o=0.48, $p<0.001$). No statistically significant correlation was observed between PVR SI value and the presence of damage to the eye wall (rho=0.14, $p<0.05$), damage to the lens (rho=0.15, $p<0.01$) and presence of inflammatory complications (rho=0.253, $p<0.001$) as well as between PVR activity value and the presence of damage to the eye wall (rho=0.11, $p<0.05$), damage to the lens (rho=0.07, $p>0.05$) and presence of inflammatory complications (rho=0.16, $p<0.05$)

Conclusion:

The study reviews the conceptual and statistical approach necessary to understand PVR severity scoring system and presents PVR severity index and PVR activity that, being informative on the recurrent retinal detachment presence and number, provide quantitative description of PVR severity. It would be expedient to conduct further studies in the use of PVR SI and PVR activity in clinical practice for planning the extent of reattachment surgery, particularly in case of posttraumatic PVR.

Title:

Prophylactic chorioretinectomy for the prevention of proliferative vitreoretinopathy in traumatic and non-traumatic patients.

Authors:

Agnieszka Kudasiewicz-Kardaszewska, Ferenc Kuhn

Institution:

Zagorski Eye Surgery Center Nałęczów, Rzeszów, Kraków, Poland

Aim:

Prophylactic chorioretinectomy is a surgical technique that creates a zone of bare sclera around the exit wound or an intraocular foreign body impact site, serving as a barrier to prevent the scar from engulfing the retina. This technigue was proposed as a proactive treatment in eyes with high-PVR risk injury but also as a treatment for late cases where PVR is already present. Aim: The aim of the talk is to present the principles of the technique and its long-term results both in injured eyes with retinal detachment (RD) in the course of PVR formation and in non- injured eyes with different pathologies.

Patients and methods:

Material and methods: We retrospectively reviewed 6 trauma cases (4 eyes after perforating eye injury and 2 ruptured eyes) where PVR developed after the intial surgery. We also present two cases of tractional RD in the course of diabetic retinopathy (due to PVR formation), one case of RD in the course of toxoplasmosis related retinal necrosis and one case of macular membrane growth emerging from CNV scar in juxtamacular region. All patients undewent 23G pars plana vitrectomy and chorioretinectomy, using the highest setting of the endodiathermy probe in order to destroy the source of PVR membrane formation.

Results:

Results: 2 years follow-up revealed no PVR formation, complete retinal attachment and useful central visual acuity both in traumatic and non-traumatic patients.

Conclusion:

Conclusion: Choriorectinectomy seems to be useful and effective technique against PVR formation in trauma related retinal detachment. The technique can also be used in non-traumatic eyes where the potential site of PVR formation is well-defined.

Title:

Dr.

Name:

Agnieszka Kudasiewicz-Kardaszewska

Title:

Chorioretinectomy as PVR prophylactic procedure in open globe injury

Authors:

Angelina Meireles, Sílvia Monteiro, Natália Ferreira,

Institution:

Centro Hospitalar do Porto - Hospital de Santo António, Porto, Portugal

Aim:

To evaluate the efficacy of early and proactive surgery, named prophylactic chorioretinectomy, in preventing or reducing the rate of PVR in perforating and IOFB injuries with impact deeper than the retina.

Patients and methods:

Retrospective chart analysis of 29 interventional cases submitted to vitrectomy and chorioretinectomy in the exit wound or around the impact site in the last six years with a minimum follow-up of 6 months. Demographic data, trauma mechanism, mechanical consequences, per and pos operative complications, rate of PVR, anatomical and functional success were analyzed.

Results:

All patients except one were male with mean age of 39 years (range7 to 59). Fourteen of the cases were perforating injuries and 15 had an IOFB. In 60% of the cases the injuries occurred at the working place. The entry wound had 5 mm or more in 41%, being the cornea its location in 28% of the cases. Anterior segment injuries, vitreous hemorrhage and retinal detachment were found in 70%, 70% and 38% respectively. Two cases of IOFB and another case of perforating injury had an endophthalmitis at presentation. The visual acuity after trauma in 83% of the cases was grade 3 or 4. An early vitrectomy (less than 100 hours) with total or partial chorioretinectomy was done in 86%. In three perforation cases who underwent an early vitrectomy there was reopening of the exit wound. The silicone oil was the ! tamponade agent in 89% of the eyes and it was still in at the final follow-up in 17% of the eyes. PVR was found in 3 cases of total chorioretinectomy and mild PVR was found in 5 of the 6 cases of partial chorioretinectomy. A final BCVA of grade 1 or 2 was present in 45% of the patients.

Conclusions: An early and proactive surgery seems to prevent or reduce the rate of PVR and consequently improve anatomic and visual outcome in severe open globe injuries.

Conclusion:

An early and proactive surgery seems to prevent or reduce the rate of PVR and consequently improve anatomic and visual outcome in severe open globe injuries.

Title:

Dr.

Name:

Angelina Meireles

Title:

Optical Laser Technologies in the Diagnosis of Rhegmatogenous and Traumatic Retinal Detachment: Possibilities and Perspectives of Digital Analysis

Authors:

E.V. Boiko, S.V. Churashov, A.V. Yan, A.A. Anisimov

Institution:

Military Medical Academy

Aim:

To provide a panel of criteria for objective assessment of, and to develop a technique of digital analysis of, vitreoretinal changes for use in the diagnosis of rhegmatogenous retinal detachment (RRD) based on integral information from combined confocal laser scanning ophthalmoscopy (SLO) and optical coherence tomography (OCT).

Patients and methods:

This study involved 40 patients (40 eyes) diagnosed with RRD, including 3 patients with retinal tear secondary to contusion. The patients were divided into Group 1 (Grade A), Group 2 (Grade B) and Group 3 (Grade C), of 7 eyes (17.5%), 12 eyes (30%) and 21 eyes (52.5%), respectively, based on PVR grades. A standard ophthalmic examination–including visual acuity measurement, perimetry, ophthalmoscopy with registration of fundus photographs, ultrasonography and determination of refractive parameters of the ocular optics (refractometry, keratometry, and intraocular lens calculation)–extended with SLO and OCT using the Nidek F-10 and Optovue RTVue-100(2), respectively, was employed.

Results:

Based on the information obtained with the proposed extended examination algorithm, and on further digital processing of this information, time-dependent and patient-dependent changes in the values of a number of physiological indices of intraocular structures were found.

A direct correlation was revealed between these indices and PVR grades (Student t-tests). Because the following indices were of the strongest correlation with PVR grades ($p \leq 0.05$), they were chosen as the criteria for objective assessment of vitreoretinal changes:

1) Decrease in vitreous mobility as assessed by changes in the speed and amplitude of travel of fixation point within the vitreous,

2) Reflectivity of the preretinal and subretinal space as assessed by the signal-to-noise ratio parameters,

3) Characteristics of morphometric analysis of retinal tears, and

4) Characteristics of 3D morphometric analysis of retinal folds.

Conclusion:

Use of SLO and OCT, and development of special software for digital analysis of the information from these procedures is a promising approach in the diagnosis of vitreoretinal pathology. The integral assessment based on the analysis of information from the proposed techniques enables to increase the diagnostic scope and optimize the choice of amount of surgery to be performed in order to improve the treatment prognosis.

Title:

Mr.

Name:

Aleksey Anisimov

Title:

Vitrectomy and chorioretinectomy in perforating eye injuries

Authors:

N. Ferreira, S Monteiro, A Meireles

Institution:

Centro Hospitalar do Porto – HSA

Aim:

to evaluate the anatomic and functional results of patients who underwent pars plana vitrectomy for perforating eye injuries and to analyze the benefit of chorioretinectomy procedure.

Patients and methods:

Retrospective and descriptive study of 24 eyes of 22 patients with perforating eye injuries operated on at Centro Hospitalar do Porto, between January 2006 and December 2012. The main outcome measures were: proliferative vitreoretinopathy (PVR) rate, anatomical success, globe survival and best correct visual acuity (BCVA).

Results:

All patients but one were male, with an average age of 44 years. At primary surgery, an evisceration was performed in one eye and extensive destruction of globe or traumatic optic neuropathy was observed in four eyes. An early vitrectomy was accomplished in 12 eyes (66,66%) and a delayed vitrectomy in 6 eyes (33,33%). A concomitant chorioretinectomy was carried out in 14 eyes (77,77%). A reopening of the exit wound occurred intra-operatively in 3 cases. PVR after one vitrectomy was 38,88% with final PVR rate of 11,11%. The anatomical success was 83,33% and the globe survival rate was 78,26%. At the final of follow-up, 14 eyes (77,77%) had BCVA equal or superior of 5/200. The eyes that underwent early vitrectomy 58,33% regained a visual acuity of 40/200 of better, versus 16,66% of the cases that ! underwent delayed vitrectomy.

Conclusion:

Early vitrectomy and prophylactic chorioretinectomy seems to be effective approaches to prevent PVR and to improve the visual outcome and the globe survival in perforating injuries.

Title:

Mrs.

Name:

Natália Ferreira

Injuries involving the anterior segment

Title:

Postcontusional ciliochorioidal detachment surgery as preparatory stage for traumatic cataract exstraction

Authors:

KURSKAYA T.E., MALAFEEV A.V., KRYLOV V. A..

Institution:

Krasnodar Branch FSBI « The Acad. S.N. Fyodorov IRTC «Eye Microsurgery» of Ministry of public health and social development of Russia, Krasnodar

Aim:

To analyse the results of postcontusional ciliochoroidal detachment surgery as preparatory stage for traumatic cataract extraction.

Patients and methods:

We made the retrospective analysis of surgical treatment of 5 patients with traumatic cataract complicated with ciliochoroidal detachment (CCD). Phacodonesis was diagnosticated at all patients during the examination on slit lamp; CCD was confirmed by ultrasound research results. Cyclodialysis was defined at gonioscopy from 45º till 180º. Frank hypotonia was observed at all patients, in 2 cases with visual «decrease» of fibrous covering of eye ball, sight falling. Surgical treatment divided into 2 stages with timeslot 2-3 weeks. On first stage ciliary body anchoring was carried out for all patients in plane of cyclodialysis, posterior sclerectomia with release of suprachorioid liquid and air tamponade of vitreous cavity to normal tonus. In all cases we reached full CCD adja! cency and partial choroid detachment (CD) adjacency in early postoperative period and full CCD adjacency in 2 weeks after surgery intraocular tension normalization. In one case in postoperative period 2 mm high hyphema was observed, which resolved itself during 5 days. We noted that significant decrease of phacodonesis after full CCD adjacency 2 patients had full disappearance whereanent was suggested 2-stage surgical treatment. On 2 stages was carried out surgical treatment of cataract by standard method of ultrasound phacoemulsification with IOL implantation. CCD backsets in far period were not found.

Results:

CCD decreased significantly after ciliary body anchoring and drainage of suprachorioid cavity. It was defined locally after the surgery (1.1 mm). In 3 months reattached completely. Intraocular tension stabilized to normal and composed 18 mm Hg, the pressure increased on 3.5 mm Hg on the average. Visual acuity increased in 14 times and composed 0.7.

Conclusion:

Ciliary body anchoring is an effective stage on the preparatory way of traumatized eye with CCD and traumatic cataract for next phacoemulsification. All patients were discharged with optic functions improvement was mentioned at all patients mend,eye ball subatrophy was prevented.

Title:

Ms.

Name:

Tatiana Kurskaya

Title:

The efficiency of an epibulbar vitamin drip as part of complex treatment of third degree chemical burn of the cornea and conjunctiva

Authors:

Kaminskyy, Yuriy; Kuzhda, Iryna; Kanaan, Abud; Meda, Roman; Meda, Oksana

Institution:

Ivano-Frankivsk Regional Clinical Hospital

Aim:

To shorten the hospitalization, improve the conservative alkali treatment of third degree chemical burns of the cornea and conjunctiva , and prevent complications (e.g. cataracts, symblepharon).

Patients and methods:

We treated 11 patients (18 eyes). In addition to the standard alkali treatment we administered a vitamin cocktail (glucose, Ascorbic acid, Vitamins B6, PP and in some cases heparin 5000) as an epibulbar vitamin drip.

Results:

As a result of the treatment, hospitalization was shortened by 20%; patients' vision improved from hundredths to tenths and even up to 1.0; none of the treated patients suffered from cataracts, symblepharon, and other complications characteristic of third degree burns.

Conclusion:

An epibulbar vitamin cocktail drip is a promising improvement to the standard alkali treatment for third degree chemical burns of the cornea and conjunctiva. The treatment showed several benefits: improved vision, prevention of complications and reduced hospitalization.

Title:

Dr.

Name:

Yuriy Kaminskyy

Title:

Secondary Implant of Scleral Fixation Intraocular Lens With Artificial Iris After Ocular Trauma – Review of Thirteen Cases

Authors:

Tânia Borges, Mariana Seca, Carolina Vale, Bernardete Pessoa, Natália Ferreira, Angelina Meireles

Institution:

Centro Hospitalar do Porto - Hospital de Santo António

Aim:

Report the anatomical and functional results and the safety of secondary implantation of scleral fixation intraocular lens (IOL) with artificial iris in patients with severe traumatic dysfunction of the iris.

Patients and methods:

Review of thirteen cases (12 men and 1 woman, mean age 51 years) of ocular trauma with consequent traumatic aniridia or fixed mydriasis. Patients were submitted to pars plana vitrectomy (PPV) and secondary implantation of scleral fixation IOL with artificial iris (Ophtec model 311). Demographic data and relevant information regarding the ocular injury were collected from the local database. It was performed a complete ophthalmologic examination, the subjective degree of disability caused by glare and photophobia was registered, and postoperative complications were evaluated. The mean follow-up was 29 months.

Results:

Eleven patients presented with globe rupture and two with ocular contusion. Nine patients had traumatic aniridia and four had fixed dilated pupil. Five presented with cataract, five with subluxation/luxation of the lens and three lost the lens during the trauma. Post trauma best-corrected visual acuity (BCVA) ranged between light perception and counting fingers. At the end of follow-up period, BCVA was between counting fingers and 20/25. The subjective perception of glare and photophobia improved in all patients who had experienced these symptoms. One case of retinal detachment and four cases of increased intraocular pressure were observed as postoperative complications.

Conclusion:

Ocular trauma, in particularly globe rupture, is usually associated with bad prognosis. Nonetheless, in cases where retina is attached, PPV combined with secondary implantation of an artificial iris IOL for iridian dysfunction repair seems to offer good anatomical and functional results.

Title:

Dr.

Name:

Tânia Borges

Title:

New model of coloured diaphragm intraocular lens (CDIOL) in the treatment of post-traumatic aniridia.

Authors:

E.V. Chentsova ,V.P. Bykov, D. Casanave

Institution:

Moscow Helmholtz Research Institute of Eye Diseases

Aim:

To evaluate the clinical results of optical - reconstructive surgery with the implantation of our new developed model of CDIOL in patients with post-traumatic aniridia.

Patients and methods:

Seven patients from 17 to 57 y.o. with post-traumatic aniridia underwent implantation of the new CDIOL with our special surgical technique that includes a new method for its fixation.

