

10th International Conference on

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Posters



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Assessment of patient's satisfaction after cataract surgery in a tertiary hospital

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Background & Aim: Cataract is a disease of the lens that causes vision clouding and eventually blindness. Patient satisfaction following cataract surgery is a crucial element and outcome of the procedure. The aim was to assess satisfaction level and to identify pre, intra and post-op factors that can increase or decrease satisfaction level.

Methods: This was a cross-sectional study including 193 patients having cataract surgery in KAMC in Riyadh. Data were collected, after getting approval, by reviewing medical records and interviewing patients post-operatively using a validated questionnaire. P-value less than 0.05 was used to indicate statistical significance.

Results: The majority of the patients (90%) were satisfied with the surgery. The results showed that side of surgery, surgeon's communication with the patient prior to the operation, having subjective report of better vision and having the patient's expectations met have a positive influence on satisfaction. On the other hand, having complications or pain post-operatively negatively affects satisfaction.

Conclusion: Improving communication with patients and setting realistic goals can increase the satisfaction level. Pain management and precautions to decrease the rate of complications can also have a positive influence on the satisfaction. No association was found between satisfaction and different demographics of the patients.

Biography

Faisal Sager Alanazy was graduated from the College of Medicine, Imam Muhammad Ibn Saud Islamic University in 2015. He is an Ophthalmology Resident in Al-Iman Hospital. He has three published papers to his credit.

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Indications of enucleation and evisceration in a tertiary eye hospital in Riyadh, a 10-year experience

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Purpose: To provide an estimate of the causes leading to enucleation/evisceration and to correlate the clinical findings with the histopathological findings.

Methods: The charts of operated patients with enucleation or evisceration at KAUH from February 2005 to May 2015 were reviewed retrospectively. Patients were stratified into two categories based on indications of surgery: traumatic and non-traumatic. Causes of ocular injury in the traumatic group were recorded and the post-operative histopathological findings were documented for the non-traumatic group.

Results: 110 patients underwent evisceration 63% (n=69) or enucleation 37% (n=41), with the mean age of 47±26 years, due to traumatic (n=38) and non-traumatic (n=72). Post-operative endophthalmitis was the most common indication of surgery (21.8%), followed by painful blind eye (29%). Ocular trauma occurred more commonly in men 76% (n=29) than in women 24% (n=9), and the leading trauma cause was nail injuries (15.8%). In the non-traumatic group (n=72), endophthalmitis was the most common histopathological diagnosis (34.7%).

Conclusion: The majority of the eye amputation surgeries were done due to non-traumatic causes especially post-operative infections. However, severe eye trauma is still a main indication for such destructive procedure. Guidelines are needed to decrease the incidence/severity of work-related eye injuries and to detect and manage eye infections more early and promptly.

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Autologous serum eye drop in refractory neurotrophic corneal ulcer: A case report

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Introduction: Refractory neurotrophic corneal ulcer is a degenerative disease characterized by decreased corneal sensitivity, spontaneous epithelium breakdown, and impairment of corneal healing which are nonresponsive to multitude of medical treatment.

Case Description: A 20-year-old male presented with a history of sudden onset redness and foreign body sensation of both eyes since 3 months associated with photophobia and progressive diminution of vision of both the eyes (RE>LE) since 2 months. He also gave history of oral ulcers 3 months back followed by frequent episodes of dry mouth. On examination, the best corrected visual acuity (BCVA) in RE was 1/60 and LE 6/12. Blepharospasm was present in the both eyes (OU). There was presence of posterior blepharitis and thickening of the eyelid margins and keratinization, bilateral conjunctival xerosis and diffuse ciliary congestion OU. RE cornea showed epithelial defect of 4.5x1.5 mm with thinning (~80%) and LE had diffuse SPKs. Corneal sensation was decreased with Schirmer's test I reading of 1 mm OU. Anterior segment and fundus examinations were within normal limits in both eyes. Provisional diagnosis of refractory neurotrophic corneal ulcer was made and autologous serum eye drops (20%) was started in RE 4 hourly along with topical preservative free tear substitutes and weak steroids in both the eyes. The patient showed dramatic improvement in signs and symptoms within one week of initiation of treatment.

