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SUPPLEMENT

13th Congress Of The International Society Of Ocular Trauma Meeting Abstracts

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MEETING ABSTRACT

PERIORBITAL TRAUMA

CHAIRPERSONS: BRIGITA DRNOVŠEK-OLUP, ARTUR KLETT

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MEETING ABSTRACT

SEVERE INJURY OF THE EYES BY FLYES

Jela Valášková, Juraj Sekac

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INTRODUCTION: Presentation of a 46 years-old, caucasian male (homeless, alcohol addicted). He was brought to ophthalmological emergency in a state of neglect with numerous wounds over the body caused by flyes. The eyes were covered by fly larvae.

CASE REPORT: During the first visit the eyes were examined to define the extension of the damage. The larvae were removed from the surface of the eyelids and from the anterior segment of the right eye. The left eye had no anterior segment and a communication to the nasal cavity was found.The larvae were also in the mouth. Patient was hospitalized at the Department of Infectious diseases and was treated systemically (Tazocin + Clindamycin) and locally (Tobramycin, Dexamethasone) administered antibiotics. After two weeks the right eye was stabilized and the rest of the left globe was removed. The injured conjunctival sac of the right eye was cicatrized and shrank and the cornea was covered by vascular membrane. After scar stabilisation, one year later, to improve conjunctival sac a tranplantation of the amniotic membrane was performed. Vitreous body and posterior pole have normal configuration on ultrasound. Visual acuity of the right eye is counting fingers.

CONCLUSION: We, and also patient, do not know, how long the larvae hosted on him. Undoubtedly, the most important factor in the treatment of such patient is a rapid initial treatment. In a future other surgeries (like corneal surgery) are planned.

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MEETING ABSTRACT

POSTTRAUMATIC EYELID RECONSTRUCTION

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INTRODUCTION: This is a presentation of the most important guidelines, surgical techniques and materials used for surgical eyelid repair and reconstruction after trauma. Some cases of secondary reconstruction and lacrimal drainage system trauma are presented as well.

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), alotransplantate (Alloplant, amniotic membrane) and synthetic materials (Gore-Tex,mersilene mesh, silicon). In some secondary reconstructions autologous bones were also used. (rib, crista iliaca superior ant.). All procedures were performed under general anaesthesia.

RESULTS: Best functional and aesthetic results were achieved with primary reconstruction. Results were satisfactory also after late 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, do not excise tissue.

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MEETING ABSTRACT

UNUSUAL FOREIGN BODIES IN THE EYELID IN PRE-SCHOOL CHILDREN

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INTRODUCTION: Foreign bodies are common entities for ocular traumas. However most of them occur in adulthood period. In pre-school children it is not very common and foreign bodies are mostly from different sources than expected. Here we present 5 cases with unusual foreign bodies in the eyelid of pre-school children.

METHODS: Files of pediatric patients who were referred to our department as emergency were reviewed and unusual 5 cases with eyelid foreign body were included study.

RESULTS: All cases were referred to us with different pre-diagnosis; first case was referred as chronic purulent conjunctivitis; second case as pyogenic granuloma; third case as mass in the eyelid; forth case as hematoma in lower eyelid. Only the fifth patient was referred us with ocular trauma. After medical and surgical evaluation diagnosis were; first two patients had organic foreign bodies in upper eyelid, third had crochet needle in the eyelid and anterior orbit, fourth case had a small stone in lower eyelid, fifth had pencil in lower and upper eyelid. None of the patients had globe injuries. All foreign bodies had been removed successfully.

CONCLUSION: History taking is an important part of ophthalmic evaluation, full ophthalmic examination should be done carefully, especially pediatric patients should be examined under general anesthesia. Ocular traumas and foreign bodies should be kept in mind in patients with unexplained findings.

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MEETING ABSTRACT

RECONSTRUCTIONS AFTER PERIORBITAL BURN INJURIES

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INTRODUCTION: Nowadays burn patients who also have periocular symptoms are usually treated by reconstructive surgeons and the role of the ophthalmic surgeon has decreased.

METHODS: Five different burned patients where included in this study. Although periocular complications occur in a minority of burned patients, they pose a greater challenge in surgical and non-surgical treatment. Electrical and thermal burns can lead to disfiguring scar formations and delayed treatment can lead to devastating ocular complications.

RESULTS: In all 5 cases an acceptable functional and cosmetical outcome was achieved. Three patients required an additional procedures for cosmetical reason

CONCLUSION: Achieving a successful reconstruction requires a comprehensive approach, entailing many advanced techniques with an emphasis on preserving function and balancing intricate aesthetic requirements. The theory is illustrated in this article with clinical examples.

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MEETING ABSTRACT

LOWER EYELID AVULSION WITH TISSUE LOSS REPAIRED BY HUGHES FLAP AND MONOCANALICULAR SILICONE STENTING – CASE REPORT

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INTRODUCTION: Eyelid injuries commonly occur as a result of blunt or sharp periocular injuries. When the medial canthal region is affected, injury can be associated with canalicular laceration. Surgical treatment of patient following blunt facial trauma with a medial avulsion of lower eyelid is presented.

METHODS: A 71-year-old male patient presented with complete avulsion of the medial 2/3 of the left lower eyelid together with almost full-length loss of lower canaliculus. Patient probably removed damaged tissue together with blood clots before arrival. Lower canaliculus was reconstructed using Minimonoka (FCI Ophthalmics) which was fixated under caruncule and lined with surrounding tissue, while loss of lower eyelid tissue was substituted with Hughes flap and free skin transplant from ipsilateral upper eyelid. Hughes flap was discontinued in 2 weeks, while Minimonoka extruded spontaneously at unknown time after injury.

RESULTS: Ten months after injury patient is without epiphora although mild medial ectropion is present. Opening of reconstructed lower canaliculus is positioned under caruncle and is patent on probing and irrigation. Patient is satisfied with functional and aesthetic result.

CONCLUSION: In eyelid injuries we follow certain rules of reconstruction but every case is unique and requires some inventiveness. The idea of eyelid reconstruction following lower eyelid avulsion with tissue loss is presented. According to literature this is the first described case report of lower canalicular reconstruction using surrounding tissue.

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MEETING ABSTRACT

VISION THREATENING ORBITAL HAEMATOMA AFTER EYE CONTUSION

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INTRODUCTION: To present a patient with vision threatening orbital haematoma after ocular contusion trauma.

METHODS: A case report.

RESULTS: A 56-year-old patient was admitted, complaining of pain and acute visual loss on her right eye following contusion to her right eye. On examination, right eye visual acuity was light perception, left eye vision was normal. There was significant periorbital and subconjunctival haematoma on the right side, with laceration of the bulbar conjunctiva in the upper nasal quadrant. Subtle protrusion of the right globe was noted. Ocular motility and globe integrity were preserved, but right sided relative afferent pupillary defect was evident. (OTS 60 points). Optical media in the right eye were clear, commotio retinae in the nasal retinal periphery was noted on fundus examination. Urgent CT scan of orbits and paranasal sinuses confirmed the clinical diagnosis of traumatic optic neuropathy and revealed a retrobulbar haematoma in the right orbit with compression of the optic nerve. No skeletal trauma was evident on CT scans. A lateral canthotomy and cantholysis were immediately performed, later followed by surgical orbital decompression and high-dose i.v. corticosteroid treatment started. On the first postoperative day the right globe protrusion and RAPD resolved, and visual acuity improved significantly. After 1 week the resolution of visual deficit was complete.

CONCLUSION: Retrobulbar haematoma is a known, potentially blinding complication of contusion eye injuries. It is important to be familiar with this complication, because only timely diagnosis and urgent surgical treatment can prevent permanent visual loss.