Results:

Good cosmetic results, disappearance of photophobia, and mean v.a. 0,3 was reached. In patients with secondary glaucoma and scleral fixation of CDIOL normalization of the IOP was achieved up to 18-22 mm Hg throughout the observation period (14 months). In patients with intracapsular implantation of CDIOL IOP was from 14 to 19 mm Hg without the use of hypotensive medication during the same period of time.

Conclusion:

The implantation of our new model of CDIOL used in the reconstruction of the anterior chamber with large defects of the iris or complete aniridia, showed not only good cosmetic result, but also high clinical efficacy. The design of our modified CDIOL provides the formation of an "active" pupillary zone, due to the gap between the optical part and artificial iris. This, as well as the new method of its fixation using special elements of support contribute to the normalization of the outflow of aqueous humor, reducing the risk of ectopy of CDIOL, decreases the formation of gonio synechiae and prevents the development of posttraumatic secondary glaucoma.

Title:

Prof.

Name:

Ekaterina Chentsova

Title:

Primary surgical repar (PSR) of penetrating corneal injury. Our experience with full-thickness sutures.

Authors:

Bobrova N.F., Shevchyk V.I.

Institution:

Filatov Institute of Eye Diseases, Odessa, Ukraine

Aim:

Assess the advantages and disadvantages of PSR of cornea with sutures with different depth (full - and partial-thickness).

Patients and methods:

To assess the safety of full-thickness corneal sutures in experimental study on 15 rabbits with standard penetrating trauma and application full-thickness suture on 3, 7 and 30 day light and electron microscopy of forming corneal scar was performed. Clinical studies - 98 patients with penetrating wounds of the cornea, in 54 we used full-thickness corneal sutures and in 44 - partial ones. Length of the wound was 9, 70±0, 7 cm and 8, 42±0, 7 cm respectively. In our study we assessed the transparency of the cornea and the ability to perform additional required surgery.

Results:

Usage full-thickness corneal sutures, guarantee reposition of all corneal layers including Descemet's membrane, confirmed by light microscopy from the 3rd to 30th day. Additionally, full-thickness corneal sutures according to transmission electron microscopy lead to restoring barrier function of endothelial cells.

Clinically no leakage of aqueous humour along the full-thickness suture was observed. Also significant increase of corneal transparency from the second day after trauma in 74, 3% patients was noted (in partial thickness suture - only in 22, 7%). Due to sufficient transparency of the cornea and strength of wound edges connection by full-thickness sutures - we performed phacoemulsification of traumatic cataract in all patients that require this surgery (11 people) at 3 days after trauma and with simultaneous implantation of IOL. Also, vitrectomy in 2 patients with total hemophthalmus at 7 days after trauma was performed.

In cases with partial thickness corneal sutures significant corneal edema and insufficient connection of wounds edges were not allowed to perform us complete phacoemulsification or vitrectomy.

Conclusion:

Full-thickness corneal sutures in primary surgical repair fully restore architectonics in all layers of traumatized cornea, especially endothelial cells, and block the penetration of aqueous humour from the anterior chamber into the corneal stroma.

Rapid recovery of corneal transparency and a strong connection of wound edges allow schedule to additional surgery (phacoemulsification and vitrectomy) whenever you need them.

Name:

Vasyl Shevchyk

Title:

Application of biodegradable material «Glautex» in secondary glaucoma after a severe concussion of the eyeball.

Authors:

Stepanov A.V., Tedeeva N.R.

Institution:

Moscow Helmholtz Research Institute of Eye diseases

Aim:

The aim of this work is to explore the possibilities of a new biodegradable drainage «Glautex» in the treatment of secondary glaucoma in eyes due to a severe concussion of the eyeball.

Patients and methods:

We examined 12 patients with severe contusion injury of the anterior segment of the eye, received 1-8 years ago. The duration of glaucoma from 6 months up to 5 years. In all cases, according to clinical history, patients received from 2 to 6 different surgical procedures. According to the results of a comprehensive study involving Ultrasonic Biomicroscopy and OCT, the most optimal quadrant for implantation of drainage «Glautex» was been selected. All patients used a new technique of surgery using biodegradable drainage. It was as follows: under local anaesthesia superficial scleral flap was done. Performed sinustrabeculectomy followed by cyclodialysis, towards the limbus in the area of the scleral flap. The next step was performing of the penetrating U-shaped flap reverse profil! e in the deep layers of the sclera. Drainage Glautex implanted in deep flap which made as coupling. Deep scleral flap was placed back on and two interrupted sutures were applied. Superficial scleral flap also fixed by interrupted sutures.

Results:

No intraoperative complications. In the postoperative period to prevent iridocyclitis due to ciliary body contact with biodegradable material, patients received intensive anti-inflammatory and antihypertensive therapy within 14-30 days locally. IOP in the first 2-3 days was within 10-14 mmHg, subsequently increased until 20-25 mmHg. Therefore, all patients received carbonic anhydrase inhibitors and beta - blockers in instillation. In the long-term period up to 1 year in all cases marked stable hypotensive effect, mean IOP 17 mmHg ± 4,3

Conclusion:

Thus, the results indicated the prospects of application of biodegradable drainage «Glautex», in secondary glaucoma after a severe contusion of the eyeball.

Title:

Dr.

Name:

Nino Tedeeva

Title:

Correction of post-traumatic aphakia with retropupilary fixated iris-claw lens

Authors:

Xhevat Lumi1, Helena Skačej Friedrich2

Institution:

1Eye Hospital, University Medical Centre Ljubljana, Ljubljana, Slovenia 2Public Health Service Maribor, Maribor, Slovenia

Aim:

To report the functional and anatomic outcomes of eyes undergoing Verisyse lens implantation for aphakia correction in post-traumatic vitrectomized eyes.

Patients and methods:

This retrospective analysis included 14 eyes of 14 patients who underwent a retropupilary iris-claw (Verisyse) lens implantation between January 2010 and December 2013 at the Eye Hospital, University Medical Centre Ljubljana, Slovenia. Collected data included demographics, etiology of aphakia, previous surgeries, intraocular pressure, lens position, best corrected visual acuity, development of macular edema, and other complications.

Results:

After complete ophthalmologic examination, IOL implantation was performed. In 4 (four) patients pupiloplasty was performed at the end of the procedure for traumatic mydriasis repair. No intraoperative complications occurred in any of our cases. The follow-up ranged from 6 to 48 months. In 13 patients the visual acuity improved. Visual acuity remained unchanged in one patient. During the follow-up period in one eye the lens subluxated because of repeated blunt trauma and in one eye retinal detachment occurred as a consequence of posttraumatic PVR. Repeated surgery was successful in both cases.

Conclusion:

Retropupillary iris-claw IOL implantation is an effective and safe procedure to correct aphakia in eyes without capsular support after trauma.

Title:

Dr.

Name:

Xhevat Lumi

Title:

Amniotic membrane transplantation in the intensive therapy of burned eyes.

Authors:

Makarov P.V., Chentsova E.V., Gundorova R.A., Kataev M.G, Kugusheva A.E.

Institution:

Moscow Helmholtz Research Institute of eye diseases, Russia.

Aim:

to study the efficacy of amniotic membrane transplantation (AMT) in the complex treatment of severe eye burn injuries.

Patients and methods:

six patients with criminal severe chemical burn trauma of both eyes have been observed. Three of them were hospitalized in the first day after burn. The other three were transferred from different hospitals 1-2 months after injury. In the complex therapy AM was transplanted on both eyes of all six patients. The operation was carried out after primary surgical treatment (necrectomy, autotenonoplasty, autoconjunctival plastic) if necessary, membrane was fixed by circular suture 10,0 to limbal conjunctiva, the operation was finished by temporary tarsoraphy. After 3-5 days amniotic membrane was removed to observe corneal epithalization and viability of injured conjunctiva. Repeated AMT (up to 5 times, depending on the efficacy) were performed in cases of conjunctiva necrosis.

Results:

in 2 patients with acute eye burn trauma complete corneal epithelization occurred within 2 months, one of them got visual acuity OD = 0.5 and OS = 0.7. The third patient with clinical signs of conjunctival and episcleral necrosis after repeated AMT underwent surgical necrectomy and long-term tarsoraphy (atrophy one of the eyeball in the future). Late AMT in other 3 patients with persistent erosions was also effective: in one of them complete epithelization occurred after three AMT.

Conclusion:

repeated AMT in the cases of severe eye burn trauma reduces the size of conjunctival necrosis and corneal erosions thanks to amnionic membrane features: revitalization and stimulation of regeneration by the presence of stem cells . A surgical necrectomy can be delayed for 1-2 weeks due to decreasing zone of necrosis after AMT.

Title:

Mr.

Name:

Pavel Makarov

Title:

MICS for mature cataract after sclerocorneal graft in corneal burn

Authors:

Arne Viestenz*, Berthold Seitz*

Institution:

Department of Ophthalmology, University of Saarland, UKS, Homburg/Saar

Aim:

A corneal burn grade IV belongs to severe eye injuries. After many complication may occur. We demonstrate the complication management after sclerocorneal graft with sequential host keratectomy.

Patients and methods:

A 46-yo man was treated with amniotic membrane transplantation because of an acid and alkali corneal burn, which did cure the left eye. The right eye developed a perforating corneal ulcer due to complete collagenolysis (6 x 2 mm corneal defect) with tamponade of lens and iris (VA HM). The limbus was destroyed completely.

Results:

A 16 mm sclerocorneoplasty with synechiolysis and peripheral iridectomy and conjunctivoplasty was performed. The recipient central corneal tissue was not removed primarily to prevent the anterior chamber angle. After one week, the collagenolytic central recipient cornea was removed via 23 g-paracenteses with the vitrectome respecting the lens and sclera spur to prevent the angle. The corneoscleral graft remained clear under systemic and local immunosuppression (VA OD 20/40 after 3 months, IOP 16 mmHg). After 1.5 years, a mature cataract (VA HM) was treated using MICS with iris extension ring and implantation of acrylic IOL, the recurrent corneal erosion was avoided with a contact lens. The final VA was 20/30.

Conclusion:

After a sclerocorneal plasty – the mature cataract may be treated with MICS phako chop to protect the corneal stem cells and the sensitive new collagen architecture.

Title:

Dr.

Name:

Arne Viestenz

Title:

Subconjunctival and intracorneal bevacizumab supported by laser photocoagulation for corneal neovascularization secondary to corneal trauma

Authors:

Tea Čaljkušić Mance, Damir Kovačević, Zvjezdana Alpeza Dunato, Petra Ćoza, Andrea Lukanović Kegalj, Maja Novak Stroligo

Institution:

Department of Ophtalmology, University Hospital Centre Rijeka

Aim:

To report on the safety and clinical use of combined subconjunctival et intracorneal bevacizumab supported by laser photocoagulation for treatment of corneal neovascularization secondary to corneal trauma.

Patients and methods:

A case interventional study enrolled 12 patients (12 eyes) with corneal neovascularization secondary to trauma. We gave monthly combined subconjunctival and intracorneal injections of 2.5 mg bevacizumab (1.25 mg/ 0.05 mL subconjunctival and 1.25 mg/ 0.05 mL intracorneal) from 4-6 times during follow up period of 6 months and according to clinical response supported injections with laser photocoagulation . Morphological changes were assesed clinicaly by one investigator. We evaluated the centricity, extent and percentage of involved corneal surface (PICS) of the corneal neovascularization and BCVA before and after treatment. We analyzed the treatment effects using Wilcoxon and student t-test.

Results:

After the treatment the change in BCVA was less than 3 lines.

The extent, centricity and PICS of the corneal neovascularization decreased significantly after the treatment ($p<0.05$; $p= 0.02$, $p= 0.04$, $p<0.01$). There were no adverse ocular or systemic events except a small intracorneal hemorrhage noted in two patients, which quickly and spontanously cleared.

Conclusion:

Combined subconjunctival and intracorneal bevacizumab supported by laser photocoagulation is a well tolerated and effective method for obliterating corneal neovascularization secondary to corneal trauma. Combined treatment is more succesfull than only bevacizumab injections or only laser photocoagulation. We need further evaluation for investigate final result of treatment.

Title:

Dr.

Name:

Tea Čaljkušić Mance

Title:

Combined procedure anterior segment surgery and pars plana vitrectomy in reconstruction of the traumatized eye

Authors:

Faruk Nišić

Institution:

Eye Clinic Sarajevo, University Clinical Center Sarajevo

Aim:

Subject of presentation are segments of surgery techniques performed in the department of traumatology:Anterior segment surgery and Pars Plana Vitrectomy in traumatized eye.To show socioepidemiological profile of eye injuries during April 2012-April 2013 at the Clinical Centre Sarajevo, Eye Clinic.

Patients and methods:

Retrospective-descriptive analysis of daily and night shifts admitted patients with light and severe eye injuries following questionnaires created from and modified from USEIR. . Video presentation show procedures of choise in primary and reconctructive surgeries at traumatized eye.

Results:

Total number of all eye injuries was 1664. Severe hospitalised eye injuries were 50. Light injuries during the night shifts were 1242.

Postoperative results in performed cases were improved with satisfied reconstruction of eye globe and usefull rest VA without any significant complications at posterior segment.

Conclusion:

In traumatology of the eye, surgeon in most cases needs to perform same procedure anterior and posterior segment surgery

Any Injured eye needs specific approach.

Our first task is urgent menagement of the injuried eye and soon as possible reconstruction of it.

Title:

Dr.

Name:

Faruk Nišić

Title:

Surgical management of combined anterior/posterior segment trauma

Authors:

B.Šarić, D. Bosnar, V. Brzović Šarić, J.Predović

Institution:

School of Medicine Osijek, University of J.J. Strossmayer Osijek University Eye Clinic, University Hospital “SV. DUH”- ZAGREB

Aim:

Show how complex surgery can get a good anatomical and functional recovery of traumatized eye

Patients and methods:

Presentation of two surgical cases with complete reconstruction of the anterior and posterior segment of the eye. Used surgical technique was pars plana vitrectomy (23 G trocar) for the treatment of posterior segment reconstruction, and also adequate procedures for surgical reconstruction of the anterior segment.

Results:

The complex surgical procedure enabled a very sufficient eye globe reconstruction and also a certain recovery of visual function.

The first case demonstrates the possibility of simultaneous surgical reconstruction of traumatic aniridia and total retinal detachment with dialysis of 360 degrees and in second case we present the reconstruction of damaged cornea with keratoprostheses along with simultaneous surgery for traumatic retinal detachment

Conclusion:

Difficult and time-consuming surgery, but still justified, because of the real ability to achieve considerable anatomical reconstruction and certain recovery of visual function.

Title:

Dr.

Name:

Borna Šarić

Title:

Visual and anatomic outcomes of vitrectomy with permanent keratoprosthesis or with Moscow Eye Microsurgery Complex keratoprosthesis in eyes with retinal detachment after ocular burn.

Authors:

Leparskaya N/L., Makarov P.V., Chentsova E.V.

Institution:

Moscow Helmholtz Research Institute of Eye Diseases. Russia.