Conclusion: Management of refractory neurotrophic corneal ulcer is a challenge for ophthalmologists. Autologous serum eye drops can be useful in such cases and may prevent further complications.

Biography

Poonam Lavaju is currently working as an Additional Professor in the Department of Ophthalmology at BP Koirala Institute of Health Sciences, Dharan, Nepal. She is involved in academics program for undergraduate and post graduate students in ophthalmology. She is In-Charge of the Department. She has published articles in index journals both in national and international journals. She is one of the Board Members in Nepal Eye Bank Committee.

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Study of biochemical parameters in diabetic subjects with and without diabetic retinopathy

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Introduction: Diabetic Retinopathy (DR) is a common, potentially blinding and visual disabling complication of diabetes mellitus (DM). The potential risk factors for diabetic retinopathy are longer duration of diabetes, hypertension, and poor glycemic control.

Materials & Methods: A hospital based case control study including 100 type-II DM >35 years of age was included. They were divided into two groups: Group-I with DR and Group-II without DR. Biochemical parameters like HbA1c, fasting and postprandial blood sugar, serum lipid profile, serum creatinine and urine albumin along with other risk factors were evaluated.

Results: The mean age was 59.56±10.9 and 54.30±9.7, duration of DM, 8.20±4.6 and 4.08±2.7, BMI: 25.91±2.8 and 25.07±2.5, HbA1c: 8.62±1.5 and 5.54±1.2, total cholesterol: 228.9±63 and 184.9±39.8, serum triglyceride: 226.6±80.7 and 160.8±45.1, HDL-C: 40.6±8 and 40.12±9.5, LDL-C: 152.3±49 and 127.2±37 and creatinine was 1.15±0.45 and 0.66±0.27 for diabetic retinopathy and no diabetic retinopathy patients, respectively. Significant association was seen between DR and age (p=0.014), duration of DM (p: 0.001), BMI (p: 0.05), Fasting blood sugar (p: 0.001), Postprandial blood sugar (p: 0.001), HbA1c (p: 0.001), total cholesterol (p=0.001) and creatinine (p=0.001). However there was no association with HDL. The mean values of serum lipoproteins when taken together were higher in the Group-I than in the Group-II.

Conclusion: There was significant association of elevated HbA1c, triglyceride, LDL and total cholesterol with diabetic retinopathy in patients with type-II DM.

Biography

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Laser pointer retinopathy

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Purpose: Clinical description of laser pointer retinopathy.**Methods:** Retinal burns leading to acute visual loss were documented by fundus photos and angiography in three eyes of two patients.**Case Reports:** A student competing with his friends to stare longer at a laser pointer resulted in bilateral retinal burns (final VA 20/100 and 20/40). Another student developed a foveal burn in his right eye (final VA was 20/40). This was a result of staring at a 5mW laser pointer.**Conclusion:** Laser pointers can result in serious retinal damage, especially long exposure to powerful ones. Laser pointers are useful presentation aids. Recently laser pointers have been misused to distract people and drivers. The beam of a powerful laser pointer can be a hundred times more powerful than the brightest sunlight. The classification of lasers differs in Europe and in the USA. Under European standards a 5mW laser key chain is classed 3B where it is considered in the USA as class 3A. It is known that class 3B can deliver power up to 500mW. Laser pointers are considered safe and cause dazzling if viewed momentarily. Nevertheless retinal photocoagulation can occur with exposure to class 3A laser for more than 10 seconds. Malingers may present with visual problems after exposure to a laser pointer, a problem that has been encountered worldwide. We report 3 eyes with photocoagulation from misuse of laser pointers.

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Evaluation of corneal rigidity and symmetry after UV corneal cross-linking for keratoconus

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UV corneal cross-linking (CXL) is a crucial treatment in ophthalmic care which has the potential to be an alternative procedure in reducing the progression of early keratoconus. This treatment needs further study to determine it is adequate to improve corneal rigidity and visual rehabilitation. Therefore, descriptors of corneal asymmetry parameters should emphasize and refer to the clinical assessment correctly to classify, monitor and evaluate the cross-linked cornea. There are many separate elements available in the software to the Oculus Pentacam for assessing corneal asymmetry. These elements have been found to be more valuable in monitoring the normalization of the cornea. According to previous studies, they have reported that the cornea becomes more optically regular after CXL using the same indices, where, patients were analyzed after 1 year, after the treatment. However, their data did not assess the posterior corneal elevation changes to show reliable improvement of corneal shape after cross-linking corneas. In this study, corneal asymmetry indices were measured by Oculus Pentacam before and after CXL for keratoconus patient in conjunction with the back elevation map. Assessing peripheral corneal asphericity (6-8 mm) might be more useful for increasing our comprehension of corneal regularity after treatment, though more long-term follow-ups are need after CXL to confirm these findings.