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MEETING ABSTRACT

JOINT SESSION OF THE ASIA-PACIFIC OPHTHALMIC TRAUMA SOCIETY (APOTS), THE OPHTHALMIC TRAUMA SOCIETY OF INDIA (OTSI) AND THE INTERNATIONAL SOCIETY OF OCULAR TRAUMA (ISOT)

Chairperson: S. Natarajan

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MEETING ABSTRACT

LEADERSHIP & INITIATIVES OF OTSI & APOTS & COLLABORATION WITH INTERNATIONAL OCULAR TRAUMA SOCIETIES

Sundaram Natarajan

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Ocular trauma is an important cause of blindness worldwide. Though serious, it is largely avoidable through awareness and timely treatment. OTSI and APOTS are taking important steps to reduce blindness due to ocular trauma. Given the burden of ocular injuries due to exposure to firecracker, especially those involving children, a petition to the Ministry of Health & Family Welfare, India for requirement of legislation to mandate prohibition of fire crackers use at households and at public places and limiting the use by professionals at designated places , use of protective eye-wear and that children should at all times be accompanied by an adult at a minimum distance of 3 meters away from live firecrackers. This initiative was taken by OTSI and supported by members of APOTS. Indian Registry of Eye Injury (IREI) is an endeavour taken up by the OTSI to form a database of ocular injuries, their nature, course and outcomes to aid regularize the management protocols across India. The Ocular Trauma Form is designed to enable collection of data for the same. The widespread protests and riots in Kashmir in 2016 and the subsequent use of pellet guns led to high number of ocular injury due to pellets. Many ophthalmologists from different parts of India went to Kashmir for surgical treatment of these victims. An initiative – Project Splendid Kashmir – was undertaken, in which key points were communicated to Chief Minister of Jammu and Kashmir state. Some of these included- Creation of a Centre of Excellence - Kashmir International Institute of Ocular Trauma for training young ophthalmologists from Kashmir as Vitreoretinal surgeons to manage eye injuries, upgrading the existing facilities and establishing a Regional Institute of Ophthalmology there.

Annual meetings and conferences are arranged each year at national and international level - to encourage dialogue and foster close collaboration between ophthalmologists of various sub- specialities working in various parts of world for managing challenging ophthalmic trauma situations.

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MEETING ABSTRACT

MANAGEMENT OF PATIENTS WITH PELLET GUN-RELATED OCULAR INJURIES IN KASHMIR

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INTRODUCTION: Ocular trauma imposes significant impact on global health. The troubled region of Kashmir has seen a long history of social unrest and military conflict. In June to November 2016, widespread protests and riots, as well as clashes between the military and civilian population occurred in Kashmir. Pellet guns were used, reportedly employed by security forces against protesters. This resulted in significant ocular and systemic injuries. Due to the overwhelming number of victims, ophthalmologists from Mumbai and other parts of India were activated to Shri Maharaja Hari Singh Hospital, a tertiary hospital in the region, for urgent treatment of casualties.

METHODS: Data of patients admitted to SMHS hospital, Srinagar between 18th June 2016 and 18th November 2016 were included. Clinical documents were reviewed, and following data were collected: age, gender, laterality of injury, nature of injury, visual acuity, initial clinical examination findings, imaging reports -computer tomography and ultrasonography B scan, treatment in the emergency setting and followup treatment.

RESULTS: Injuries were reported in 812 patients of which 777 were due to pellet. Date of admission and initial surgical procedure was available for 601 patients. A total of 88% cases underwent operation on the same day of admission and 10.6% had operation the next day. The mean age was 22.32 (± 7.20) years. Open globe injuries were 73% and Closed globe injuries 22% with data NA for rest Monocular injury were 93% and binocular injury 5%. Data NA for 2% 86.7% of the eyes had VA of counting fingers (CF) or worse including 5.4% of eyes which had no perception of light (NPL). Final VA after treatment - 17.6% of the eyes had VA better than 6/60 while 82.4% of the eyes had VA of CF or worse.

CONCLUSION: The majority of casualties sustained open globe injuries. Multiple surgeries were often necessary, secondary changes like retinal detachment, macular changes also lead to poor visual outcome despite respectable injury-to-treatment time. The risk of traumatic endophthalmitis needs to be kept in mind while dealing with open globe trauma cases. Long-term follow up and visual rehabilitation is required in most cases.

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MEETING ABSTRACT

CHALLENGES IN THE MANAGEMENT OF INTRAOCULAR FOREIGN BODIES

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IOFB after trauma needs early surgical removal as there is a fourfold increase in the risk of developing endophthalmitis if foreign body (FB) removal is delayed beyond 24 hours. Also, there is a risk of delayed ocular damage like siderosis. Damage due to FB depends on several factors including the size, shape (irregular FB can cause more damage), momentum at time of impact and composition of FB. Inert FB like glass or plastic are well tolerated while organic FB lead to severe infections. The most common mechanism for IOFB is chisel hammer injury. A good history and thorough ocular examination with appropriate imaging is necessary. FB can be removed along with the primary tear repair or as a subsequent procedure depending on the setting and the availability of proper equipment and personnel. FB in the posterior segment can be removed via external route or internal route. External scleral cutdown can be used for intraretinal or subretinal FB located anterior to equator. Induction of posterior vitreous detachment (PVD) is a very crucial step before attempting removal through internal route. The FB must be freed of all adhesions before removal. Encapsulated FB may need cutting of the capsule to free the FB. If the FB is impacted on attached retina, laser barrage can be done prior to dislodging the FB. The FB can be grasped with a FB forceps, using a snare, FB basket or with the help of intraocular magnets (for metallic FB). The FB can be lifted from the posterior segment with the nondominant hand so that the section can be enlarged with the dominant hand. Alternatively, a hand-shake manoeuvre can be done to shift the FB from the dominant to nondominant hand but with attendant risk of dropping the FB down and causing retinal injury. The FB should be held so that the greatest diameter of the FB is in line with the long axis of the forceps so that the section is smaller, and the FB does not get stuck in the section or fall down. The FB can be removed either by enlarging the sclerotomy circumferentially or by making a limbal section (in aphakic eyes/ when concurrent lensectomy is planned). The vitreous around the scleral section must be thoroughly trimmed to avoid vitreous drag and prolapse during removal. Very large FB may need to be removed through the limbal route only. Perfluorocarbon liquids can be used to minimize impact if there is fear of dropping FB and also in retinal detachment. Concurrent infection and retinal detachment also need to be treated and can lead to poor prognosis. The possibility of need for evisceration, eye going into phthisis and risk of sympathetic ophthalmia need to be borne in mind.

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MANAGEMENT OF PATIENTS WITH PELLET GUN-RELATED OCULAR INJURIES IN KASHMIR

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Intraocular infection involving the anterior and posterior segment due to the introduction of infectious agent into the eye during trauma is termed as post-traumatic endophthalmitis. Traumatic endophthalmitis has overall poorer prognosis due to associated damage to vital ocular structures, infection with more virulent organisms and a delay in diagnosis and treatment due to the difficulty in differentiating it from trauma related inflammation. Risk factors for development of endophthalmitis include delayed globe closure (greater than 24 hours), trauma in a rural setting, wound contamination, large wound size, lens capsule disruption and vitreous prolapse and presence of an intraocular foreign body (IOFB). The common etiological agents are Coagulase negative Staphylococci, Streptococcus, Enterococcus, Bacillus, Clostridium, Pseudomonas and Enterobacteriacae. Fungal endophthalmitis is common in injury with organic material. Polymicrobial or mixed organisms may also be present. Imaging is necessary when IOFB is suspected. Concurrent retinal detachment and choroidal detachment needs to be looked for. Management includes prophylactic treatment to prevent endophthalmitis after ocular trauma, presumptive treatment in suspected cases of infection and definitive treatment in culture proven cases of infective endophthalmitis. Immediate repair of open globe injury is necessary. Empiric antibiotics with broad spectrum coverage should be instituted as early as possible after obtaining sample for microbiological testing either from aqueous or vitreous. Antibiotics can be given through systemic (intravenous or oral), intravitreal, subconjunctival and topical routes. Systemic antibiotics have good intraocular penetration due to breakdown of blood ocular barrier due to inflammatory process initiated by trauma, in particular fluoroquinolones have very good ocular penetration. Treatment can then be tailored based on culture or polymerase chain reaction (PCR) results and sensitivities. Corticosteroids are indicated to reduce the inflammatory damage. Steroids are to be avoided in suspected fungal endophthalmitis. Cycloplegics and other anti-inflammatory treatment should also be started. Vitrectomy helps to obtain vitreous sample, reduce infective load, remove intraocular toxic products and IOFB if present, clear ocular media and improve intraocular drug diffusion. Close monitoring is necessary to assess improvement or worsening. Repeat sampling may be necessary in negative microbiology or clinical deterioration to treatment. Resurgeries may be needed is cases of worsening or development of retinal detachment. Visual prognosis is poor and depends on the virulence of the infecting organism, presence of retinal detachment, timing of treatment, and the extent of initial injury. Blind eyes with fulminant infection may need evisceration. Aggressive medical and surgical management is needed to attain the best possible visual outcome.