Aim:

To present outcomes of combined pars plana vitrectomy with permanent keratoprosthesis and gas injection and vitrectomy with silicone oil (SO) injection with Moscow Eye Microsurgery Complex keratoprosthesis procedures in eyes with retinal detachment after ocular burn.

Patients and methods:

To present outcomes of combined pars plana vitrectomy with permanent keratoprosthesis and gas injection and vitrectomy with silicone oil (SO) injection with Moscow Eye Microsurgery Complex keratoprosthesis procedures in eyes with retinal detachment after ocular burn.

Results:

We followed patients for a period of 6-8 months. The procedures resulted in increased visual function in two patients with vitrectomy and gas C2F6 injection combined with corneal transplantation to 0.05. Examination revealed clear cornea graft and attached retina. The procedures resulted in the same function in two patients with vitrectomy and long-term SO tamponade with Moscow Eye Microsurgery Complex keratoprosthesis because retroprosthesis membrane formation, active PVR with new vascularization.

Conclusion:

Permanent keratoprosthesis as the primary corneal procedure with pars plana vitrectomy with gas tamponade may be a viable option in eyes with retinal detachment after ocular burn. The outcome was poor in eyes with retinal detachment, PVR and new vascularization with Moscow Eye Microsurgery Complex keratoprosthesis after ocular burn.

Title:

Ms.

Name:

Natalia Leparskaya

Title:

Combined penetrating keratoplasty and pars plana vitrectomy with the use of keratoprosthesis for severe ocular trauma

Authors:

Stunf Spela, Pfeifer Vladimir, Globočnik Petrovič Mojca

Institution:

University Eye Hospital, University Clinical Center Ljubljana, Grablovičeva 46, Ljubljana

Aim:

Combined procedure - pars plana vitrectomy with temporary keratoprosthesis and penetrating keratoplasty can be used for severe ocular trauma of the anterior and posterior segment of the eye and is performed since 2002 at the University eye hospital Ljubljana. We evaluated the clinical outcome of such eyes and addressed the factors influencing the prognosis.

Patients and methods:

A retrospective study was performed to review the mechanisms of the injuries, the indications for and the timing of the combined surgery, and above all course of visual acuity, IOP, graft clarity, retinal status, and complications in 7 patients who underwent the above procedure during one operating sitting at our institution since 2002.

Results:

All seven patients included in this retrospective study were male patients aged 20 – 61 years. The mechanisms of injury were explosion, assault or injury with an object. There were 6 open globe injuries, of them one with IOFB, and one contusion with partial thickness corneal laceration and posttraumatic fungal keratitis and endophthalmitis. Retinal detachment occurred in 5 patients. Preoperative visual acuity was light perception in 6 of 7 patients; in one patient it could not be assessed due to sedation. The combined procedure was performed within two days of the injury of the posterior segment in two patients, 10–15 days later in three of them, and was delayed for more than one month in 2 patients. The length of the follow up was between 1 and 6 years. The visual outcome at the final follo! w-up was excellent (BCVA 0.9–1.0) in 2 patients, satisfactory (BCVA 0.1) in one, did not improve above LP in 3 patients; one painful blind eye was secondarily enucleated. Complications included corneal graft failure, retinal detachment with proliferative vitreoretinopathy, secondary glaucoma and phthysis.

Conclusion:

The combined procedure resulted in improvement of visual acuity compared to the preoperative status in 3 of 7 eyes (42.3%) and an excellent visual outcome was achieved in 2 of 7 (28%) eyes. Patients with very good outcome were operated within 2 days after occurrence of pathological changes at the posterior segment of the eye. The combined vitrectomy and keratoplsty is a useful procedure in eyes that would not have been treatable otherwise. Proper timing of vitrectomy is very important in functional and anatomic prognosis after severe eye injury or related endophthalmitis. Early vitrectomy can lower the probability of proliferative vitreoretinopathy and retinal detachment, which are frequent in severe trauma and associated with poor anatomic and visual prognosis. It is necessary to have urgent! corneal tissue access to perform the procedure in time.

Title:

Dr.

Name:

Spela Stunf

Open globe, Management strategy, Surgical technique

Title:

Open globe injuries caused by metal wire: surgical tactics and results of treatment

Authors:

Boyko E.V., Churashov S.V., Sosnovskij S.V., Kulikov A.N.

Institution:

Military Medical Academy

Aim:

analysis of treatment of open globe injuries caused by metal wire, classified as lacerating

Patients and methods:

Results of surgical treatment of 8 cases of open globe injuries depending on their location and depth of penetration have been analyzed.

Results:

There are the following options of a wire localization in the eye that require completely different surgical approaches:

Option 1 : open eye injury with the presence of intraocular foreign body (wire) in the anterior chamber, placed in the corneal wound, periocular part - large, intraocular (in the anterior chamber) - smaller. No intraocular damaged structures (iris, lens). Due to the risk of additional damage of intraocular membranes by the inner end of the fragment while blinking (so called 'lever mechanism'), preoperative examination can be minimized. Tactics: emergency surgery, a foreign body being removed with pincers, primary surgical treatment of the corneal wound.

Option 2 : open eye injury with the presence of intraocular foreign body (wire), placed in the corneal wound, traumatic cataract, lens destruction. Periocular part — small, intraocular - bigger. Tactics: emergency surgery, traumatic cataract removal by aspiration - irrigation, restoring transparency of optical media, three-port vitrectomy 25G. No contact of the inner end of a foreign body with retina have been confirmed, wire wrapped in fibrin and lenticular masses, which are removed during lensvitrectomy. Foreign body being removed with pincers, primary surgical treatment of the corneal wound, intraocular lens implantation.

Option 3 : open eye injury with the presence of intraocular foreign body (wire), impacted in the shell of the posterior pole of the eyeball. Inlet based in the limb, the wound being adapted. The front section is not changed. The foreign body is seen by means of the ophthalmoscope — a wire, impacted in the retina. Tactics: systemic and local antibacterial and anti-inflammatory therapy, preparation for the surgery. The first stage — barrier laser photocoagulation of retina around the impacted fragment and its warming. The second stage - three-port vitrectomy 25G, releasing fragments of fixed thereto vitreous, gripping the foreign body by collet pincers, its mobilization, visual control of its further movement to the retrolental space. With the outer end of the wire being injected to the cannula, the fragment is bimanually removed through a port in the vitreous chamber, via cannula as a conductor .

Conclusion:

The features of open globe injury caused by wire are as follows:

- a very small inlet that in the absence of infringement of the fragment may not require surgical repair because of its sufficient self-sealing;

- high frequency of long wounding object infringement in the penetrating injury;

- in case of a long periocular end of a wire fragment infringed in the wound, the dan-gerous risk of additional damage of intraocular membranes by the inner end of the fragment while blinking (so called 'lever mechanism') might occur.

Features of medical tactics in such open globe injuries :

- Selection of surgical treatment depends on the location of the fragment, signs of infectious inflammation and damage to intraocular structures;

- Obligatory systemic and local antibiotic therapy;

- The best method of removing the wire located in the vitreous chamber is vitrectomy using collet tools;

- In case of a long periocular fragment it is necessary to remove it as quickly as possible from the eye to prevent the risk of additional damage while blinking (so called 'lever mechanism').

- Using modern technology in the treatment of open globe injury caused by wire, it's possible to achieve high functional results.

Title:

Mr.

Name:

Sergey Churashov

Title:

Functional and anatomical outcomes after traumatic globe rupture

Authors:

Carolina Vale, Tânia Borges, Pedro Borges, Bernardete Pessoa, Natália Ferreira, Angelina Meireles

Institution:

Department of Ophthalmology, Hospital Santo António - Centro Hospitalar do Porto - Portugal

Aim:

To assess clinical characteristics and evaluate factors influencing functional and anatomical outcomes after ruptured globe injuries.

Patients and methods:

A retrospective chart review of one hundred and twenty two patients with ruptured globe injuries assisted at Hospital Santo António, between April 2003 and January 2013, with a minimum follow-up of one month was performed. The data analyzed included age, gender, local and mechanism of injury, initial and final visual acuities, wound location according to the Ocular Trauma Classification Group and its length, mechanical eye consequences, time to surgical repair, type and number of surgeries performed and complications during the follow-up. Functional success, defined as final visual acuity ≥ 0.1 (20/200), anatomical success defined as retinal attachment, and globe survival rates were rated. All data were correlated to functional and anatomical success rates to assess for prognosti! c factors using statistical analysis.

Results:

We evaluated 122 eyes: 92 male patients with a mean age of 52 years and 30 female patients with a mean age of 72 years. Aggression accounts for 69% of the injuries in men and falls for 77% of the injuries in women. Visual acuity was hand motion or worse in 88% at presentation. First surgical approach was made in the first 24 hours in 86% of the eyes. Zone III was involved in 47% of the eyes. Wound size was ≥ 15 mm in 18% of the cases. At presentation were found: lens damage in 54%, iris damage in 53%, vitreous hemorrhage in 70%, hyphema in 58%, uveal prolapse in 48%, retinal detachment in 29%, choroidal injuries in 32% and endophtalmitis in 2.5%. Wound suture alone was the primary surgery in 71% of the patients, vitrectomy in 6.6% and evisceration in 6.6%. At least one vitrectomy was performed! in 82 patients during the follow-up. Functional success was achieved in 35% of the eyes, anatomical success in 74%, and globe survival in 91%. Factors that correlate significantly with both functional and anatomical success were the initial visual acuity, wound location and size, vitreous hemorrhage, hyphema, retinal detachment, suprachoroidal hemorrhage. Age was found to correlate only with functional success.

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Conclusion:

Recognizing prognostic factors might help delineating a strategy to approach this type of injuries that often result in severe visual acuity impairment and associated morbidity.

Title:

Dr.

Name:

Carolina Vale

Title:

Microsurgery in open globe injuries (Homburg Ocular Trauma Registry – HOTR)

Authors:

Arne Viestenz*, Cem Gülmez, Berthold Seitz*

Institution:

Department of Ophthalmology, University of Saarland, UKS, Homburg/Saar

Aim:

Open globe injuries are a challenge and require careful surgery to preserve the vision

Patients and methods:

Severe open globe injuries were analyzed, that have been treated at the Department of Ophthalmology Homburg/Saar. 136 patients were included (4 with bilateral ocular trauma), 73% were males.

Results:

Most patients were injured during the 5th live decade. Only 24% of the injuries occurred at home. 33% have been working accidents. The most frequent causes of the trauma were falls (28%) and metal pieces (23%). Trauma was observed as globe rupture (37.1%), penetrating injury without (35.6%) or with IOFB (25.8) and perforation (1.5%). Globe ruptures occurred more frequent in females (71.4%) in contrast to males (24.7%; $p<0.01$). The treatment in the clinic did last 8.5 ± 4.6 days.

Four eyes developed an endophthalmitis (3%). Eleven eyes were enucleated (8.3%), five of these primarily.

Overall, the retina was traumatized in 48%, the choroid in 21%. To repair/reconstruct the eyes, the following number of surgeries was required: primary repair and/or one secondary internal reconstruction (37.1%), three (13.6%), four (4.5%), more than four (7.6%). VA acuity was less than 20/200 in 59% during admission and in 31% during demission.

Conclusion:

About ½ of severe traumatized eyes with initial VA<20/200 may achieve a final VA>20/200 using the microsurgical technologies (primary wound repair, vitrectomy, lens surgery, keratoplasty, mean: 3 surgeries). Thus, an adequate primary wound repair should be performed to avoid primary enucleation.

Title:

Dr.

Name:

Arne Viestenz

Title:

Management of CNV after globe perforation

Authors:

Arne Viestenz*, Moatassem El-Husseiny*, Berthold Seitz*

Institution:

Department of Ophthalmology, University of Saarland, UKS, Homburg/Saar

Aim:

A globe penetration/perforation/globe rupture is a rare complication during retrobulbar anaesthesia (approx. 1/8000).

Patients and methods:

A 78-yo woman developed a globe perforation during retrobulbar anaesthesia for cataract surgery (history of squeezing). She was referred to the retina department. Cataract surgery and vitrectomy were performed. A scleral entrance wound at the equator was sutered. The exit wound was localized between optic nerve head and macula. The haemorrhagic vitreous detached retina was reattached and the submacular hemorrhage removed. A 360° laser cerclage was performed before installation of silicone oil. Silicone oil was removed after 2 months. The small CNV was treated with multiple bevacizumab-IVI.

Results:

After the surgeries, the VA did increase from HM to 20/40.

Conclusion:

There is a high risk of traumatic CNV-development in case of perforation exit wound at the posterior pole. Careful funduscopy and OCT may detect the CNV and allow a sufficient anti-VEGF therapy with protection of central vision.

Title:

Mr.

Name:

Arne Viestenz

Title:

Good aesthetic final outcome after severe pan facial fracture involving basis crania and massive penetrating injury of the left eye.

Authors:

Amer Beharić1, David Debevc2, Tomislav Grošeta2, Bogdan Čižmarevič 2,3, Dušica Pahor 1,3

Institution:

1 Department Of Ophthalmology, 2 Department for ENT and cervicofacial surgery, University Clinical Centre Maribor , 3Faculty Of Medicine, University Of Maribor, Slovenia

Aim:

The purpose is to present the massive craniofacial injury with good aesthetical outcome

Patients and methods:

The 75-year old patient sustained massive craniofacial injury by metallic stopper of 50 litre beer can after increasing the pressure in it. The stopper ended its trajectory causing the pan facial injury in middle part of face. CT scan revealed fractures involving left orbit, completely damaging the left eye, half of the nose, frontal sinus, right orbit, preserving the right eye and in depth of ethmoidal cells, left maxillary sinus, left frontobasal part of brains with oedema and air around it and preserving the sphenoid sinus. All the time of assessment the patient was conscious, including the time right after the injury.

Results:

After complete CT diagnostic including 3D reconstruction, the stopper was removed; revision of left orbit revealed completely ruptured left eye with expulsion of all internal parts. A half of the nose was in internal part of the stopper, being preserved from further injuries and regarding clear fractures and wound was relatively easy to reconstruct. Multiple fragments of the walls of the left orbit including its bottom were observed. Anterior wall of frontal sinus was fractured but without any signs of liquorrhea.

The severely damaged eye was enucleated. Reconstruction of bone fragments using titanium plates and screws and reponation of soft tissues were done by ENT surgeon. After surgical reconstruction no further complication occurred. Therapeutically prosthesis for left eye was used temporarily, but already achieving a goo cosmetic effect. The patient got his individual prosthesis later and after reconstruction of inferior fornix for better stabilisation of the prosthesis, the symmetry of the face was achieved with an excellent cosmetic effect.

Conclusion:

Reconstruction of facial injuries, especially involving fracture of the orbital walls and surrounding sinuses is always a challenge for ENT and ophthalmic surgeon in achieving good aesthetical effect. A multidisciplinary approach is of great importance at achieving a good aesthetical result as in our case. One of possible reasons for good result is also that patient was not younger person and majority of the stitches was possible to incorporate in aging skin folds.

Title:

Mr.

Name:

Amer Beharić

Title:

Surgical Techniques in severe trauma surgery

Authors:

Carl Claes

Institution:

St Augustinus Hospital Antwerp Belgium

Aim:

Demonstrate different approaches in repair of advanced trauma cases

Patients and methods:

4 different trauma cases operated in 4 different ways

Results:

Four severely injured eyes with light perception only were operated in four different ways .

Anatomic success could be obtained in all four cases with the intra-operative help of heavy liquids, visco-elastics and silicone oil, as well as 360 degree retinotomies.

The visual outcome ranged from hand movements to 20/100 , with a follow-up of six months minimum.

Conclusion:

Thanks to the BETTS we can better inform our trauma patients.

However individual results may be variable.

New techniques and instrumentation can improve long term visual outcomes.

Title:

Mr.

Name:

Carl Claes

Title:

„Untreatable“ severe rupture - whether and when to give up reconstruction or to refer

Authors:

Wolfgang F. Schrader

Institution:

Maximilians Augenklinik, Erlenstegenstr. 30, D 90491 Nürnberg

Aim:

How to deal with the insight, that the surgeon might not able to successfully reconstruct the eye.

Patients and methods:

Case report and general considerations

Results:

A 7 year old child was chasing around in a store when he hit a fork lift truck. The fork has caused a rupture from equator to equator. After primary wound closure, a pars plana vitrectomy was performed within 24h after trauma. The retina was found as a closed funnel, and it was not possible for the experienced retinal surgeon to open the funnel. Instead of giving up the patient was send to our institution, where we undertook a second attempt to open the funnel, 5 days after the trauma. In a 3 hour surgery we succeeded to open the funnel and to unfold the retina. The patient regained a VA of 1/35 within 4 weeks.

Conclusion:

The case illustrates, how to deal with the insight, that the surgeon might not able to successfully reconstruct the eye. Option one would be to inform the patient, that the eye cannot be reconstructed, option two would be to give the patient another chance to have the eye reconstructed by referral two another vitreoretinal specialist. For both options, timing is a very crucial clue, so that either decision has to be made very early.

Title:

Mr.

Name:

Wolfgang F. Schrader

Title:

Update: The timing of reconstructive surgery in open-globe trauma

Authors:

Wolfgang F Schrader, Dagmar Proell, Ferenc Kuhn

Institution:

Maximilians Augenklinik, Erlenstegenstr. 30, D 90491 Nuernberg, Germany; Universitaetsaugenklinik, Josef- Schneider- Str. 11, D 97080 Wuerzburg, Germany; University of Alabama at Birmingham, U.S.A

Aim:

The anatomical and functional results of severe ocular injuries, as perforating injuries and ruptures, involving the posterior segment are often impaired by a severe proliferative vitreoretinopathy. The injury causes a break down of the blood retinal barrier, which initiates an inflammatory response. This is followed by a cellular proliferation at the site of penetration within the first days. The next step is a fibroblastic invasion of the vitreous within the first week, followed by increasing traction at the entry/exit site resulting in a proliferative vitreoretinopathy.

Patients and methods:

Two studies will be presented, one retrospective and one prospective multi center study with a follow up of six months

Results:

We analyzed the functional outcome of 71 perforating injuries and ruptures that extended posterior to the rectus muscles and that were treated in the Department of Ophthalmology at the University of Wurzburg between 1996 and 2005, retrospectively. In 18 cases no Pars plana Vitrectomy (PPV) was performed, as this procedure was assessed as unnecessary or without a chance of an anatomical success. Among the 27 Patients, who underwent a pars plana vitrectomy within 100 hours after the injury, 9 (33%) regained a visual acuity of at least 20/200 at 6 months after the injury. 11% (3/27) of the eyes, that received early vitrectomy, went blind (NLP), phthitical or had to be enucleated. When vitrectomy was performed later than 100 hours after injury, only 3/31 cases (10%) regained a visual acuity of at le! ast 20/200 at 6 months, and 26% (8/31) went blind, phthitical or had to be enucleated.

Conclusion:

These results suggest, that with a new concept, to act rather than to react on alterations secondary to severe posterior segment trauma, the functional results of these injuries may be further improved. This idea is currently being further evaluated in a prospective multicenter multinational study conducted by the World Eye Injury Register. A preliminary analysis of these data and a study presented by Ferreira and Martinez 2012 of 45 patients followed for at least six months prospectively reveals, that with a mean number of surgeries of 2.2 all eyes could be saved from developing phthisis or amaurosis. 42/45 (93%) had an attached retina, 33/45 (73%) regained a visual acuity of 20/400 or better.

A proper timed and aggressive surgical approach is the best tool to fight the complications of severe ocular trauma. However, this approach needs a very experienced surgeon.

Title:

Mr.

Name:

Wolfgang F Schrader

Title:

Treatment tactics of gunshot injury of the eyeball and orbit

Authors:

Neroev V.V., Bykov V.P., Kataev M.G., Kvasha O.I., Al-Darawish J.A

Institution:

Moscow Helmholtz Research Institute of Eye diseases

Aim:

outcome analysis of gunshot injuries of the eyeball and orbit and evaluation of the effectiveness of treatment

Patients and methods:

we have observed 141 patients with gunshot injuries of the eyeball and orbit. All patients– underwent primary surgical repair in the early stages of 2 days. Surgical treatment included : removing of intraorbital bullets (4 eyes) , vitrectomy with removal of eyeball bullets (3 eyes) , vitreolensectomy with removing of eyeball bullet (1 eye) , vitrectomy without removing of bullets (9 eyes) , vitreolensectomy without removing of bullet (three eyes) . In 2 cases YAG - laser vitreolysis was performed. In the remaining 49 cases, conservative treatment was performed, which consisted of anti-bacterial, intensive anti-inflammatory therapy, including the use of corticosteroids, as well as dehydration and reparative therapy. In 70 eyes, due to severe eyeball damage, eviscer! ations (33eyes), enucleations (37 eyes) were performed, in combination with plastic surgeries, from 1-2 days to 5 years after injury.

Results:

7 patients had a high visual acuity 0.7 - 1.0, 4 cases with VA - 0.2 - 0.7, 8 cases with VA 0, 01- 0.2. In 49 cases VA ranged from pr.l.incertae (34eyes) to pr.l.certae (15 eyes), in 3 cases amaurosis has been diagnosed. In 70 cases the eyes were removed

Conclusion:

Up to 70 % of cases sustained gunshot injury of the eyeball leads to eye loss and require plastic surgery. Vitreoretinal surgery increases the chances of eye maintaining and in some cases restoration of vision. Indications for removing of intraorbital bullets always are strictly individual

Title:

Dr.

Name:

Jihad Al-Darawish

Title:

Globe rupture in young children – approaches to managing these kinds of trauma

Authors:

Tvrtka Benašić, Suzana Matić, Maja Vinković, Dubravka Biuk, Mario Bradvica

Institution:

Department of Ophthalmology, Clinical hospital Osijek

Aim:

Case report of two young children, aged 4 who came with ruptured globe with more than the half circumference of eyeball and approaches to managing these kinds of trauma

Patients and methods:

Visual acuity was no light perception, and the main clinical signs were abundant of haemorrhage from the eye and enophthalmus. In general anesthesia we could thoroughly examine the extent of the injury. One child had horizontal rupture of cornea (3 – 9 o'clock) and sclera to the equator on both sides, beneath the medial and lateral rectus muscle, traumatic aphakia, vitreous and iris prolapse. The other child had vertical rupture of cornea (6 – 11 o'clock) and sclera from the limbus (11 o'clock) to the posterior pole, traumatic aphakia, prolapse of vitreous, iris, and retina. In both children the ultrasound was performed the next day and showed kissing choroidal haemorrhagic detachment, haemophthalmus and retinal detachment, although detailed examination was very difficult becaus! e the massive palpebral edema. Upon admission to the hospital, we started prophylactic IV antibiotics (ceftazidime) for 7 days, IV hydration, analgetics (metamizole sodium) and topical corticosteroids, ciprofloxacin or moxifloxacin and 0.5% atropine. In this acute phase we did the primary wound closure and made the eye watertight and reposited all prolapsed tissue inside the eye. Since we don't have vitreoretinal surgeon and couldn't restore the anatomy, we referred patients after two days to the other clinic. Their suggestion was to wait few weeks in other to minimize the inflammation and congestion and to allow the eye to heal a little bit. This would also allow the vitreous to separate from the retinal surface and any blood in the eye to 'soften' the vitreoretinal interface so that a vitrectomy will be easier to perform. That's helpful especially if trauma patients are young. Waiting a week or two also assure that liquefaction of haemorrhagic choroidal detachement has oc! cured. One child was put in general anesthesia after 2 weeks ! and, after removing the clot, there were hyphema, haemophthalmus, giant retinal tear and incipient retinal funnel formation and the surgeon gave up any further operation. Unfortunately, in the following next weeks the eye ball phthysis started in both children.

Results:

Not every type of internal damage requires urgent treatment, but the ruptured globe with gross prolapse is one of the most serious situations in ocular trauma. Usually, surgical repair of posterior segment injuries is done in two separate operations. The first operation, done immediately, aims to close the ruptured globe; the second, often done after a waiting period of a week or more, aims to repair the damage inside the eye. Generally, the second operation is not done for seven to 10 days. There are some surgeons who wants to restore eye anatomy as soon as possible, so they are doing all in one operation.

Conclusion:

The main questions are: 1) should every vitreoretinal surgeon be able to do or must do trauma cases; 2) should there be one trauma center in small countries like Croatia which could do all the (difficult) trauma cases in the country; 3) when to do the second surgery of posterior segment or should it be done simultaneously, if possible; and 4) when do the second surgery of posterior segment in small children because of quick reparation mechanism which can lead to fibrosis very soon?

Title:

Dr.

Name:

Tvrtka Benašić

Title:

Occult scleral rupture - Video Case Presentation

Authors:

Dr. Gala Beykin, Dr. Edward Averbukh

Institution:

Department of Ophthalmology, Hadassah-Hebrew University Medical Center

Aim:

To present an occult scleral rupture in a case initially classified as a penetrating eye injury.

Patients and methods:

Video case presentation of a surgical procedure.

Results:

A 28 years old male presented to the emergency room with a severe left eye pain and loss of vision (to finger counting at 20 cm) after a significant force trauma to his eye by a copper wire during a refurbishment work. A video of the carried out surgical procedure is showing initially a closure of an anterior scleral laceration seemingly presenting as a single scleral penetrating trauma; However posterior capsular rupture necessitated cataract extraction and vitrectomy, during which a suspicion of posterior segment involvement was raised. Thus it was decided to perform exploration and primary scleral buckle. Following peritomy and isolation of the muscles, additional scleral wound was found in a typical location for scleral rupture, adjacent to the insertion of a rectus muscle. The second scleral wound was closed and an encircling scleral buckle! was positioned over it. Three months after the surgery, the best corrected visual acuity was 0.63 Snellen and the retina remained flat.

Conclusion:

Occult posterior scleral rupture might be difficult to recognize. The slightest suspicion dictates exploration. The initial classification of the injury as a penetrating trauma may be misleading and should not delay the exploration.

Title:

Dr.

Name:

Gala Beykin

Title:

Vitrectomy combined with continuous intraocular injection of silicone oil in the treatment of early atrophy of eyeball

Authors:

Xu Yang, Shu Du,Hui Ren

Institution:

Chengdu Aier Eye Hospital,

Aim:

To observe and evaluate continuous intraocular injection of silicone oil in treating early atrophy of eyeball.

Patients and methods:

Compared the pre- and postoperative changes of 5 atrophy eyeball eyes in intraocular pressure visual activity axial length and CT scan. All the 5 eyes 5 patients suffered from severe ocular trauma or uveitis and had 3-4 days long continuous intraocular injection of silicone oil.

Results:

Five eyes 5 patients with low IOP (2.7-9mmHg) CT or water sac ultrasound showed their axial length were shorter than that of the healthy eyes (the difference was 0.7 to 4.8mm, 2.48mm in average).4 of them had corneal opacity. All of 5 eyes'retina attached in the surgery ,and the amount of silicone oil injected into the eyes was from 2.3 to 4.8 ml (4.04ml in average). At the end of surgery all of the eyes had no lens. The axial length of all the eyes increased after the surgery (1.34mm, in average), and IOP of 4 eyes recovered to normal. The visual acuity was improved in 4 eyes, and not changed in the other.

Conclusion:

Vitrectomy combined with continuous intraocular injection of silicone oil in early atrophy of eyeball can effectively restore the eye shape, restore the intraocular pressure, assist retina/choroid reattachment, maintain or improve the visual activity.

Title:

Mr.

Name:

Xun Yang

Title:

Treatment of rhegmatogenous retinal detachment associated with choriodal detachment with intravitreal perfluoropropane C3F8 injection

Authors:

Hui Ren, Xun Yang, Shu Du, Xiaohui Tang, Chunyue Jia, Li Wang

Institution:

Chengdu Aier Eye Hospital

Aim:

To investigate the recovery of intraocular pressure (IOP) and choroidal reattachment after intravitreal perfluoropropane (C3F8) injection for rhegmatogenous retinal detachment associated with choroidal detachment

Patients and methods:

Retrospective, noncomparative case series.We included 14 eyes from 14 patients with retinal detachment associated with choroidal detachment managed with intravitreal perfluoropropane (C3F8) injection (0.5 ~ 1.0 ml) before vitreal retinal surgery between January 1, 2013 and June, 2013。They might be given anterior chamber paracentesis fluid therapy according to intraocular pressure. At the end of operation,their intraocular pressure were T + 1, all patients were treated with local anti-inflammatory drops, mydriatic cycloplegic drops after injection and examed by Non-contact tonometry 、indirect ophthalmoscopic examination everyday, ultrasound biomicroscopy, B-scan ultrasound and before injection and on the 1~4 day after injection. The intraocular pressure and choroi! dal condition were observed .The observation last for 1~5 days;

Results:

After injection ,the IOP rose to normal or slightly higher than normal.Before injection , the IOP was 7.4±1.5mmHg .and was 19.5±9.0mmHg after injection ,there are statistically significant difference between the IOP before and after injection P0.01.Choroidal detachment was rapidly and significantly improved after injection in all patients In half of them, choroid were reattached competely , only limited localized cyclodialysis was observed in the other 7 eyes

Conclusion:

Before vitreoretinal surgery ,the injection of pure C3F8 can reduce postoperative inflammation 、make intravitreal tamponade more effectively in vitreoretinal surgery and improve the success rate of retinal reattachment operation by quickly elevating intraocular pressure in the short term,significantly reducing choroidal detachment even reattached choroid competely .

Title:

Mr.

Name:

Hui Ren

Title:

Artificial Iris Floating Suturing Technique

Authors:

Vladimir Pfeifer

Institution:

University Eye Hospital, Ljubljana, Slovenia

Aim:

In patients implanted with artificial iris (AI) the chronic inflammation is common problem. The special suturing technique was developed to fixate AI to the sulcus. This technique can be used in aphakic as well as in pseudophakic eyes. The goal is to fixate AI to the sulcus in the way that it does not touch sulcus or posterior iris surface.