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MEETING ABSTRACT

EPIDEMIOLOGY AND ANTERIOR SEGMENT I

Chairpersons: Angelina Meireles, Vladimir Pfeifer

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MEETING ABSTRACT

A FIFTEEN-YEAR RETROSPECTIVE EPIDEMIOLOGIC STUDY OF OCULAR TRAUMA IN THE NORTH OF PORTUGAL

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INTRODUCTION: Ocular trauma remains an important cause of vision loss. Understanding the incidence of mechanisms and circumstances of injury per region allows the planning of prevention. The purpose of this study was to analyze the epidemiology of ocular trauma in patients from Centro Hospitalar Porto, Oporto, Portugal.

METHODS: A retrospective study of ocular trauma in patients assessed in an emergency room from January 2003 to December 2017 was performed and statistically analyzed. This study characterizes the target population by sex, age, types of injury, percentage of ocular trauma caused by occupational accidents, place of trauma occurrence, as well as final visual acuity, including visual outcome by trauma mechanism, representing an epidemiological overview of ocular trauma in the northern region of Portugal.

RESULTS: This study included a total of 658 patients suffering ocular trauma. Men had a higher rate of ocular trauma than women (81% vs 19%). The mean age was 48 years old and this was higher in females than in males (60 vs 46 years old, $p<0.01$). The main mechanism of ocular trauma in men was contusion (38.6%) and in women was through fall (40.5%). Men had a higher rate of occupation accident (23,7% vs 3.3%, $p<0.01$). The majority of traumas affected people in age group 40-49 (19.1%). The most common types of injury were rupture (31.8%) and penetrating trauma (22.0%). Occupational accidents were responsible for 19.1% of injuries. Additionally, home was the main location of trauma (42.6%). Alcohol and/or drugs were involved in 6.4% of reported traumas. In 7.3 % of trauma the initial visual acuity was superior to 20/40 while in 6.2% of cases no light perception was registered. In 15.8 % of trauma the final visual acuity was superior to 20/40 while in 6.1% of cases no light perception was registered.

CONCLUSION: The study provides an insight on the epidemiology of ocular trauma in the North of Portugal, allowing for planning of the care provided to this population, concerning this pathology. The most frequent location of trauma was home, demonstrating the need of protection not only at work, but also during risky activities at home.

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MEETING ABSTRACT

THE IMPORTANCE OF SAFETY GLASSES: CASE SERIES IN A TERTIARY HOSPITAL IN TURKEY

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Marmara University School of Medicine, Department of Ophthalmology, Istanbul, Turkey

INTRODUCTION: To determine the nature and types of domestic eye injuries.

METHODS: The authors prospectively analyzed data of 51 consecutive patients with eye injuries referred to the emergency department of Marmara University School of Medicine between 2016-2018. Standardized international classification of ocular trauma (Birmingham Eye Trauma Terminology) was used for eye injury classification.

RESULTS: Twenty-three patients (45%) had nonpenetrating trauma, 11 patients (22%) penetrating trauma and 17 (%33) had blunt trauma. 40 patients (78%) were male and 11 (22%) female. The mean age was 31,7 years. Among penetrating trauma patients, the mean age was 38 years, and among non-penetrating patients the mean age was 29 years. The mean follow-up time was 20 months. The mean visual acuity at presentation was 1.58+/-0.94 logMAR and 1.07+/- 1.45 logMAR at the endpoint of follow up. The presentation and the endpoint visual acuities were 1.12+/-0.79 logMAR and 0.75+/-0.72 logMAR.

CONCLUSION: Non-penetrating ocular injuries seems to be more frequent injury in our series. The mean age of penetrating trauma patients is older than other groups, indicates the job related travma and more preventive measures such as safety glasses should be taken at job.

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MEETING ABSTRACT

ANTERIOR SEGMENT RECONSTRUCTION IN SEVERE EYE TRAUMA

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INTRODUCTION: In severe anterior segment trauma cornea, iris and lens are usually injured. To regain quality of vision these structures have to be reconstructed or in case of crystalline lens and sometimes also cornea and iris, replaced.

METHODS: In the injured eyes traumatic cataracts, irises and corneas were surgically managed or replaced. Iris and IOL implantations were performed using floating suture technique. The IOLs were sutured to artificial custom made irises and implanted. Overall 8 cases of severe trauma reconstruction will be presented. The anatomic, cosmetic and functional results will be shown. Pre and postoperative visual acuity is presented, retina and macula status is evaluated using OCT technology. Inflammation was monitored.

RESULTS: Excelent anatomical and cosmetic results were achieved. In more than 80% of cases also visual acuity was significantly improved compared to preoperative. Follow up is from 12 to 48 months. No inflammation is observed using this technique. No cystoid macular edema in these eyes.

CONCLUSION: Anterior segment reconstruction using penetrating keratoplasty, traumatic cataract extraction and IOL implantation or aphakia correction and artificial iris implantation enables significant life quality improvement after severe eye trauma.

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MEETING ABSTRACT

IS THIS A RODENT ULCER OR ANYTHING ELSE?

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INTRODUCTION: Unnoticed foreign bodies, in the immediate aftermath of trauma, can show themselves various presentations. Description of clinical case of foreign body abscess formation in lower eyelid mimicking basal cell carcinoma.

METHODS: A male patient who is 42 years old age, was admitted to ophthalmology clinic with a complaint of redness and swelling on temporal of the left lower eyelid for 2 months. The patient had a history of exposure to the dynamite explosion, 25 years ago. Due to that exposure, numerous foreign bodies were removed from his body and some of them were remained, especially at several subcutaneus areas. There was a lesion, that resembling the rodent ulcer of basal cell carcinoma on temporal part of the left lower eyelid. Except that, overall ophthalmologic examination of the patient was totally normal. Because of the possible foreign body under that lesion we applied computerized tomography and there was a hyperdense foreign body detected at the lesion area are under the skin. We removed the lesion with safety margins in accordance with basal cell carcinoma suspect. However, the result of pathology was chronic inflammation, abscess formation and metalic foreign body.

CONCLUSION: Although the miscellaneous lesions mimick the basal cell carcinoma, the opposite situations can also occur. Therefore, suspicious lesions should be evaluated as malign situations. In addition, independently from the trauma date, foreign bodies can be reveal with chronic inflammation or abscess formation.

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MEETING ABSTRACT

ASTIGMATISM MANAGEMENT AFTER CORNEAL LACERATION – A CASE REPORT

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Očesna Ordinacija Irman, Žalec, Slovenia

INTRODUCTION: A case of a large corneal astigmatism induced by a corneal laceration and its management will be presented.

METHODS: A Toric Intraocular Collamer Lens (T-ICL) was used to manage 6 D of corneal astigmatism (4 D of manifest astigmatism) in an 18-year-old boy. Corneal astigmatism was a consequence of a laceration caused by glass.

RESULTS: T-ICL implantation provided an excellent refractive and visual acuity result. However, 10 months after implantation he presented with blunt trauma and T-ICL rotation. T-ICL repositioning was needed.

CONCLUSION: T-ICL could provide excellent results in patients with corneal astigmatism caused by trauma. However, T-ICL positional stability may be an issue.

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MEETING ABSTRACT

BIG INCISION CATARACT SURGERY IN OCULAR TRAUMA

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University Hospital, La Bisbal, Spain

INTRODUCTION: Challenging trauma surgery with long-standing intraocular foreign body in the microincision era. To share the experience and the challenge it represents for a surgeon the treatment of complex traumatic injuries with the presence of intraocular foreign bodies.

METHODS: Clinical and surgical case: A 22 years old patient suffered an old trauma injury in the right eye ten years ago. This was due to an accident when he was playing around people hammering on steel. The presence of iron intraocular foreign body was suspected. The patient presented a brunescent cataract. The echography detected the presence of an intraocular foreign body, electroretinogram response was diminished. A combined surgery with extracapsular extraction and vitrectomy were planned to remove the intraocular foreign body.

RESULTS: Cataract surgery was realized using trypan blue dye to stain the anterior capsule. The capsulorhexis was difficult. The cataract could be removed completely with an extracapsular extraction. A 3 pieces intraocular lens was placed in the sulcus. The posterior vitrectomy identified a superior intraocular foreign body. The retina was attached, but the aspect was pale with ischemic vessels. The foreign body could be removed through a scleral incision.

CONCLUSION: Intraocular foreign bodies represent a medical and surgical challenge. Each case has to be evaluated individually to determine the best management. Medical treatment and a close follow up are very important to get the best result.

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MEETING ABSTRACT

ARTIFICIAL IRIS IMPLANTATION IN POST-TRAUMATIC ANIRIDIA AND APHAKIA: A COMPARISON AMONG DIFFERENT MODELS AND SURGICAL TECHNIQUES

Helena Haskaj[1], Matteo Forlini[2]

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2 University of Parma, Italy

PURPOSE: Post-traumatic aniridia and aphakia require a complex surgical approach. We present our approach for the simultaneous correction of this condition using artificial iris implantation combined with IOL implantation, showing different strategies and models.

METHODS: Patient #1: subtotal aniridia, traumatic complete cataract. Standard phacoemulsification with IOL in the capsular bag and Artificial Iris (Humanoptics) implantation in the sulcus were performed. Patient #2: total aniridia, luxated lens in vitreous chamber. After vitrectomy with 5000cs Silicon Oil tamponade, IOL was sutured to the posterior surface of the artificial iris (Humanoptics) which was positioned with scleral fixation. Patient #3: central corneal wound, total aniridia, luxated lens. After combined PK and vitrectomy, Artificial Iris (Reper) was implanted with scleral fixation. Patient #4: scleral wound, complete aniridia, aphakia. After vitrectomy with 1000cs Silicon Oil tamponade, Artificial Iris (Reper) implantation was performed

RESULTS: All surgeries were performed without complications. All patients achieved aesthetic satisfaction and, where it was possible, visual recovery. If silicon oil is left in the eye, artificial iris represents a good way to confine it within the vitreous chamber. Artificial iris also provides a support for IOL implantation and guarantees the maintaining of stable IOL positioning.

CONCLUSION: Simultaneous correction of aniridia and aphakia should be considered in order to ensure good aesthetic and functional result. The surgeon can choose the most suitable technique for each single case, as patient's condition may be unique presenting different scenarios.

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MEETING ABSTRACT

ANTERIOR SEGMENT II

CHAIRPERSONS: EKATERINA CHENTSOVA, ARNE VIESTENZ

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MEETING ABSTRACT

EPITHELIAL DOWNGROWTH - HISTOPATHOLOGY AND INTRAOPERATIVE OCT FEATURES

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INTRODUCTION: Penetrating eye injuries with delayed wound closure increase the risk of epithelial downgrowth.

METHODS: We report the case of a 11 years-old boy with penetrating eye injury (1-day delay of wound closure after iron bar injury), retinal detachment, corneal perforation and lens loss. The cornea developed an circumscribed opacity with inferior tractional detachment.

RESULTS:After 3 pp vitrectomies, one corneal graft, amniotic membrane graft the eye was enucleated because of untreatable leakage. Histopathology and intraoperative OCT imaging revealed a diffuse epithelial invasion.

CONCLUSION: In case of focal corneal opacity the surgeon should rule out epithelial ingrowth. Only a fast and complete excision according to Naumann can guarantee the eyes survival. Otherwise, the epithelial invasion leads to visual and globe loss.

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MEETING ABSTRACT

REPEATED SCLEROCORNEAL GRAFT WITH LIMBAL STEM CELLS – THERAPY IN SEVERE CORNEAL BURN

Arne Viestenz

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INTRODUCTION: Severe corneal burn may lead to blindness due to scarring or corneal ulcers.

METHODS: We introduce a novel, repeatable technique of sclerocorneal graft containing limbal stem cells, improving VA from HM up to 20/40 or 20/20 using corneal trephines and vitrectomy equipment.

RESULTS: This modification of Putschkovskayas technique (Odessa) lead to a significant graft survival, professional rehabilitation and good visual outcome (reading vision and above).

CONCLUSION: In case of limbal stem cell loss, a limbocorneal graft with scleral ring and removal of necrotized tissue with the vitrectomy probe is one option to save sight.

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MEETING ABSTRACT

SURGICAL MANAGEMENT OF NON TREATED SCLERAL WOUNDS AFTER OPEN EYE TRAUMA

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INTRODUCTION: Our purpose was to present the results of surgical management of non treated scleral wound after open globe trauma.

METHODS: Two patients with non treated scleral wounds and lens and iris abnormalities underwent anterior segment surgery. From case history: both were traumatized 6 months ago without medical care. In the first case there was trauma by tennis ball– tear of sclera with staphyloma under upper eyelid and iris coloboma with traumatic cataract. In the second – trauma by stone- tear of sclera with huge conjunctival cyst. In both cases no else abnormalities have been founded. Combinations of scleroplasty suturing technique with phacoemulsification (phaco) and pupil formation were applied. The anatomical, cosmetic and functional results were evaluated.

RESULTS: The presented methods of sclera and conjunctiva reconstruction in combination with phaco in one case warranted good anatomical and cosmetic results. VA increased from light perception in one case to 0,8 and from 0,4 to 0,7 in the second case.

CONCLUSION: Our microsurgical technique for sclera repair and its combination with intraocular surgery provides good anatomical, cosmetic and functional results. Even in cases of severe damage of anterior segment simultaneous scleroplasty and microinvasive surgery should be possible to avoid longtime rehabilitation.

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MEETING ABSTRACT

THE TREATMENT OF SCLEROMALACIA

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INTRODUCTION: A young male presented with bilateral scleromalacia at the point of spontaneous rupture. He also had glaucoma in both eyes.

METHOD: Scleroplasty with a donor sclera was performed in both eyes in a single surgical session, with an Ahmed valve placed in the anterior chamber.

RESULTS: At 1-year follow-up, both eyes had normal intraocular pressure and a healed scleral area.

CONCLUSION: Proper surgery is a sight- and globe-saving intervention in these severely affected eyes.

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MEETING ABSTRACT

IRIS CERCLAGE PUPILLOPLASTY FOR TRAUMATIC MYDRIASIS

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INTRODUCTION: We report surgical outcomes and safety of the cerclage pupil repair in patients with traumatic mydriasis after contusion injury of the eye globe.

METHODS:Three patients with traumatic mydriasis after the contusion injury of the eye globe were included in a noncomparative case series. Mechanism of the injury was blunt trauma in two cases and rupture of the globe in one patient. Pupil diameter after trauma in all cases was 8-9 mm. In all cases pars plana vitrectomy was performed immediately after the injury. In two cases dislocated crystalline lens was removed during vitrectomy and eyes left aphakic. The third patient had cataract surgery with IOL and ICTR in capsular bag alongside with pupilloplasty. The visual acuity, subjective degree of glare disability, photophobia, postoperative anatomic results, intraoperative and postoperative complications were evaluated.

RESULTS:The mean follow-up time was 12.67 months (range 1-36 months). Two patients have had cerclage iris pupilloplasty with retropupilary implanted iris-claw lens. Third patients had IOL implanted in capsular bag with pupiloplasty as a secondary procedure. Glare and photophobia subjectively improved in all patients. Best-corrected visual acuity improved in 3 out of three eyes from 0.2, 0.3, 0.8 preoperatively to 0.7, 0.9 and 1.0 postoperatively (Snellen charts). All eyes achieved the desired anatomic result with round pupil approximately 4mm wide. There were no intraoperative or postoperative complications. All patients had increased intraocular pressure due to contusion injury of the eye, which was normalised by topical therapy.

CONCLUSION:In patients with traumatic mydriasis iris cerclage pupilloplasty with lens implantation appears to be safe and effective in reducing glare disability and improving visual outcomes.