Patients and methods:

Patients with posttraumatic aniridia or large iris defects were implanted with AI alone or in combination with IOL sutured to the AI. Special loop sutures were used. With lasso technique IOL was sutured to the AI and later to the sulcus using the same suture and zigzag suturing technique. Prior to implantation AI was trimmed or trephined to 10.5 mm. Before the end of the surgery the AI or AI IOL complex was centered to the anatomical axis of the globe by adjusting zigzag sutures.

Results:

Good centration of the AI to the anatomical axis of the eye was achieved. Photophobia was not a problem any more. Also aphakia could be corrected. Visual acuity improved markedly, especially in bright light and sunshine. No clinically relevant anterior chamber inflammation was noticed.

Conclusion:

AI implantation in aniridia and in severe iris defects is safe and effective procedure in combination with floating suturing technique. The photophobia disappears, visual acuity is improved and there is tremendous esthetic effect.

Title:
Dr.

Name:
Vladimir Pfeifer

Prognosis, Miscellaneous

Title:

Clinical outcomes observation of the vitrectomy treating for Open-globe injuries in different times after the trauma

Authors:

WANG Yi, ZHANG Ling, LIU Yong, CHEN Shao-jun

Institution:

Department of Ophthalmology, Southwest Hospital, the Third Military Medical University

Aim:

This study evaluate the clinical efficacy and influencing factors about vitrectomy for Open-globe injuries in different times.

Patients and methods:

Use case-control study,Compare the clinical effect and complication of the vitrectomy for open-globe injury in different time[2~4 d (early group) or 10~14 d(routine group)] that did by the same operator in Apr.2011 to Jan.2013, excludedthose casessuch as intraocular foreign bodies and traumatic endophthalmitis that need emergency vitrectomysurgeries.

Results:

total of 33 patients (33 eyes) into the group, 15 cases in the early group, 18 cases inroutinegroup.The rate of retinal reset:11 of 13eyesthat had retinal detachment retinal were reset in the early group,1 of 13 eyes had retinal reset underwent secondery surgery and 1 eye failured; 5 of 15 eyeswith retinal detachment had retinal reset in the routine group, 4 of 15 eyes got retinal reset underwent secondery surgery and 6 eyes failured in reset.There is a statistically significan between groups (U=46.500, Z=-2.638, P=0.008).The eye-globe saved rate have nostatistically significan(χ2=3.48, P=0.095):14 eyesbeen saved and 1 eye failured of vitrectomy in the early group,12 eyeshave been saved and 6 eyes failured of the vitrectomy in the routinegroup.Theincidence rate of TPVR have statistically sig! nifican between groups (χ2=12.34,P=0.001):1 eye occurred TPVR in the early group,12 eyes occurred TPVR in the routinegroup.Theextent of visual recovery:patients in the early group got better vision recovery than patients in the routine group U=61.500, Z=-2.858, P=0.004.

Complications:Complicationslike intraoperative bleeding and postoperative infectionhave no significant difference between the two groups.

Conclusion:

This results show the early cases have a relatively good prognosis.

Title:

Prof.

Name:

Yi Wang

Title:

Comparison of Ocular Trauma Score (OTS) and Pediatric Ocular Trauma Score (POTS) as two prognostic models in pediatric open globe injury

Authors:

Dušica Pahor

Institution:

Department of Ophthalmology, University Clinical Centre Maribor, Faculty of Medicine, University of Maribor, Slovenia

Aim:

To compare ocular trauma score (OTS) and the pediatric ocular trauma score (POTS) as prognostic models of visual outcome after open globe injury in children during the period of 13 years.

Patients and methods:

A retrospective study of 33 open globe injuries in 33 patients younger than 18 years at Department of Ophthalmology University Clinical centre Maribor was conducted from January 2000 to January 2013. For each case OTS and POTS points were calculated. For calculating the OTS points OTS variables as in the OTS study – initial vision, rupture, endophthalmitis, penetrating injury, retinal detachment and afferent pupillary defect at the initial presentation, were used. For calculating the POTS points POTS variables as initial visual acuity, age of the pediatric patients, wound location and concomitant eye pathologies at initial presentation, were used. In both models the points were converted into the OTS categories (1 through 5). Visual acuities were divided into five groups: no light! perception (NLP), light perception/hand movement (LP/HM), 1/200 – 19/200, 20/200 – 20/50, 20/40 or more. In the children youngest than 3 years POTS points were calculated in two manners, with initial visual acuity and without visual acuity using a special equation.

Results:

The mean age was 7,9 years (min. 2, max. 17). The male/female ratio was 28 (84,8%) to 5 (15,2%). The mean follow-up was 28,8 months (min. 3, max. 120). Primary surgical repair was performed in all patients. In all patients light perception was preserved before surgical repair and on follow up examination. The average number of OTS points was 72 points in OTS study and 59,7 points in POTS study or 17% lower.

Significant difference was observed in distribution of our patients using both models regarding OTS categories. One third of the cases (10 of 33) in OTS study were in OTS category 1 and 2, and nearly 60% of the cases (19 of 33) in POTS study. In OTS study 60,6% of cases (20 of 33) were in category 3 and 4 and 30,3% (10 of 33) in POTS study. In category 5 no difference was observed between both models.

The final visual acuity and OTS categorical distribution in our OTS and POTS study were statistically significant. In the group of final visual acuity 20/40 or more in the OTS study the percentage of final visual acuity progressively increased with the number of OTS category (0%, 28.6%, 44.4%, 60%, 100%). In the POTS study the final visual acuity in category 1 and 2 are nearly the same (55.6%, 60%,) as well as in category 3 and 5 (100%, 100%). Comparison of distribution of the percentage of final visual acuity between our OTS and POTS study in each OTS category revealed significant difference in category 1 in group 20/40 or more (0% vs. 55,6%), in category 2 in group 20/200 to 20/50 (28,6% vs. 40%) and in group 20/40 or more (28,6% vs. 60%) and in category 3 in group 20/40 or more (44,4% vs.100%). We found no difference between both models in category 4 and 5.

In 39,4% cases (13 of 33) the categorisation of individual case was equal for both models. In 36,4% cases (12 33) the categorisation was higher for 1 category for OTS model and in 15,2% cases (5 of 33) for 2 categories. In 9,1 % cases (3 of 33) the categorisation in OTS model was lower for 1 category. The calculation of POTS points with or without initial visual acuity despite the use of a special equation revealed no differences.

Conclusion:

Our study did not confirm the benefit of POTS. The distribution of our cases among OTS categories was significant different between both models with more cases in lower categories in POTS study. In POTS study the prognosis for final visual acuity was significantly better in the first three categories than in OTS study as a result of inadequate calculation. We conclude, that POTS model is not appropriate for classification into OTS categories. To our opinion, OTS model is easier to use and have higher prognostic accuracy and should be further use in counselling of pediatric cases. Further studies with larger number of patents are necessary to confirm our results.

Title:

Prof.

Name:

Dušica Pahor

Title:

Extraction 21 intraocular cilium during endoscope–assisted vitrectomy in 12 eyes

Authors:

Shu Du, Xun Yang, Hui Ren

Institution:

Chengdu Aier Eye Hospital

Aim:

To analysis the value of ocular endoscope in detecting and extracting of intraocular cilium during vitrectomy, and the location of the cilium.

Patients and methods:

Retrospectively analyze the location of 21 intraocular cilium, accidentally found during endoscope–assisted vitrectomy and undetectable by CT or B-ultrasound before the operation, in 12 ruptured/penetrated eyes. The corneas of 11 eyes were cloudy, 2 eyes combined with endophthalmitis, 9 eyes had retinal detachment, and 2 eyes had extracted other foreign bodies in previous surgeries.

Results:

All the 21 cilium, 1-4 cilium in each eye, were extracted through direct sight under the ocular endoscope during vitrectomy 1-4 weeks after the injury. In 5 cases at least 2 cilium were extracted. Most of the cilia foreign bodies were near or at the position of retinal injury parts and other foreign body (2 at the ciliary body, 1 in the anterior chamber Angle, 6 in the retinal wound, 7 at the same position of other foreign body, 1 in the curly retina,4 on the back of the iris). 24 IOFBs, other than cilium, were extracted from 5 eyes during the surgeries. Postoperative visual acuity improved in 9 eyes, unchanged in 1 eye and decreased in 1 eye and 1 case lost of fellow up after 1 month to 7 years fellow-up, the best was 0.2. Two eyes' postoperative IOP was low 1 case was 7.2mmHg 1 case! was 5.8mmHg the others were normal. And no eye has additional vitreous surgery during the follow-up.

Conclusion:

Ocular endoscopy can discover and treat the undetectable, by imaging studies, intraocular cilium effectively. Exogenous endophthalmitis can be prevented, and vitrectomy can be performed without been puzzles by the cloudy cornea.

Title:

Ms.

Name:

Shu Du

Title:

Acute posterior multifocal placoid pigment epitheliopathy (APMPPE) with central nervous system involvement

Authors:

Trdina Spela, Vidovic Valentincic Natasa

Institution:

General hospital Novo mesto, Slovenia and Eye Hospital, University Clinical Centre, Ljubljana, Slovenia

Aim:

Reporting on a patient with APMPPE with central nervous system involvement.

Patients and methods:

19-year-old male treated by methylprednisolone intravenously

Results:

Introduction

Acute posterior multifocal placoid pigment epitheliopathy (APMPPE) is rare, non-infectious idiopathic uveitic condition. It predominantly affects young people. It is caused by ischemic changes occurred within the choriocapillaris and associated with mumps, secondary syphilis, Lyme disease, streptococcal group A infection. It affects retinal pigment epithelium (RPE) and/or superficial choroid. Some cases may involve the central nervous system. We report on a patient with APMPPE with central nervous system involvement.

Case report

19-year-old male student was admitted in the neurological department because of the intense headache and vomiting. Recently he had overcome an upper respiratory tract infection. His visual acuity on both eyes declined in the last 2 weeks. A magnetic resonance revealed mild leucopathy and excluded cerebral mass. When he was presented to ophthalmologist, his visual acuity (VA) was 0,5 cc on the right eye and 0,05 cc on the left eye. Intraocular pressure was normal. Anterior segment examination revealed no abnormalities. Retinal findings in both eyes included deep multiple yellow white plaques from 0,5 to 1 disc diameter. Scotomas on visual field were observed.

The OCT scan of both eyes showed clear loss of the photoreceptor integrity and nodular hyperreflectivity at the level of RPE. Fluorescein angiography showed early hypofluorescence corresponding to the lesions, in the late phases the lesions showed hyperfluorescence. ICG showed hypofluorescence during intermediate and late phases.

The patient received 500 mg of methylprednisolone five times intravenously followed by gradually tapering doses of methylprednisolone orally. His ocular and central nervous symptoms and signs improved quickly. At his last check up his VA improved (right eye 1.0 and left eye 0, 7) and was without any new ocular or central nervous system signs and symptoms.

Conclusion:

Conclusion

APMPPE generally has a good prognosis. In some cases, however, complications may arise especially because of the central nervous system involvement including ischemic stroke due to vasculitis. In that case treatment with corticosteroids is mandatory. This case illustrates a successfully treated patient suffering from a rare and potentially life-threatening disease

Name:

Spela Trdina

Title:

Anesthesia methods for surgical repair of traumatic open globe injuries.

Authors:

Dogan M, Sekeroglu MA, Anayol MA, Yılmazbas P.

Institution:

Ulucanlar Eye Research and Training Hospital, Ankara, Turkey.

Aim:

To determine clinical and demographical characteristics of patients with traumatic open globe injuries and to discuss the type of anesthesia and the factors that affects anesthesia selection during surgical repair of these injuries.

Patients and methods:

Medical records of patients who were operated for traumatic open globe injury in a single institution between December 2012 and December 2013 were retrospectively reviewed. Age and gender of patients, cause of injury, perforation type (corneal, corneoscleral, scleral) and anesthesia methods preferred during surgery (subconjonctival anesthesia with or without intravenous sedation,general anesthesia) were analyzed.

Results:

131 eyes of 131 patients with a mean age of 32.2±1,6 years (107 (81,8%) males, 24 (18,3%) females) were recruited for the study. Of these open glob injuries, 68 (51,9%) were found to be corneal, 26 (19,8%) were corneoscleral and 37 (28,2%) were scleral. Seventy-three (55%) of these patients were operated under subconjoncitval anesthesia without intravenous sedation, 18 (13,7%) were under subconjoncitval anesthesia with intravenous sedation and 40 (30.5%) were under general anesthesia.

The localization of perforation (p:0.034) and the age of the patients (p<0.001)were found to be significantly affecting the method of anesthesia used during the repair of traumatic open glob injuries.

Conclusion:

General anesthesia is the most widely accepted method of anesthesia for the repair of traumatic open glob injuries,but local anesthesia with or without intravenous sedation can be a good alternative for selected patients.

Title:

Mr.

Name:

Mehmethan Dogan

Title:

Results of Femtosecond laser Descemet's Stripping Endothelial Keratoplasty from endothelial side

Authors:

Pogorelova S., Chentzova E., Oganesyan O.

Institution:

Moscow Helmholtz Eye Research Institute

Aim:

To study the short term results of Femtosecond laser Descemet's Stripping Endothelial Keratoplasty from endothelial side (invert FS-DSEK) at the first 6 patients with pathology of endothelium, including after eye ingury.

Patients and methods:

Of the 6 patients, 2 were women and 4 men. The mean age was 60 years (from 34 to 81). In 3 cases, there was the endothelial failure after PK, in 2 cases was PBK, in 1 case - Fuchs' dystrophy. Two patients had artificial lens-iris diaphragm and were operated glaucoma with Ahmed implant. There were also paralytic mydriasis, pupil fixated IOL, postrupture scar of the sclera. Preoperative BCVA was 0.04 (0,01 -0.05). Follow-up was 6 months. Invert FS-DSEK performed with a femtosecond laser LDV Z6. Intraoperative depth of femtodisruption (from endothelial side) was 150 microns. The average diameter of the graft was 9 mm (8.0 - 9.5). Graft insertion into the anterior chamber performed with forceps. Six months postop we have studied BCVA, performed biomicroscopy, OCT and Scheimpflug analyze! r of the cornea, and endhothelial microscopy with manual count of ECD. Because of the hard preop neuroretinal pathology in most cases DSEK was performed mainly for therapeutic reason.

Results:

There was a graft detachment (performed to rebubbling) in 1 case. There was a partial detachment in 1 case, which didn`t require the rebubbling. Six months after surgery all corneal were transparented without any graft detachment. Average BCVA was 0.2 (0.05 - 0.4). The mean ECD was 1373 cell/mm2 (500-2345 cell/mm2). Average graft central thickness according to OCT was 90,7 microns. The difference between the central and peripheral thickness of the graft was less than 20 microns.

Conclusion:

Endothelial side (invert) femtodistruption is safe and secure procedure to achieve uniform and ultrathin graft with viable endothelium. The frequency of tissue loss is zero, and postoperative complications are minimal.

NO financial interest.

Title:

Mr.