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MEETING ABSTRACT

IRIDOLENTICULAR RECONSTRUCTION

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INTRODUCTION: In ocular trauma, damage of both segments demanding extensive optical-reconstructive procedures is usually necessary, being the recovery of the iridolenticular diaphragm one of the main tasks. The purpose is to present the results for the sulcus fixation of an aniridia IOL

METHODS: Retrospective review of 29 eyes implanted with the Ophtec 311 IOL.

RESULTS: 29 eyes of 29 patients, mainly men with a mean age of 54 years. More than half of the eyes were suffered an open trauma with scleral entrance and loss of the iris. The visual acuity at presentation ranged from light perception to 20/200 and improved from counting fingers to 20/20. The subjective perception of glare and photophobia improved in all patients who have these complaints.

CONCLUSION: The secondary implantation of an artificial iris-IOL seems to offer good anatomical and functional results.

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MEETING ABSTRACT

BOSTON TYPE I KERATOPROTHESIS IN AN ALKALI BURN EYE

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INTRODUCTION: In a patient with alkali burn 17 years after injury a Boston Type I keratoprosthesis was implanted.

METHODS: The worse eye of a legally blind patient was implanted with keratoprosthesis. The conjunctiva was dissected, altered cornea was identified. The Boston Type I Keratoprosthesis was assembled and implanted into the trephined recipient bad using single 10.0 nylon sutures. Conjunctiva was remodeled. The video will be shown.

RESULTS: Eleven months post surgery the visual acuity is 0.63 or 0.2 Log MAR. The eye is quiet. Pressure is normal. Macula OCT is normal. The AC OCT shows good alignment of the keratoprosthesis to the donor cornea.

CONCLUSION: Boston Type I keratoprosthesis is a promising device in these devastating situations and enables regaining normal life to these patients.

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MEETING ABSTRACT

BIODEGRADATIVE DRAINAGE «GLAUTEX» IN THE TREATMENT OF POSTTRAUMATIC RECESSIVE GLAUCOMA

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INTRODUCTION: The purpose of our research was to represent our results of biodegradative drainage «Glautex» implantation in the treatment of posttraumatic recessive glaucoma.

METHODS: Seventeen patients with secondary glaucoma, caused by traumatic recession of anterior chamber angle after severe closed trauma underwent drainage surgery. All patients had the history of 1-3 conventional glaucoma surgery, but IOP was 37-42 mm with hypotensive medical treatment. Ultrasound biomicroscopy (UBM) showed angle recession more than 180°in 13 cases, in 4 cases - 360°. We used our technique of drainage implantation: after trabeculectomy we form deep scleral inverted perforating punch 4×3 mm and pull-on the drainage on it as a sleeve. As a result, we form a stable dilatation of suprochoroidal space and active intraocular fluid outflow to the filtering bleb.

RESULTS: Examination revealed significant decrease of IOP in all cases from 10-14 mm after the operation to 17±4,3 mm in a year. UBM showed a forming of stable local dilatation of suprachoroidal space, a communication between the suprachorioidal space and the anterior chamber and good scleral fistula in the area of surgical intervention

CONCLUSION: Promising clinical capabilities for drainage «Glautex» implantation in our modification are indicated. The use of biodegradative drainage «Glautex» in our patients with posttraumatic recessive glaucoma reduces IOP and has a stable hypotensive effect due to formation of two ways of fluid outflow in all cases

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MEETING ABSTRACT

STRATEGY AND GENERAL ISSUES

CHAIRPERSONS: DUSICA PAHOR, HUGO OCAMPO

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MEETING ABSTRACT

OCULAR INJURIES IN MASS-CASUALTY INCIDENTS: PARIS ATTACKS, 13TH NOVEMBER 2015

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Rafik Belazzougui[2], Bahram Bodaghi[2], Jean- Louis Bourges[4], Antoine Brézin[5]
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INTRODUCTION: The aim of this study is to report the ocular injuries sustained by survivors of the November 13, 2015, Paris attack.

RESULTS: On 13th November 2015, in 40 minutes, Paris suffered four suicide bombers attacks at the same time: shootings at three different restaurant terraces and one attack in the Bataclan concert hall, resulting in 130 dead and 495 wounded. This multi-site terrorist attack was the first of this magnitude in France. Nine patients, 6 men and 3 women (mean age 29.3 ± 5.6 years) presented unilateral ocular or orbital injuries. Four of them were hurt by a direct gunshot to the face. Ocular traumatic lesions included closed globe (n =3), open-globe (n = 5), intraocular foreign body (n = 1), perforating (n = 2), rupture (n = 2), and neuro-ophthalmic (n = 1) injuries. Two subjects required medical treatment while 6 subjects required surgical treatment. In emergency, primary intervention was wound repair in 66% (4/6) of eyes. In a second time, two patients needed vitrectomy for retinal detachment and two patients underwent secondary enucleation. One victim died one hour after arriving at the emergency room, the ballistic gateway was orbital with cerebral involvement. No cases of endophthalmitis or sympathetic ophthalmia were described. Only two eyes achieved final visual acuity of better than 20/200 after surgical treatment.

CONCLUSION: Ocular injuries are common and potentially blinding in mass-casualty incidents. Globe injuries secondary to a gun shoot result in devastating visual and anatomic outcomes despite surgical intervention.

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MEETING ABSTRACT

OCULAR TRAUMA SCORE (OTS) AS PROGNOSTIC MODEL FOR VISUAL OUTCOME IN PEDIATRIC OPEN GLOBE INJURIES

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INTRODUCTION:The aim of this study was to evaluate the ocular trauma score (OTS) as prognostic model for visual outcome after open globe injury in children younger than 18 years during a period of 19 years (January 2000 - January 2018).

METHODS:Medical and operating records of all patients younger than 18 years who had undergone surgical repair of an open globe injury were retrospectively reviewed. 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 OTS points and converted into the OTS categories (1 through 5). Only the patients with complete data for OTS calculation were evaluated. The findings were compared with the results of the OTS study. 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. At the end, 42 children (42eyes) remained in the study. After surgical repair amblyopia treatment was performed as soon as possible in all younger children.

RESULTS:The mean age was 6,9 years (min. 8 months, max. 17). The male/female ratio was 36 (85,7%) to 6 (14,3%). The mean follow-up was 29,5 months (min. 3, max. 120). No eye was enucleated. Primary surgical repair was performed in all patients. Distribution of the percentage of final visual acuity between OTS study and our study in each OTS categories demontrated no differencies in category 4 and 5. In category 1 lower ratio was observed in group NLP and higher ratio in one group (LP/HM). Higher ratio was observed in category 2 in group 20/40 or more, 15% in OTS study vs 40% in our study ($p<0,001$) and in category 3 in group 20/40 or more, 41% in OTS study vs 64,3% in our study.

CONCLUSION: OTS calculation at initial examination is strongly recommended also in pediatric patients as prognostic model for final visual acuity expectation and appropriate counseling. The method is simple and directs us to further decision.

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MEETING ABSTRACT

OTSAPP

Hugo Ocampo

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INTRODUCTION: Ocular trauma is one of the most common cause of lost of vision in all countries. Some times, the first person that make contact with the patient, do not know much about the best way to examine and how offer the best management. We design an App that will help to those people to classify and refer this patient at the closer ocular trauma center.

METHODS: With the sponsorship of Colciencias in Colombia, we designed with a systems technologist of SENA (National Learning Service), an application to be downloaded on Android and Mac platforms, which allows the user to perform the steps of the ophthalmologic examination aimed at ocular trauma, classify the OTS, and show the user the nearest retinologists to contact them and see if they can receive the patient.

RESULTS: Currently, we are working on the first version making the corresponding tests to be adding utilities that make the Application more usable. It will be presented for the first time in Mexico, in February, in an ocular trauma course. The philosophy of the application is that it works similar to Uber, that is, the user will have several options to choose from, and he will contact the retinologist directly to have a faster and more direct contact. In addition, all data will be stored on a server, in order to store statistics that serve us for public health strategies in the future.

CONCLUSION:We hope that the application can help the first actor involved in the management of ocular trauma (many times they are not even ophthalmologists), to do the appropriate examination, classify the severity of the injury, and facilitate its management as quickly as possible. this, should improve the results in the handling of the ocular traumas.