Name:

Oganes Oganesyan

Title:

Factors associated with intensity of postoperative pain in ophthalmic surgery: a systematic review

Authors:

Mladen Lesin, Josipa Domazet, Livia Puljak

Institution:

Department of Ophthalmology, University Hospital Split, Split, Croatia; Department of Anesthesiology, Reanimation and Intensive Care, University Hospital Split, University of Split School of Medicine, Split, Croatia; Laboratory for Pain Research, University of Split School of Medicine, Split, Croatia

Aim:

To conduct a systematic review of the literature about factors associated with postoperative pain and analgesic consumption in ophthalmic surgery.

Patients and methods:

Systematic review of the literature was conducted according to the methods used by The Cochrane Collaboration and Center for Reviews and Dissemination, in accordance with the PRISMA guidelines. Comprehensive search strategy was developed based on search terms about pain and ophthalmic surgery. . Four databases were searched, including MEDLINE, Scopus, PsycINFO and CINAHL, from the earliest date to October 1, 2013.Inclusion criteria were: all studies analyzing factors associated with postoperative ophthalmic pain and analgesic consumption after ophthalmic procedures. Exclusion criteria: case reports, studies including children and reports about effectiveness of pain management therapies.

Results:

After searching four databases and removing duplicates 5270 records remained for screening. After the record screening based on titles and abstracts, 36 full text manuscripts that fit the inclusion criteria were retrieved for further analysis. Two independent authors analyzed the full text manuscripts and extracted data. Results will be presented at the congress.

Conclusion:

Systematic reviews represent the highest level of evidence in medicine and this methodology should be used to analyze literature on any given research topic. Knowing current evidence base about factors associated is important because it can inform practice and alleviate patients' pain and suffering, as well as provide direction for future research.

Title:

Dr.

Name:

Mladen Lesin

Title:

Macular injury caused by a green laser pointer

Authors:

Polona JAKI MEKJAVIĆ, Nataša VIDOVIĆ VALENTINČIČ

Institution:

EYE HOSPITAL OF UNIVERSITY MEDICAL CENTRE LJUBLJANA

Aim:

Presentation of maculopathy caused by a laser pointer – fundoscopic and OCT changes over time.

Patients and methods:

Case presentation

Results:

A healthy 13-year old boy with no previous ocular history presented with decreased visual acuity (VA), difficulties with reading from bright surfaces and central scotoma. Two days earlier he had scanned each of his eyes with a laser pointer from a distance of about 10 cm for few seconds, out of curiosity. At presentation his VA was 0.6 in the right eye and 0.5 in the left eye. Fundoscopy revealed a yellow viteliform-like lesion in each macula. On OCT, we observed a thicker and less dense retinal pigment epithelium layer, disruption of the inner segment/outer segment (IS/OS) interface, and an external limiting membrane in the central part of the fovea. Systemic high-dose corticosteroid was administered. After a few days he reported slight improvement in VA. On OCT the previously observed changes ! were reduced, and consequently the dosage of corticosteroids was gradually reduced. After four weeks, VA improved to 1.0, but he still observed doughnut-shaped scotoma around the center. Fundoscopy disclosed pigment disruption in the central fovea with loss of the central foveal reflex. On OCT disruption of pigment epithelium layer and IS/OS interface persisted.

Conclusion:

Despite gradual visual recovery after mild laser injury, permanent structural changes of fovea remained. Our case emphasizes the danger of diode laser pointers, which can be purchased from market stalls, especially when they are used as toys by children.

Title:

Dr.

Name:

POLONA JAKI MEKJAVIĆ

Title:

Ocular radiational injury

Authors:

Gopalakrishnan Baskararajan

Institution:

saraswathi eye hospital ,

Aim:

to highlight ,follow up of post radiation patients treated for malinancies of eye and orbit

Patients and methods:

follow up for radiational cataract, radiaition retinopathy-two cases

Results:

patiets treated for orbital rhabdomyosarcoma and malignant lacrimal gland tumour developed complications.while young patients treated with radiotherapy for ocular malignancies , have tendancy to develop posterior cortical cataract,older patiets develop radiational retinopathy.illustrated with case reports in the paper.

Conclusion:

though safety measures are adopted to prevent radiational injury to ocular structures,delayed effects occur.regulating the dose and adequate precautionary measures to shield the eye during radiotherapy are adopted in treating orbital and faciomaxillary malignancies , still fail to save vision.as the number of cancer survivors following good treatment modality for different malignancies are on the increase awreness in this regard is essential

Title:

Dr.

Name:

Gopalakrishnan Baskararajan

Title:

Imaging Techniques in Traumatic Choroidal Rupture

Authors:

Pajtler Rošar Ana, Haskaj Helena, Jaki Mekjavić Polona

Institution:

Eye Hospital of University Medical Center Ljubljana

Aim:

To report findings of different imaging techniques in patients with traumatic choroidal rupture.

Patients and methods:

A retrospective review of patients who presented with a history of blunt ocular trauma resulting in choroidal rupture at the Eye Clinic Ljubljana, between January 2011 and January 2014. Patients underwent detailed ophthalmic evaluation, visual acuity (VA) assessment, colour fundus photography, fundus autofluorescence (FAF), SD-OCT examination and fluorescein angiography in case of clinical suspicion of choroidal neovascularisation (CNV) development.

Results:

Six cases were identified and reviewed. Median age of the patients was 39 years (range from 16 to 72). Five were male and one female. Baseline best-corrected VA ranged from 0.05 to 0.8 (median 0.3) Snellen acuity. VA at the last evaluation ranged from 0.05 to 1.0 (median 0.45). The average duration of follow-up was 13.5 months. The choroidal ruptures were evident in fundus examination and colour photography as irregular curvilinear breaks in the choroid with associated subretinal hemorrhage. Damaged RPE area was better delineated by FAF imaging, where it appeared as a reduced FAF with increased FAF rim after resolution of subretinal hemorrhage. SD-OCT demonstrated two types of choriocapillaris/retinal pigment epithelium (CC-RPE) complex disruption. One type as a forward dome shaped protrusion of! the retinal CC-RPE complex and the second type with a posteriorly directed concave contour depression at that area and sliding of tissues into the defect. One patient was diagnosed with CNV using fluorescein angiography.

Conclusion:

Damaged RPE area was better delineated by FAF imaging compared with fundus examination and fundus photography. OCT added valuable morphologic information to the diagnosis, progression of choroidal rupture and development of complications such as CNV, where fluorescein angiography is needed to confirm diagnosis.

Title:

Mrs.

Name:

Ana Pajtler Rošar

Title:

Macular detachment associated with pits of optic disc occur in young patient.

Authors:

Satar Baghrizabehi MD.Teodor Robić MD

Institution:

Gen.hosp.of Rakican

Aim:

case report

Patients and methods:

Macular detachments associated with pits of optic disc occur in young patients,

Results:

We are going to present a 50 years old patient with macular detachment in the right eye,

secondary to congenital pit of the optic disc.

Conclusion:

Macular detachments associated with pits of optic disc occur

in young patients.

Title:

Dr.

Name:

Satar Baghrizabehi

Title:

Unusual eye trauma caused by hula hoop - Case report

Authors:

Salihu N, Daka Q, Salihu Y, Salihu F

Institution:

Eye laser center "Kubati", University Clinical Center of Kosova

Aim:

We report a case of a penetrating eye injury caused by hula hoop.

Patients and methods:

A 17-year-old female with unusual eye trauma caused by hula hoop

Results:

Introduction: Eye injuries are common in sports and have the potential for major morbidity with sight threatening consequences. However a small number of sports, such as soccer, rugby or hockey are responsible for most injuries. To our knowledge hula hoop penetrating eye injury is not described in literature.

Case report: A 17-year-old female was admitted as an urgent penetrating right eye injury. The patient's sister lost control of the hula hoop while playing, and after it hit the wall it broke down casing a penetrating injury to our patient's eye. On examination, visual acuity of the right eye was "hand motion". Penetrating wound covering 2/3 of the cornea associated with iris prolapsed and incarceration, iridodialysis of more than half of the circumference and traumatic cataract. She was brought to the operation theatre immediately and was surgically treated under general anesthesia. The iris was repositioned while the second corneal wound in parallel with the first one was noticed. Anterior chamber was formed with viscoelastic and the wound repaired using single 10-0 nylon sutures. Iridopexy was performed using straight needle 10-0 prolene. Standard cataract surgery and IOL implantation was also performed. The postoperative recovery was uneventful beside elevated in! traocular pressure (TOD=24mmHg) that was treated by topical timolol. Six months later, her visual acuity was 0.6 stenopeic, with evident corneal cicatrices and traumatic mydriasis.

Conclusion:

Although seemingly impossible, hula hooping can be dangerous to the eyes.

Title:

Prof.

Name:

Naser Salihu

Title:

Cases of posttraumatic eye lashes intrision into the eye

Authors:

Krasnovid T., Vit V., Aslanova V., Kovalchuk A.

Institution:

Filatov Institute of Eye Diseases

Aim:

To study the variety of clinical course of eye trauma cases with eyelashes intrusion into the eye.
Patients and methods:

There were analyzed 5 prospective cases of eye trauma with eyelashes intrusion into the eye (corneal stroma, anterior and posterior chamber).

Results:

Intrusion of eyelashes into the eye is a very rare kind of eye injuries during perforating eye trauma or intraocular surgery. Eye response on the eyelashes intrusion can vary too much from asymptomatic to iris cyst development, lens abscess, endophthalmitis, vitreoretinal tractions and retinal detachment. There were analyzed 5 prospective cases of eye trauma with eyelashes intrusion into the eye (corneal stroma, anterior and posterior chamber). Because of asymptomatic clinical course of eyelashes presence in corneal stroma and behind the lens eyelashes were not removed. In one case of corneal injury and eyelash intrusion into the anterior chamber eyelash was removed during primary surgical treatment. In one case of eye trauma the simultaneous intrusion of 5 eyelashes into the eye occurred follo! wed by iris cyst formation and its recurrence in short terms after trauma. The morphological study of iris cyst was performed and its implantation character was showed.

Conclusion:

So, taking into account the variety of eye response of eyelashes intrusion into the eye the management of such cases must be individual in each case.

Title:

Dr.

Name:

Veronika Aslanova

Title:

Surgically induced astigmatism among phacoemulsification cases

Authors:

Yasser Ibraheem Abdullah

Institution:

Ophthalmology College Instructor - Tikrit University College of Medicine - Tikrit - Salahaddin - Iraq
P.O.box 45

Aim:

to study the surgically induced keratometric change and refractive astigmatism (measured using the autorefractor)after phacoemulcificationsurgery Prospective consecutive case study.

Patients and methods:

Phacoemulsification surgery with a superior clear corneal incision were included. The study population consisted of 62 patients (62 eyes) who had uncomplicated phacoemulsification surgery .Patients with prior corneal sugery or corneal opacity or those with operative complications were excluded. Variables analyzed included preoperative andacquired postoperative corneal astigmatism using automated keratometry. Using vector astigmatism analysis, surgically induced astigmatism (SIA) was calculated. A special Excel spreadsheet was used to the average amount of surgically induced astigmatism created during phacoemulsification. This individualized surgeon information can then be summarized by incision type, size, and location by using a built-in report function.

Results:

The population consisted of 34 females and 28 males, with 33 right eyes and 29 left eyes. The average patient age was 63 years. Autokeratorefractive readings preoperatively and 1 month postoperativelywere examined.

The surgically induced astigmatism (SIA) values were found to range from a minimum of (0D) to a maximum of (2.02D), with a mean value of about 0.7D and a standard deviation (S.D.) value of about 0.51D.

Conclusion:

The surgically induced astigmatism (SIA) among phacoemulsification cases in Ibn Al Haitham Eye Teaching hospital is in the low order range but further effort is warranted to evaluate and manage so that it will be comparable to the results in advanced centers.

By accurately quantifying surgically induced astigmatism, surgeons in our hospital may increase the accuracy of the clinical outcomes in terms of control of astigmatism. Thus improving patient satisfaction and uncorrected visual acuity.

Title:

Dr.

Name:

Yasser Ibraheem Abdullah

Adnexal trauma

Title:

Peculiarities of ocular adnexa injuries in conditions of modern trauma

Authors:

G.D. Zhaboiedov, O.V. Petrenko, N.M. Rozumey, O.O. Hurzhii

Institution:

Bogomolets national medical university

Aim:

To explore the modern trauma features of auxiliary apparatus of the eye.

Patients and methods:

The study was conducted in the ophthalmological department of Central Clinical Hospital in Kiev in 2007-2012 years. 541 patients with traumatic defects of auxiliary apparatus of the eye were examined. The average age of patients was 30 ± 8 years. There were 412 (76,15%) males and 129 (23,85%) females. Both traditional and special methods were included in the complex survey.

Results:

The most frequent causes of posttraumatic defects of auxiliary apparatus of the eye were: automobile injury 187 patients (34.57%), injury of construction tools details 123 patients (22.74%), fireworks trauma 108 (19.96%), gunshot trauma 67 people (12.38%), animal bites 56 people (10.35%). Each type of these injuries had a number of features that differentiate them from each other depending of traumatic factor type.

Implantation of glass fragments in the wound channel is typical for the automobile trauma associated with fallout the driver or passenger of the car. Direct contusion damages are typical for airbags injuries; contaminated wounds with tissue defects are typical for collision with a man. Penetrating combined heavy damage with the implantation of foreign bodies in the wound channel (70.7% of cases) are typical for construction tools injuries. Fireworks injuries in 82.4% of cases were characterized by severe damage with the formation of extensive defects, the implantation of foreign bodies, crush and charring of tissue. Small perforating wound are typical for airguns injuries 89.5%. Massive crush injuries, rupture of eyeball membranes, fracture of the orbit are typical for firearms damage 94.7%. Deep, ragged, crush contaminated wounds corresponding to the shape of the animal jaws are typical for dog bites (82.1%). Deep stab wounds with eyeball damage and minor skin defects are t! ypical for cat bites.

Conclusion:

At the work it has been studied the peculiarities of ocular adnexa injuries at modern traumas in 541 patients. The dependence on the type of traumatic factor, technical characteristic of damaging agent, conditions in which the injured was located has been determined. Clinical features of ocular adnexa injuries at car accident, traumas by components of construction tools, pyrotechnical means, at using the non-military weapons and animal bites are highlighted in the article.

Title:

Mrs.

Name:

Oksana Petrenko

Title:

Transcaruncular Optic Canal Decompression for traumatic optic neuropathy

Authors:

Krishna Vaitheeswaran

Institution:

St Stephens Hospital, Delhi, India

Aim:

To study the surgical and visual results of optic canal decompression using a transcaruncular route for traumatic optic neuropathy

Patients and methods:

36 eyes of 36 patients who presented with decreased visual acuity following head trauma were included in the study. All patients underwent optic canal decompression under local anaesthesia by a transcaruncular-transorbital route. Visual and surgical outcomes were monitored in the postoperative period.

Results:

The average age of patients in the study was 24.5 years. 12 patients had presenting vision of no light perception. All patients had a relative afferent pupillary defect of 2.5 log units or more at presentation.

The visual acuity of 28 patients showed an improvement of 2 or more levels, 3 months after the optic canal decompression. 8 patients had no improvement following intervention, including 6 with presenting vision of no light perception.

There were no major intraoperative or postoperative surgical complications.