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MEETING ABSTRACT

SEVERE OCULAR TRAUMA: WHETHER AND WHEN TO GIVE UP RECONSTRUCTION OR TO REFER

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INTRODUCTION: As open globe injuries decreased in Germany by more than 30% within the last 35 years, and as the median number of such injuries treated by the ophthalmic department in Germany decreased to 12 per year, creating networks to deal with very severe ocular injuries is becoming more and more important.

METHODS: Case report: A case of a severe ocular rupture in a child, reaching from equator to equator is presented. The very experienced vitreoretinal surgeon failed to open the closed funnel, that already developed two days after surgery. The outcome was openly discussed with the child and his parents, they decided not to give up in spite of a little chance to reach an anatomic success. It was decided to send the child to another center to have additional reconstruction within five days after the injury.

RESULTS: Due to early tertiary reconstruction, it was possible to open the funnel and reattach the retina. The retina is now attached for 6 years enabling orientational vision.

CONCLUSION: As the chances for a successful anatomic outcome are rapidly decreasing within days after severe ocular trauma, it is necessary to send the patient for a second opinion early enough, if the treating facility realizes that the patient is not willing to give up in spite of a failed attempt to reconstruct the eye. An established network is helpful to lower the inhibition threshold in such situations. Unfortunately, the vast majority of patients we see for a second opinion, are still coming several months to late.

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MEETING ABSTRACT

THE NO LIGHT PERCEPTION EYE

Zlatko Slezak

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According to the Ocular Trauma Score (OTS) visual acuity at the moment of examination is a major predicting factor for the final outcome of an ocular trauma case. No light perception makes the prognosis of the final outcome substantially poor.

In this presentation we shall present several cases of major trauma where there was no light perception at the initial examination. Despite that a proper trauma management was done and the eyes achieved some ambulatory visual acuity.

Take home message is that we should never give up despite how poor the initial prognosis may be.

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MEETING ABSTRACT

POSTERIOR SEGMENT I

Chairpersons: Wolfgang Schrader, Zlatko Slezak

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MEETING ABSTRACT

OUTCOMES OF VITREORETINAL SURGERY AFTER OPEN GLOBE INJURY: A RETROSPECTIVE COMPARATIVE STUDY

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INTRODUCTION: The purpose of this study was to evaluate the functional and anatomical outcome of pars plana vitrectomy (PPV) in open globe injuries (OGI), describe its characteristics and compare outcomes with those of patients treated for the same condition 15 years ago.

METHODS: A retrospective review of two groups of patients with OGI managed by PPV at the Eye Hospital, University Medical Centre Ljubljana, between 2015 and 2018 (group A) and between 2000 and 2003 (group B) was conducted. A total of 54 consecutively operated eyes were included in group A and 52 eyes in group B. The Birmingham Eye Trauma Terminology System (BETTS) and Ocular Trauma Score (OTS) were used. The information on the type, grade and zone of injury, relative afferent pupillary defect, retinal detachment, endophthalmitis, timing of vitrectomy, pre- and postoperative visual acuity were included. Functional and anatomical outcomes were analysed.

RESULTS: The mean age of patients was 51.3 (range 13-82) years in group A and 29.5 (range 5-67) years in group B. Male predominance was found in both groups. Injury mechanisms in group A were: intraocular foreign body (IOFB) in 43% of patients, globe rupture in 37%, penetration in 16.7% and perforation in 3.7%. In group B there were: IOFB in 67.3%, penetration in 19.2%, perforation in 7.7%, and rupture in 5.8% of patients. Visual acuity 0.5 or better (Snellen charts) was achieved in 43% of eyes in group A and 50% in group B. Visual acuity 0.1 or worse was identified in 43% of eyes in group A and 27% in group B. Visual acuity in patients with globe rupture was good in 3/20 and 1/3 (group A and group B, respectively). A good anatomical outcome with final retinal reattachment was achieved in 90.7% (group A) and 90% (group B) of cases.

CONCLUSION: Eyes treated with PPV after OGI have similar anatomical results in both groups. The overall functional result of the recent study group was worse in comparison to the study group operated 15 years ago, probably due to the immense increase in the number of globe ruptures included in the recent study group.

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MEETING ABSTRACT

CHORIORETINECTOMY FOR SEVERE OCULAR RUPTURE OR PERFORATION, CUMULATIVE RESULTS OF ISOT-STUDIES

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INTRODUCTION: The development of proliferative vitreoretinopathy may already start within hours after a severe ocular rupture or perforation. Therefore, a proactive reconstruction of the posterior segment seems to be reasonable(1). The ISOT created a protocol for a prospective study to evaluate the results of prophylactic chorioretinectomy in eyes seriously injured eyes at high risk for proliferative vitreoretinopathy (PVR). Two prospective case series were carried out according to this protocol and have been published so far (2,3), additional cases have been collected from other centers.

METHODS: This paper will present the cumulative outcome of these prospective studies.

RESULTS: At 6 months follow up a complete retinal attachment could be achieved in 78 of 85 cases (92%), a visual acuity of 20/400 or better was reached in 66/85 cases (78%). The mean number of surgeries
necessary at 6 months was 2.2.

CONCLUSION: Early reconstructions and chorioretinectomy enables an amelioratred outcome of severe ocular rupture or perforation

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MEETING ABSTRACT

RETINAL TRAUMA: CHORIORETINECTOMY

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INTRODUCTION: Serious ocular trauma have poor outcomes mainly due to scar related complications, mostly PVR. A new procedure, called prophylactic chorioretinectomy seems to decrease the rate of these complications

METHODS: A retrospective analyses of a consecutive case series who underwent early vitrectomy along with chorioretinectomy

RESULTS: Thirty-six patients with a mean age of 40 years and a mean follow-up of 13 months. At the end of followup, the PVR rate was 6.5%, anatomical success was 80.6% and the globe survival rate was 96.8%

CONCLUSION: Prophylactic chorioretinectomy is a surgical procedure that may decrease post traumatic PVR, thus improving final visual acuity and increasing globe survival rates

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MEETING ABSTRACT

TRAUMATIC CHOROIDAL RUPTURE: NEW INSIGHTS FROM AUTOFLUORESCENCE IMAGING

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INTRODUCTION: To investigate the fundus autofluorescence (AF) features of patients with traumatic choroidal rupture (CR) and to assess the longitudinal relationship between the AF changes and outer retinal structure using spectral domain optical coherence tomography (SD-OCT).

METHODS: This was a retrospective observational case series of patients treated at two tertiary referral centers: Eye Clinic, University Medical Center Ljubljana, Slovenia and Eye Clinic, Department of Biomedical and Clinical Sciences "Luigi Sacco", Luigi Sacco Hospital, University of Milan, Italy. Longitudinal multimodal retinal imaging, including SD-OCT raster scans acquired simultaneously with near-infrared reflectance (NIR) imaging and blue fundus AF, was available for all included patients. Integrity of SD-OCT outer retinal and choroidal bands at onset and over the course of disease with corresponding AF change were analyzed.

RESULTS: Eleven cases were identified and reviewed. Median age of the patients was 40 years (range from 16 to 72). Nine were male and two females. 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). Three patients developed choroidal neovascularization (CNV) and were treated with anti-VEGF injections. AF imaging showed a hypoautofluorescent irregular curvilinear line corresponding to an area of lacking the choriocapillaris/RPE complex on SD-OCT. After 1 month a hyperautofluorescent rim surrounding the choroidal rupture was observed in all patients. SD-OCT demonstrated healing of the RPE and closure of the rupture with increased reflectivity at the level of choriocapillary/RPE complex. The areas of reabsorbed subretinal hemorrhage appeared with mild reduction of FAF.

CONCLUSION: This study described the AF changes occurring in the course of traumatic choroidal rupture using SD-OCT imaging. Hyperautofluorescent rim, could represent the RPE hyperplasia during the resolution of choroidal rupture, that leads to lipofuscin build-up and more increased autofluorescence. Autofluorescence imaging is useful to show the area of post-traumatic RPE damage and healing in traumatic choroidal rupture.

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MEETING ABSTRACT

CLINICAL FEATURES AND IMPACT ON VISUAL OUTCOMES OF SURGICALLY REMOVED INTRAOCULAR FOREIGN BODIES

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INTRODUCTION: Intraocular foreign bodies(IOFBs) are an important cause of visual loss, mostly in the working age population. The purpose of this study was to describe the clinical features of IOFBs, their surgical management and impact on visual outcomes.

METHODS: Single-center retrospective study of patients submitted to IOFBs surgical removal from April 2003 to December 2017. All patients were initially evaluated in the emergency room. Demographic, clinical and injury-related data on admission were analysed. Best-corrected visual acuity(BCVA) was measured preoperatively and at the end of follow-up. Postoperative complications after the primary surgery were assessed.

RESULTS: We evaluated 140 consecutive patients. Most of them were male (90%) with a mean age of 42±15 years. Hammering (39.5%) was the most frequent mechanism of trauma. The injuries were occupational related in 40.2% of cases. The mean ocular trauma score(OTS) on admission was 3±1. The main entrance wound was corneal (64%). The peripheral retinal was the most frequent IOFB location (43.3%), followed by anterior chamber (16.3%). At presentation, vitreous haemorrhage was found in 38.6%, retinal detachment in 12.1% and endophtalmitis in 10.7%. Surgery was performed after a median period of 1 day (IQR 0-2). Most of the patients (72.4%) underwent surgery in the first 24 hours after presentation. Foreign body extraction was performed in the primary surgery in 70%, combined with a via pars plan vitrectomy in 59.2% of these. The median number of surgeries per patient was 2±1. Postoperative complications after the first surgery occurred in 53.6%, including retinal detachment in 7.9%, cataract in 7.9% and endophtalmitis in 3.6%. Most of the patients (62.7%) had an initial BVCA between 4/200 and light perception, 4% had no light perception and 19% had a BVCA ≥20/40. Final BVCA was ≥20/40 in the majority of patients (54.2%) but no light perception was found in 15.3%. Patients with a final BCVA <20/100 had a lower OTS on admission compared with patients with a final BCVA ≥20/100(mean 3 vs. 4;$p<0.001$).

CONCLUSION: Intraocular foreign bodies imply a timely surgical intervention for removal. An initial low OTS is associated with a worst visual outcome in the follow-up. Good postoperative results can be achieved,frequently requiring more than one surgery procedure.

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MEETING ABSTRACT

USE OF PERFLUOROCARBON AS TEMPORARY BUFFER IN CASES OF COMPLEX VITRECTOMIES

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INTRODUCTION: Occasionally, eye trauma surgeries and some scheduled vitrectomies may be complicated by unstoppable bleeding or severe choroidal hemorrhage. Using perfluorocarbon as a temporary buffer (10 days), allows to stabilize the bleeding and in a second surgical time, successfully complete the surgery.

METHODS: The experience of 4 patients is shown where it was decided to use perfluorocarbon as a buffer within the eye for 10 days, then in a second surgical time, to finish the surgery that had not been possible due to uncontrollable bleeding. The same surgeon (HHO) performed the same protocol in the 4 cases: Perflurocarbon for 10 days, a second surgery to finish checking the retina, complete the vitrectomy, put a laser, and leave silicone of 5,000 Ctks as tampon for 2 months. In a third surgery, the silicone is removed, the vitrectomy is checked, and gas is left as a buffer.

RESULTS: Of the four cases, 3 (75%) had positive visual and anatomical results. Improving vision in an important way and preserving your applied and functional retina. One case (25%) that had ejection of the retina by the wound and was recovered during the initial surgery, at two months, had severe PVR with total visual loss.

CONCLUSION: In cases of complicated surgery, the use of perfluorocarbon can be considered as a temporary buffer, to stabilize the eye and allow a second surgical time to improve the patient's prognosis.

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MEETING ABSTRACT

PHOTOCOAGULATION OF RETINAL PIGMENT EPITHELIUM DURING VITRECTOMY IN THE TREATMENT OF RHEGMATOGENOUS RETINAL DETACHMENT

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INTRODUCTION: To explore the effects of photocoagulation of retinal pigment epithelium (RPE) during vitrectomy on sealing of the retinal tears or holes in rhegmatogenous retinal detachment eyes.

METHODS: In 19 eyes with retinal detachment, photocoagulation on RPE around the margin and 3-4 dots outside of the margin of the retinal hole or tear instead of retinal photocoagulation to seal part of or whole the hole or tear, retinal photocoagulation was performed on the rest part (less than 50%) of the margin of the hole or tear.
The energy of photocoagulation on RPE was 100 to 150mJ, and last for 120-200 mS. The retinal hole in one eye lay among the myelinated nerve fiber and lay close to the optic disc in another eye.

RESULTS: The retina in 19 eyes had all reattached after the vitrectomy. There were visible pigmentation around the hole or tear in 19 eyes, and the only exception was the eye with retinal hole among the myelinated nerve fiber. In the 19 eyes, 10 eyes had silicone oil injection, 9 eyes had silicone oil removal, and one lost during follow-up. None of these 18 eyes eyes had any other vitreous surgeries, and their visual acuity has been improved from HM To 1.0, during the follow-up.

CONCLUSION: The effects of photocoagulation on retinal pigment epithelium or on retina were the similar in the treatment of rhegmatogenous retinal reattachment. But retinal pigment epithelium photocoagulation can be used in the eyes retinal photocoagulation was difficult and minimize the damage to the neuro-retina in these eyes.

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MEETING ABSTRACT

MULTI- STEP MANAGEMENT IN CASE OF GLOBE RUPTURE

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INTRODUCTION: Ocular trauma is an ophthalmic emergency which might need management in multidisciplinary approach. There are various factors like cause and nature of trauma, presence of intraocular foreign body, time of intervention which are important in the final anatomical and visual outcome. Surgical plans should be discussed in case of multi- step surgeries. Secondary changes due to trauma should be kept in mind and importance of long term follow up should be stressed in such cases.

METHODS AND RESULTS: Case Report - 69-year-old female presented with complaint of redness, pain and sudden diminution of vision in right eye following trauma due to accidental fall one day back. Her best corrected visual acuity was perception of light with accurate PR. Eye was soft on digital palpation. Subconjunctival hemorrhage, chemosis and total hyphema was present. Scleral perforation was suspected. B scan ultrasonography was performed which showed posterior dislocation of lens, supra choroidal hemorrhage with shallow peripheral choroidal detachment in right eye. She underwent primary repair where globe exploration for suspected occult globe rupture with scleral tear repair and intravitreal vancomycin and ceftazidime was injected. Primary skin suturing was also done. It was open globe injury – Type A, zone 1, grade 4. On Day 1 post- operative period, best corrected visual acuity – Finger counting close to face. Globe and anterior chamber was formed. She had aphakia and vitreous hemorrhage. On repeat B scan - posterior dislocation of lens into the vitreous cavity with vitreous hemorrhage was found. On 10th day she underwent 2nd procedure where in 23 G – pars plana vitrectomy +nucleus fragmentation + fluid gas exchange + scleral fixated IOL was done. In 6th week, in post- operative period – BCVA - improved to 6/12 (on Snellens chart), near vision N36 In fifth month BCVA improved to 6/9 and near vision improved to N6.

CONCLUSION:In cases of ocular trauma, thorough ocular examination needs to be performed. Occult globe rupture must be kept in mind during examination of patients with blunt ocular trauma. In some cases, multistep surgeries involving multiple sub specialities may be required.

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POSTERIOR SEGMENT II

CHAIRPERSON: DAVID PELAYES

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MEETING ABSTRACT

MACULAR SURGERY IN OCULAR TRAUMA

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INTRODUCTION: To report the case of a patient with a bilateral traumatic macular hole as a consequence secondary to an ocular trauma secondary to a hit with a rope. This unfortunate scenario represents a surgical challenge. This situation has not been previously described.