Conclusion:

Optic Canal Decompression by the transcaruncular-transorbital route is a minimally invasive surgical intervention with good visual results in cases of traumatic optic neuropathy. It provided easy access to the optic canal and orbital apex with minimal surgical trauma enabling early rehabilitation of patients.

Title:

Dr.

Name:

Krishna Vaitheeswaran

Title:

Orbital Granuloma following Perforating Hard Metal Orbital Foreign Body

Authors:

E. BERTELLI, M. SIMONAZZI, A SCHWARZ, M. BROGER

Institution:

Operative Unit of Ophthalmology, Operative Unit of Neurosurgery, BOLZANO REGIONAL GENERAL HOSPITAL, AUTONOMOUS PROVINCE HEALTH SERVICE ALTO ADIGE SUEDTIROL, ITALY

Aim:

To report the case of an ocular and orbital unilateral trauma, with persistence of a hard metal foreign body in the orbit.

Patients and methods:

43 years old male caucasian patient, coming to our attention for perforating trauma and retained orbital hard metal FB in his RE. His charts were reviewed, documenting an overall follow-up of 13 months.

Results:

A 43 year old male patient presented at our institution after having been hit by a metal FB in his RE, while he was working with a circular saw. The circular saw was provided with a hard metal circular saw blade, and the trauma was caused by the stripping of a 7 mm fragment of a saw-tooth from the edge of the saw. The stripped fragment was made of a hard metal alloy, commonly used in industry for treating hard materials.

Surgical treatment of the case included initially suture of a large corneoscleral wound and partial lensectomy.

On postop day 13 the patient underwent pars plana 23G vitrectomy, with removal of dense vitreous hemorrhage and lens remnants, as well as iris plastic sutures, endolaser and final silicone oil tamponade. The posterior perforating wound lied unfortunately within the temporal vascular arcades, with optic nerve involvement and therefore with very low visual potential for the eye.

After 5 postop. months the patient underwent pars plana silicone oil removal, since intermittent invasion of silicone oil into the anterior chamber had been noted.

Since the patient had been reporting mild right frontal headache and significant fatigue since 4 to 6 weeks, a control CT scan of the orbits was meanwhile carried out, unveiling the presence of an orbital mass, around the already known heavy metal FB. Three small granulomas of the upper lip had also become apparent.

Neurosurgery of the orbital mass with frontoparietal approach took place at the 6th postop. month. Hystology confirmed a hard metal foreign body granuloma with peculiar and homogeneous hystologic carachteristics in the orbit, as well as in the upper lip, at the subsequent time in which the three lip granulomas were surgically removed. Complete resolution of the severe systemic and local symptoms reported by the patient took place at remarkable speed in a few weeks after neurosurgery.

Follow-up has reached a total of 13 months and 7 months post-neurosurgery, with anatomical preservation of the globe.

Conclusion:

After successful treatment of the severe perforating bulbar trauma we followed the metallic orbital FB in agreement with the suggestions of the literature, monitoring patient’s general and ophthalmic comfort.

The progression of this obital granuloma, since the onset of symptoms (fatigue, mild frontal headache, evolving in a few weeks in extreme weakness and severe orbital and frontal pain with only final impairment of the eye movements) was fast and very debilitating for the patient. The macroscopic consistence of the granuloma was, according to the neurosurgeons, abnormally hard. The hystologic appearance of the FB granuloma was eccentric, with a predominant central coagulative necrosis,

presence of foreign birifrangent structures, and a delimiting, granulomatous lympho-hystiocytic layer, with absence of fibroblastic proliferation.

We suppose that specific components of the hard metal alloy, in particolar Cobalt and Tungsten, may have caused the particularly aggressive local as well as systemic course of the manifestations related to this orbital FB.

Until further knowledge is gathered in this field, suspect or ascertained hard metal FBs in the orbita should be considered at high risk of developing local as well as systemic disease, and should require at least more intensive observation and possibly a more aggressive therapeutic approach than is normally agreed upon in literature for standard metal orbital FBs.

Title:

Dr.

Name:

Enrico Bertelli

Title:

The New Bicanalicular Double Silicone Encirclage Technique in Canalicular Laceration Reconstruction

Authors:

Seong-Won Yang

Institution:

Chosun University Hospital

Aim:

To introduce the new bicanalicular double silicone encirclage

Patients and methods:

68 patients undergoing surgical repair of canalicular lacerations were retrospectively reviewed. 32 patients were treated with mono silicone tube (Group A) and 36 with bicanalicular double silicone tube encirclage (Group B).

Results:

The Anatomical and Functional success rate of Group A were 81%, 81%. The Anatomical and Functional success rate of Group B were 97%, 97%. There were significant difference of success rate ($p=0.046$,$p=0.046$). The time of searching proximal cut end and intubation time of B(7.83±3.37, 22.53±4.63) were significantly shorter compared to the time of A(35.06±16.50, 53.28±16.16), ($p<0.001$,$p<0.001$). There were no difference in age, sex, the timing of management, number of suture knot. The success rate were significantly difference by number of tubes.. But there were no difference by timing of management, type of intubated tubes, operation method and number of suture.

Conclusion:

The new bicanalicular double silicone encirclage technique using pigtail probe is time-saving, easy, and a more effective technique.

Title:

Prof.

Name:

Seong-Won Yang

Title:

Trauma of Eyelids and Lacrimal Drainage Pathway

Authors:

Brigita Drnovšek Olup

Institution:

University Medical Centre Ljubljana, Eye Hospital

Aim:

To present most important guidelines, surgical techniques and materials used for surgical eyelid repair and reconstruction after trauma, some cases of secondary reconstruction and repair of lacrimal drainage system.

Patients and methods:

Patients with severe eyelid trauma are presented. In most of the cases primary surgical repair or reconstruction was performed, but also some patients with secondary reconstruction are presented. Materials used for reconstruction are divided in autologous grafts and flaps (retroauricular skin, skin from the opposite eyelid, labial mucosa, tarsomarginal graft, hard palate and flaps), alotransplants (Alloplantâ, amnion membrane) and synthetic materials (Gore-Tex,mersilene mesh, silicone). In some secondary reconstructions autologous bone was also used (rib, crista iliaca superior ant.). In cases of associated lacrymal drainage system trauma revision and repair was performed simultaneously. All procedures were performed under general anesthesia.

Results:

Best functional and aesthetic results were achieved with primary reconstruction,using different technique and material. Results were satisfactory also after secondary reconstruction, but in such cases several successive surgical procedures were necessary and the rehabilitation period was longer

Conclusion:

Most important guidelines for successful primary surgical posttraumatic eyelid repair are: thorough clinical examination, delay surgery until optimal conditions are available-up to 72 hours, remove all dirt and foreign bodies, precise tissue reposition and do not excise tissue.

Title:

Prof.

Name:

Brigita Drnovšek Olup

Title:

Cranioorbital trauma and its medicolegal expertise

Authors:

1 Moshetova L.K., 2 Romodanovsky P.O., 1 Andrianova A.V.

Institution:

1Ophthalmology Department, Russian Medical Academy of Post-Graduate Education 2Department of Forensic Medicine, Moscow State Medical Stomatological University

Aim:

To explore medicolegal features of cranioorbital trauma

Patients and methods:

A retrospective study included 143 expert cases of living bodies from this department, Moscow forensic bureau 1999-2008, male (n=105) and female (n=38), age range 13-66 years. Hard blunt object blow was noted in 62% (criminal trauma). In 31% cases cranioorbital damage was a result of traffic accident, and 7% cases miscellaneous. Medical history materials and identification data were classified and counted according to age, sex, the object that caused injury and the type of trauma. Besides we evaluated the following points: deficiency of ophthalmological exam, sites of fracture, orbital bones dislocations, reliability of imaging methods (X-ray, CT).

Results:

Predominantly we analysed combined cranioorbital trauma (89%), 11% represented isolated orbital injury.

Sites of fracture were as follows: zygomaticoorbital complex – 35%; medial wall (isolated or in complex) – 22%; inferior wall – 15%; superior wall - 16%; margins – 4%; multiple – 10%. Orbital tissue injury without fracture – 8%. Orbital bones dislocations were notified in 40% cases.

43 medicolegal reports were represented without eye exam. Of another 100 cases we revealed incomplete initial ophthalmological data in 100%: 30% - absence of VA, external exam, slit-lamp exam, fundus exam; 70% reports – absence of orbital muscles exam, pupils exam. Of total 143 cases in 21% medicolegal appraisals were based on X-ray examination only.

Conclusion:

Incomplete initial ophthalmological data influence following forensic expertise, as a result health harm value is underestimated. A medicolegal physician must be aware of the risks of missing the diagnosis.

Title:

Ms.

Name:

Anna Andrianova

Title:

Use of botulinum toxin in upper eyelids' reconstruction.

Authors:

Kataev M.G., Khulamkhanova F.M.

Institution:

Moscow Helmholtz Research Institute of Eye diseases

Aim:

Our purpose was to assess the efficacy of preoperative use of botulinum toxin type A (BTA) in cases of surgical reconstruction of upper eyelids for posttraumatic deformity by skin grafting. The aim of BTA administration was to prevent postoperative graft contraction.

Patients and methods:

The study was carried out on 20 patients with post-traumatic upper eyelid cicatricial deformity assosiated with skin deficiency. The age of patients ranged from 18 to 75 years. The injury prescription was from 6 to 12 months. In all cases skin deficit was apparent, patients had lagophthalmos of 2-12 mm. The main surgical method was skin grafting intended to regain enough surface of eyelids. Skin was grafted from two donor sites: innocent upper eyelid and back auricular zone. In order to immobilize the recipient site Botulinum toxin A was injected in the orbicularis oculi muscle (upper part) and the levator muscle. The injection preceded the surgery for 8 - 14 days. The dosage of treatment depended on physical parameters and muscular activity. The dose injected ranged from 10 to 25 ! units. The process of healing was followed-up at 5, 14, and 30 day, 2, 6 month postoperatively.

Results:

The BTA effect was well observed just after removing of the tight bandage on 5th – 7th day postoperatively. In all patients skin grafts took well and since that day upper eyelid was seen drooped absolutely like in paralytic ptosis. In each patient we observed a reliable immobilization of eyelids. The period of 14-30 days postop which is typically disturbing due to expecting of the contraction of the graft followed quite differently. The operated eyelids demonstrated absolute ptosis and the skin was quite loose. No shrinkage of the surface was observed. Total medicamental blepharoplegy persisted for 2 - 2.5 months, after this period the activity of orbicularis and levator recovered completely. Lagophthalmos was eliminated in all patients. No complications were noticed during follow-up of 1 yea! r.

Conclusion:

Adjuvant use of Botulinum toxin allows to achieve prolonged stable immobilization of the eyelids. Excluding of the upper eyelid movement after skin grafting by means of BTA ensures the most satisfactory result of skin grafting.

Title:

Dr.

Name:

Fatimat Khulamkhanova

Title:

Cosmetic lower lid blepharoplasty causing chronic ocular trauma: retrospective 3 cases review

Authors:

Jasminka Salopek Rabatić, Snježana Kaštelan, Rado Žic

Institution:

Clinical hospital Dubrava, Ophthalmology department; Clinical hospital Dubrava, Clinic for plastic, reconstructive and esthetic surgery

Aim:

Traditionally, lower lid blepharoplasty has been confined to a choice of skin or skin-muscle flap transcutaneous blepharoplasty. In the past decade, in particular, various new techniques and technologies have emerged, altering our ability to treat the lower eyelids. These techniques include transconjunctival blepharoplasty, a variety of canthopexy procedures, fat-conserving or fat-replacing methods, wedge excision, and laser resurfacing techniques, and they allow a more individualized approach based on variations in anatomical features and patient goals. Blepharoplasty is a relatively safe and effective operation when compared to many more widely invasive plastic and reconstructive surgical operations. Even the finest blepharoplasty, with excellent esthetic results, will have some patients who suffe! r from unexpected complications: infection, bleeding, wound separation, suture cysts, asymmetry, insufficient/excessive skin/fat removal, excessive muscle removal, excessive internal/external scarring, inappropriate crease, dropping upper eyelid, swelling on the eyeball surface, injury to the lacrimal system, double vision, loss of vision, and experiencing symptoms of chronic trauma.

Patients and methods:

A retrospective review of data for 3 patients, who came to general ophthalmologists practice in the last 12 months in KB Dubrava (2 female, 1 male; age 63, 34, and 52 years, respectively) who undergo a lower lid blepharoplasty, with postoperative signs of symptoms of chronic trauma is presented. All surgeries were performed by either ophthalmologist or plastic surgeon, in private practices out of our hospital, in late postoperative period (min 2 months, max 5 months after surgery). With the availability of a variety of techniques, an individualized approach based on variations in anatomical features is feasible: transconjunctival approach for male patient, external for both females.

Results:

Female patient aged 63 years presented at first visit with excessive epiphora and lagophthalmus on the left eye. Lubricant artificial tears were prescribed for dry eye therapy (TBUT 10seconds), and reoperation suggested because of lagophthalmus. Female patient aged 34 years, soft toric contact lens wearer (without change in refractive status BCVA), working every day on computer presented with blurred vision, unclear picture and dry eye symptoms. Contact lenses had to be removed because of change in palpebral ryhm dynamic with lens decentration during blink – glasses were prescribed. Artificial tears were prescribed. Male patient aged 52 years came with more intensive dry eye symptoms than before surgery, with severe red eye: TBUT 9 second , chronic blepharitis, partial entropy, trichyasis, co! nstant ocular irritation. Life quality is lower than before surgery. Prescribed were with artificial tears, epilation and surgical entropy treatment suggested.

Conclusion:

There is a broad spectrum of complications that can occur following cosmetic eyelid surgery. The experienced eyelid surgeon should be able to avoid most serious complications through proper patient selection, a comprehensive preoperative assessment and surgical plan, meticulous surgical technique, and appropriate postoperative care. The aesthetic eyelid surgeon must counsel a patient contemplating blepharoplasty surgery regarding typical expectations including edema, eyelid numbness, dry eyes, and mild blurred vision, but also contact lens wearer history, and mostly important patients habits in every day life. Patients must also be aware of the risks and the signs of serious complications such as infection, hematoma, or severe vision loss. Oculofacial surgeons must be capable of managing thes! e adverse outcomes. The management of chronic complications – chronic trauma in late postoperative period is outlined in this review (contact lens drop out, dry eye - artificial tears treatment, reoperation).

Name: Jasminka Salopek Rabatic

Title:

Traumatic ptosis: report of two cases

Authors:

Mladen Lesin MD, MSc[1] , Slaven Lupi-Ferandin, MD[2], Vlatko Ledenko MD[3] , Mirko Lapcic MD3, Ivo Ivic MD, PhD4

Institution:

1Department of Ophthalmology, University Hospital Split, Split, Croatia, 2Department of Maxillofacial surgery, University Hospital Split, Split, Croatia, 3Department of Neurosurgery, University Hospital Split, Split, Croatia, 4Clinic for Infective diseases, University Hospital Split, Split, Croatia

Aim:

To report two cases of rare traumatic ptosis with different approach to the treatment.