METHODS: A 22-year-old boy came with the history of a 5-month visual acuity loss and central distortion. The visual acuity was 20/400 in the right eye and 20/200 in the left eye. In the anterior segment of the right eye was evident a superior synechia and a superotemporal iridodialysis. In the posterior segment of the right eye, there was a macular hole with a predominantly vertical axis, in the left eye, there was a macular hole with a predominant horizontal axis and a marked epiretinal membrane. In the macular OCT, a full thickness macular hole with cystic edema of the neurosensory retina on both margins of the hole with the epiretinal membrane was observed in both eyes. In the periphery of the right eye, pigmentary alterations were present.

RESULTS: Retina surgery was proposed in both eyes. Vitrectomy was done successfully with epiretinal extraction and internal limiting membrane peeling after membrane blue dye staining. At the end of both surgeries, which were performed in different surgical times, the macular holes were closed, and gas was used as a tamponade. In the follow-up, the macular holes were closed, and the visual acuity improved as well as the visual alterations. The visual acuity improved to 20/200 in the right eye and 20/80 in the left eye.

CONCLUSION: Although spontaneous closure of TMH is not uncommon, especially in young patients, early pars plana vitrectomy can be considered in bilateral cases. Each case has to be evaluated individually to determine the best management for each patient.

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MEETING ABSTRACT

CLINICAL OBSERVATION ON BUTTERFLY-SHAPED INTERNAL LIMITING MEMBRANE PEELING IN THE TREATMENT OF MACULAR HOLE

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INTRODUCTION: To observe the result of butterfly-shaped internal limiting membrane peeling in the treatment of macular hole.

METHODS: Three eyes with macular hole were conducted 25-gauge vitreoretinal surgery. Coomassie brilliant blue staining was used in all 3 eyes. In the conduct of internal limiting membrane, part of internal limiting membrane near temporal and nasal macular were retained to make the internal limiting membrane appear as butterfly wing. Gas or silicone oil tamponade was applied at the end of surgery.

RESULTS: Macular hole closed 3 to 7 days post-surgery and all the 3 eyes had better visual acuity than presurgery.

CONCLUSION: Butterfly-shaped internal limiting membrane peeling is a new method treating macular hole based on traditional internal limiting membrane peeling. It can keep horizontal tension by retaining part of internal limiting membrane near temporal and nasal which can promote closure of macular hole.

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MEETING ABSTRACT

TRAUMATIC MACULAR HOLE: AN OPEN DISCUSSION

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INTRODUCTION: The traumatic macular hole (TMH) is a rare complication of a blunt or an open injury of the globe and can lead to permanent loss of vision.

METHODS: The pathomechanism of TMH differs from that of the idiopathic macular hole (IMH). A sudden compression and expansion of the globe leads to vitreous traction, which can result in a TMH. The final visual acuity depends on the severity of the disruption of the photoreceptors and the retinal pigment epithelial cells. The posttraumatic approach is discussed controversially.

RESULTS: A spontaneous closure and therefore a conservative approach should be considered in young patients with minor defects and good visual acuity without detachment of the posterior vitreous body. In these cases, it is advisable to wait for months. In the absence of adhesion at the edges of the hole and concomitant pathologies of the pigment epithelium, the spontaneous closure is improbable. In this case, a pars plana vitrectomy with removal of the vitreous and epiretinal membranes can lead to anatomical reconstruction and improvement of the visual acuity.

CONCLUSION: The success of an operative intervention is complex and is associated with the experience of the surgeon as well as the characteristics of the trauma. The low prevalence of the TMH poses a challenge for the adequate exploration of this traumatic entity. Larger studies are necessary to acquire sufficient information on the pathophysiology of TMH in pediatric patients as well as in adults and to establish optimal therapeutic management.

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DEALING WITH TRAUMATIC MACULAR HOLE IN DIFFERENT SCENARIOS

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INTRODUCTION: Traumatic macular hole has an incidence of 1-9% in ocular trauma, more frequent in blunt trauma (by a ball or a fist), burns by laser or light. The average age of presentation is 15 years.

METHODS: Case series of 4 selected patients: Case 1: A 19-year-old woman received a blunt trauma with a tennis ball. The vision was counting fingers; the intraocular pressure was 9 mmHg. In the fundus, there was a traumatic macular hole, choroidal rupture, sub-retinal and vitreous hemorrhage. Treatment was performed with posterior vitrectomy and C3F8 gas. At 12 months of follow-up, the vision was 20/40 with the hole closed. Case 2: A 16-year-old male with Best-type disease received a blunt trauma with a wooden stick. The vision was light perception; the intraocular pressure was 3 mmHg. In the fundus, there was a traumatic macular hole, retinal detachment, tears in the peripheral retina and vitreous hemorrhage. Treatment was performed with posterior vitrectomy, endolaser, and silicone oil. At 12 months of follow-up, the vision was 20/60 with the hole closed. Case 3: A 19-year-old man received a blunt trauma with a punch (after months of evolution). The vision was 20/200; the intraocular pressure was 11 mmHg. In the fundus, there was a traumatic macular hole with associated pigmentary changes. The observation was considered. Case 4: A 12-year-old male received a blunt trauma with a branch (after months of evolution). The vision was 20/200; the intraocular pressure was 12 mmHg. In the fundus, there was a traumatic macular hole with associated pigmentary changes. The observation was considered. In general, observation is recommended in cases of young patients with blunt trauma without complications, absence of posterior vitreous detachment, without an epiretinal membrane, small diameter holes (0.1 - 0,2disc diameters) and a vision superior to 20/40. On the other hand, surgery through vitrectomy is realized with gas exchange C3F8 or SF6, realizing posterior limitorhexis.

CONCLUSIONS: The traumatic macular hole is a rare disease; its pathogenesis is controversial. The OCT is the auxiliary diagnostic method most used for its resolution. The treatment is debatable and must be individualized.

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BILATERAL TRAUMATIC MACULOPATHY: WHIPLASH MACULOPATHY

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A 52-year-old male patient presented with reduction in central visual acuity in both eyes after a car accident that caused head concussion. Bilateral diffuse intraretinal edema and serous detachments noted in optic coherence tomography (OCT). During 2 weeks following the accident, nonsteroid antiinflammatory treatment gradually reduced the edema and visual recovery was achieved. At the end of 3 months, the patient had normal vision in both eyes, and all retinal anatomy was normal in OCT. Although whiplash Injuries are common after traffic accidents, whiplash Maculopathy is very rarely described in the literature. Patients complain about decreased visual acuity and distorted central vision . It has been reported in the literature that retinal changes may improve spontaneously. In our case,the pathology is clearly demonstrated and with topical nonsteroidal antiinflammatory therapy, the signs and symptoms were improved.

Key words: whiplash maculopathy, traumatic maculopathy, macular edema

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MEETING ABSTRACT

PRERETINAL HEMORRHAGE "VALSALVA RETINOPATHY"

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AIM: To describe the need of acute and fast decision making and treatment to stop sight-threatening condition in posterior segment of the eye.

PATIENTS AND METHODS: A case report of 32-year-old female 32 week pregnant patient who appeared in our clinic for examination after sight-loss on her left eye two days ago. In other clinic she was diagnosed with "preretinal hemorrhage" and unsuccessful Nd:Yag laser hyaloidotomy was performed. This was her first pregnancy without any additional systemic acute or chronic diseases.

RESULTS: In our first examination best corrected visual acuity on right eye was 1.0, while on left eye was HM (hand movement). Fundus examination on right eye showed normal configuration, while we found on left eye in macula massive circular dome-shaped collection of the blood. Further processing was performed by OCT of the left eye posterior pole which showed sub-ILM hemorrhage. Because of the toxic effect of the iron and last weeks of the pregnancy we decided to advise premature labor and pars plana vitrectomy to release and evacuate captured blood. One day after pars plana vitrectomy best corrected visual acuity were 0.6 and after 1 week best corrected visual acuity restored to 1.0. OCT of the left eye showed normal restoration of macula configuration.

CONCLUSION: Nd:Yag laser hyaloidotomy in preretinal hemorrhage should be performed in few hours after onset, otherwise there is no possibility to make a hole in posterior hyaloid membrane and evacuate blood in vitreal cavity. Because of the toxic effect of the iron on neuroretinal cells it is advised to induce premature labor (if it is possible because of the safety of the baby and advisable by pediatrician) and perform pars plana vitrectomy. By doing that we are increasing chance to restore vision in its full boundaries