Patients and methods:

Case 1: A 37-year-old woman with orbit-cranial injury. She had fallen onto metallic armature rod. It penetrated into the orbit in conjunctiva upper nasal quadrant, rending Tenon´s capsule, fracturing orbital roof and penetrating into the frontal lobe of the brain. She presented with no eyeball injury but proptosis, palpebral edema, ptosis with no function of levator muscle and cerebrospinal fluid leakage from the conjunctiva wound. Case 2: A 30-year-old man who was hit with broken glass. He presented with full thickness and whole length laceration of the upper eyelid. It was located 10 mm above upper tarsal border. His cornea and sclera on the limbus were lacerated from 3 to 9 o'clock.

Results:

In case 1 urgent procedure with teamwork was done. After inspection of eyeball Tenon's capsule and conjunctiva were sutured. Maxillofacial surgeon repaired orbital roof via frontal craniotomy and neurosurgeon repaired the dura. Traumatic ptosis was consequence of orbital trauma. It recovered partially slowly and spontaneously through eleven months when residual ptosis was repaired with levator aponeurosis resection.

In case 2 traumatic ptosis was obviously due to direct levator muscle damage. After suturing cornea and sclera levator muscle aponeurosis was reattached to the tarsal plate. Satisfactory outcome was present after four weeks.

Conclusion:

Treatment of traumatic ptosis depends of its cause. In the case of orbit cranial injury one should primary care of infection and edema suppression and wait for time of ptosis treatment.In the case of aponeurosis damage early treatment is essential.

Title:

Dr.

Name:

Mladen Lesin

Title:

PROBLEMS OF OCULAR PROSTHETICS IN RUSSIAN FEDERATION

Authors:

Perfilyeva E.A., Frolov M.A., Shklyaruk V.V.

Institution:

Moscow, Peoples Friendship University of Russia, Department of ophthalmology

Aim:

To analyze the medical and social aspects affecting the efficiency of ocular prosthetics in Russia.

Patients and methods:

125 patients in “Center of ocular prosthetics” (Moscow, Russia) were examined.

Results:

The analysis of the data obtained during the examination of 125 patients, 78 of them (62.4%) - men, 47 (37.6%) - female , age from 5 to 74 years (43,3 ± 2,4 year), children under 18 years - 25 people (20 %). The reasons for removal of the eye were: trauma and its complications (55%), oncology - mainly retinoblastoma in children (27%), inflammatory diseases - uveitis and iridocyclitis (5 %) , glaucoma (18%). Primary patients - 55 men (44%) , repeat - 70 (56%). Among the patients the most part were from regions of Russia – far from Moscow: 69.6% (89 people). The majority of patients (75%) had different problems with the eye socket – it was not correctly formed during the enucleation.

26% of examined patients used the artificial eye without replacement for 5-10 years, which leads to a variety of complications, and the bad cosmetic and functional results. The patients reported the reason of it: the absence of possibility to replace the prosthesis in home-town (70.6%), high financial costs of travel to the place of manufacture of individual prostheses (65.4%), difficulties in the preparation of documents for obtaining preferential prostheses (15.1%).

Conclusion:

1. Ocular prosthesis is an integral part of medical, social and psychological rehabilitation of patients with anophthalmia, microphthalmia and eye subatrophy acquired as a result of complications of severe trauma, inflammatory, congenital processes, absolute glaucoma. Efficiency of ocular prosthetics is an important medical and social problem.

2. Today, in Russia there are 12 laboratories of ocular prosthetics (manufacture of individual prostheses) and 33 cabinets, where the artificial eyes can be provided. In this cabinets the range of prosthesis consists of 100-150 units. Meanwhile for effective choice of prosthesis it should be 2,500-4,500 units. Insufficient provision of eye prostheses various regions of Russia, absence of a full range of products in the cabinets and difficulties in the selection of prostheses leads to violations of the using-regimen, the appearance of complications, and also reduces the cosmetic and functional effect of prosthesis.

3. Patients with anophthalmia, microphthalmia and subatrophy eyes, living in regions where there is no prosthetic institutions need to develop specific rehabilitation measures, which may carry out in their home-place.

4. Need to expand the network of ocular prosthetic in Russia, providing them with a sufficient amount of standard prostheses made of glass and plastic.

5. Requires upgrading the skills of ophthalmologists to provide emergency assistance, as well as the development of standards of operations to remove the eyeball with the correct formation of eye socket and the primary prosthesis in early post-operative period. In addition, training of medical staff should include basic knowledge of ocular prosthetics.

Name:

Ekaterina Perfilyeva

Title:

Lacrimal canaliculus avulsion repair

Authors:

Ivekovic R,Lacmanovi V, Petric I, Zrinscak O,Krolo I, Vatavuk Z

Institution:

Univ.Hospital"Sestre milosrdnice", Zagreb

Aim:

The aim of this study is to show 7 years experience in treating lacrimal canaliculus injuries.

Patients and methods:

This retrospective study includes 73 patients treated from January 2006 to January 2013 at University Hospital Center „Sestre milosrdnice“ in Zagreb.

Results:

Results in group of patients treated with bi-canalicular stenting within 48 hours after injury were destinquished from patients treated several months or more after trauma. In these patients the endoscopic conjunctivodacryocystorhinostomy was performed.

Conclusion:

Injury of lacrimal canaliculus is indication for relativ urgent surgery treatment (within 48 hours) and after stenting excellent results – functional as well cosmetical- cen be achieved. In patients with delayed surgery high score results are achieved in smaller number, but reconstruction of lacrimal canaliculus also in these patients reduce objective symptoms of epiphora and quality of life.

Title:

Prof.

Name:

Renata Iveković

Title:

LACRIMAL DRAINAGE SYSTEM INJURIES

Authors:

Brigita Drnovšek1, Matej Beltram1

Institution:

Eye Hospital, University Medical Centre Ljubljana, Slovenia

Aim:

Trauma of the lacrimal drainage system is a rare, but complex injury of the eye. We present a review of patients with trauma of the lacrimal drainage system, the surgical techniques used, the results of treatment and complications

Patients and methods:

We included 53 patients in our retrospective study, who were admitted to the Eye Hospital, University Medical Centre Ljubljana, from 1998 to 2013 due to trauma of the lacrimal drainage system. 44 patients were treated due to acute trauma and 9 patients were referred for secondary reconstruction. 36 patients had a canalicular laceration, a lacrimal sac injury was diagnosed in 6 cases, and a nasal duct laceration in 2 cases. We treated all patients with fresh injuries within 48 hours. We followed patients at regular control examinations up to one year after surgery. We evaluated function of the lacrimal drainage system by irrigation at the last follow-up visit.

Results:

We observed a patent lacrimal drainage system in all 43 out of 44 patients after primary reconstruction. Restenosis of the canaliculus occurred in 5 out of 9 patients after secondary reconstruction.

Conclusion:

Trauma of the lacrimal drainage system can lead to persistent epiphora. Repair should be performed by an experienced team within 48 hours, but can be delayed up to 5 days if no such team is available. Intubation is mandatory, for a period of 12 weeks. Satisfactory function of the lacrimal drainage system can be restored in most of the cases.

Title:

Dr.

Name:

Matej Beltram

Title:

URGENT CANTHOTOMY AND CANTHOLYSIS IN OPHTHALMIC EMERGENCIES

Authors:

Matej Beltram1, Rok Grčar1,2

Institution:

1Eye Hospital, University Medical Centre, Ljubljana, Slovenia 2Irman d.o.o., ŽAlec, Slovenia

Aim:

To present the urgency and efficacy of lateral canthotomy in three patients with acutely raised intraorbital pressure.

Patients and methods:

Case 1. 50 year old male patient with 3 day history of left upper lid oedema and frontal pain was referred for ophthalmic examination, which revealed signs of orbital cellulitis. Urgent CT of head, orbit and paranasal sinuses revealed pansinusitis on the left side with empyema, and left orbital cellulitis. The patient was scheduled for urgent ENT surgery which was then deferred due to rapid worsening of vision. Case 2. 46 year old patient hit his head in the left periocular region with a ski pole. The vision on his left eye started to decrease rapidly in the course of the next hour. Urgent CT of head and orbits at the regional hospital showed fracture of the left zygoma, protrusion of the left globe and retrobulbar orbital haematoma. Case 3. 32 year old male patient with blunt head! trauma was admitted to emergency department. Several hours after admission, worsening of visual acuity on left eye (hand motion) and a positive RAPD were noted. CT scan of orbit and head show fracture without dislocation of the inferior wall of the left orbit and edema of orbital soft tissue.

Results:

In case 1, examination on admission to our institution showed BCVA OS CF@20 cm; a positive left RAPD on OS; highly elevated ocular tone by digital estimation; eye movements of OS were limited in all directions. We immediately performed a left lateral canthotomy and cantholysis with drainage of orbital abscess; immediate pain ensued. ENT surgery followed, and antibiotic i.v. was started. Next day, BCVA on OS was CF@1m; eye movements on OS improved. At three weeks, BCVA was 1.0p s.c.; light left RAPD and diplopia on left gaze were present with a concentric left visual field defect.

In case 2, on admission at our institution, 3 hours after the incident, there was no light perception on the left eye. We performed an urgent canthotomy and cantholysis. Light perception on the left eye returned within minutes. The patient was referred to a maxillo-facial surgeon for further treatment. BCVA continued to improve in the next days to reach 0.8 s.c. several weeks after the incident. A concentric narrowing and positive RAPD on the left side remain.

In case 3, immediate canthotomy and cantholysis on the left side were performed in bedside setting with rapid improvement of visual acuity of left eye to 0.5. The patient received 1g of methyl-prednisolone i.v. The canthotomy healed by second intention and no reconstructive procedure was needed afterwards.

Conclusion:

Urgent lateral canthotomy and cantholysis is a sight saving procedure if performed in time. Any delay in treatment can cause irreparable damage to the optic nerve.

Title:

Dr.

Name:

Matej Beltram

Title:

Rational terms during reconstructive treatment of eyelids with posttraumatic deformation.

Authors:

Kataev M.G., Zakharova M.A.

Institution:

Moscow Helmholtz Research Institute of Eye Deseases, Russia

Aim:

To determine rational terms of early reconstruction of eyelids for posttraumatic deformation and shorten the period of rehabilitation

Patients and methods:

The study is based on an analysis of the results of surgical treatment of 93 patients with posttraumatic deformation of eyelids at age of 3 to 74 years. Patients were divided into two groups: first group consisted of 48 patients treated from 2 weeks to 6 months after injury; second group consisted of 45 patients treated from 1 to 3 years after injury. In both groups deformity was caused by mechanical trauma. Statistically there don`t have significant differences in age, sex and nature of deformation between patients groups I and II ($p>0.05$). 38 patients in group I with dense immature scars of eyelids performed preoperative local steroid therapy to reduce swelling and inflammatory reaction in scars, prophylaxis of postoperative complications from the immature scar tissue. Reconstr! uctive methods of treatments of eyelids deformations were: local tissues – 9, free skin grafts - 67, repair of the canalicular system – 23, transplantation of eyelashes – 3, free mucosal grafts - 6. Statistically significant difference between the methods of reconstruction in patients age groups I and II were not found ($p>0,05$). Several types of operations could be performed in one patient.

Results:

Good anatomic and functional results were obtained in 42 (87,5%)patients in group I and 41 (91,1%) patients in group II. Satisfactory result were obtained in 3 patients in group I and 3 patients in II group. Unsatisfactory results in three patients in group I and one patient in group II. Statistically significant difference between the results of treatment of patients groups I and II were not found ($p>0,05$).

Rehabilitation period of patients in group I lasted from 7 to 33 months after injury, mean $12,9 \pm 0,9$ months. In group II patients the same index ranged from 18 to 48 months, mean $28,4 \pm 1,4$ months after injury. Moreover shortening of the rehabilitation of patients in group I as compared to the second result was statistically significant ($p<0,05$).

Conclusion:

1). Results of reconstructive treatment of posttraumatic eyelids deformation does not depend on the time of initiation. 2). Starting reconstructive treatment of eyelids with posttraumatic deformation of up to 6 months after injury allows to achieve a good anatomic, functional and cosmetic results in 87,5% of patients in the early stages after injury, provided the proposed preoperative scarring. 3). Early results of reconstructive treatment of eyelids deformation do not differ from the results of late reconstruction of traditional age ($p>0,05$), but can reduce the period of rehabilitation of patients up to 15 months after injury ($p<0,05$) .

Title:

Dr.

Name:

Kataev M.G. Zakharova M.A.

Title:

Intraorbital foreign body with orbital cellulitis and compressive optic neuropathy: case report

Authors:

Gregor Hawlina, Alma Kurent, Matej Beltram

Institution:

Eye Hospital, University Medical Centre Ljubljana, Grablovičeva 46, 1525 Ljubljana, Slovenia.

Aim:

Intraorbital foreign body refers to a foreign body that occurs within the orbit but outside the globe. In general, metal and glass intraorbital foreign bodies are well tolerated, and if not causing any symptoms or signs, may be left in situ, while organic matter is poorly tolerated, elicits an intense inflammatory reaction, and need to be removed urgently. 61-year-old man who sustained orbital trauma with intraorbital foreign body and management is presented.

Patients and methods:

Patient was diagnosed by clinical examination and computed tomography (CT) scan. Ocular examination showed a best corrected visual acuity of 0,5 in right eye and 1,0 in left eye. Examination of right eye revealed signs of orbital celulitis (oedema, readness, proptosis, higher intraocular pressure and limitation of movements in all directions especially adduction). Signs of initial compressive optic neuropathy were presented (color vision (Ishihara) dropped to 9/15, but RAPD was negative). The globe itself was intact and slit lamp biomicroscopy showed normal intraocular structures. CT scan of the orbits revealed the presence of hypo-dense foreign body surrounded by small gas bubbles between medial rectus and medial orbital wall.

Results:

Patient was operated urgently under general anesthesia and foreign body was removed. Due to immediate operation we had not performed canthotomy and cantholisis. Itraoperatively, woody stick (25 x 6mm) was found inside the orbit. The entry wound was located in upper medial quadrant with the shallowest part of the stick located 10 mm under skin surface and the deepest part 35 mm inside the orbit closer to the orbital apex. The globe, medial rectus and medial orbital wall were intact. Microbiological specimens were taken and wound was cleaned with garamycin solution. Patient received amoxicillin with clavulanic acid intravenously and Maxitrol eyedrops locally. Patient’s visual acuity and color vision recovered completely in 5 days. Proptosis and diplopia diminished.

Conclusion:

In patients with suspected intraorbital foreign body meticulous clinical examination with radiological investigation should be performed. Some foreign bodies e.g., wood, glass, plastic are sometimes hardly seen on CT scan. Surgical removal depends on type of material and position of foreign body. Urgent surgical removal is indicated for all organic intraorbital foreign bodies. All orbital injuries require exclusion of traumatic orbital neuropathy and urgent management. In case of suspected compressive optic neuropathy frequent monitoring of visual acuity, intraocular pressure, color vision and RAPD is required and in case of worsening canthotomy and cantholisis should be performed.

Title:

Mr.

Name:

Gregor Hawlina