Biography

Hanan Khalid Mofly is Assistant Lecturer since 3 year at College of Applied and Medical Science in King Saud University and a Member in Association of Optometry in Saudi Arabia. She is pursuing her Master's program in Investigative Ophthalmology and Vision Science at the School of Health Sciences in the University of Manchester.

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Corneal toxicity induced by self-application of latex of *Calotropis procera* and analysis of its compositions

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Calotropis procera produces copious amount of latex, which has been shown to have several pharmacological properties. Its local application produces intense inflammatory response and causes significant ocular morbidity. We report corneal toxicity following self application of latex of *Calotropis procera* in a 74 year old man. Patient reported painless decreased vision in the affected eye with diffuse corneal edema and the specular microscopy revealed reduction in endothelial cell count. He was treated with topical corticosteroids. Active compounds of latex of *Calotropis procera* were studied for their composition. The patient's visual acuity improved from HM to 20/80 after treatment. Topically administered latex of *Calotropis procera* may cause severe ocular injuries. It may also cause reduction in endothelial cell count over a period of time. Public education, early recognition of such injuries, and timely intervention may prevent permanent ocular damage.

Biography

Huda Al Ghadeer has completed his Saudi Board Exam in Ophthalmology from King Saud University and Postdoctoral studies from King Khaled Eye Specialist Hospital. She is the Chief of Emergency Room at King Khaled Eye Specialist Hospital.

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Mycobacterium abscessus scleritis after a Baerveldt glaucoma implant

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Purpose: Atypical or non-tuberculous mycobacteria (NTM) ocular infections are an uncommon but serious cause of ocular infections. We report a case of infectious scleritis that developed after Baerveldt glaucoma drainage implant.

Methods: A case report where the medical chart was retrospectively reviewed.

Results: One patient who had a Baerveldt tube implanted for uncontrolled intraocular pressure of the right eye, developed severe refractory scleral and intraocular inflammation not responsive to treatment. The diagnosis of *Mycobacterium abscessus* was made after explanation of the tube and a scleral biopsy.

Conclusion: A typical mycobacterial organisms target tissue that have been disrupted by surgical procedures, especially implantation of hardware, and can cause devastating ocular outcomes. Thus, it should be considered in cases of infectious scleritis unresponsive to routine antibiotics.

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Anatomo-topographic relationships of anterior eye segment structures in children with active stages of retinopathy of prematurity

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122 preterm infants (217 eyes) with ROP at gestational ages 26-34 weeks underwent ultrasound biomicroscopy (UBM): 44 eyes (20%) with stage I, 35 eyes (16%) with stage II, 42 eyes (19%) with stage III, 49 eyes (22.5%) with stage IV. The control group consisted of 20 premature infants (40 eyes) without ROP and other ocular diseases aged from 1 to 4 months. Clinico-morphometric classification of ROP was used to interpret the results of the study. It provides a division of each stage of active ROP on favorable and unfavorable types of course. Morphometric parameters at stages I and II had no differences with the control group. At stage III with favorable type it was tended to reduce the depth of the anterior chamber (to 2.56 ± 0.38 mm), a slight reduction of the thickness of the iris in the pupillary zone (to 0.40 ± 0.12 mm) was determined. At stage III with unfavorable type lens thickness increase (to 3.52 ± 0.16 mm) was noted. At the periphery of the retina extrarational proliferation in all segments, except the nasal, were identified in 100% areas of flat retinal detachment height to 0.20-0.35 mm were defined in 95%. At stage IV in postzonular space opacities like mist or acoustically dense membranes were defined that was fixed to the retina at the periphery in 99% and in the area of pars plana in 78%. UBM expands the data of ophthalmological examination that allows using it as a complementary tool for ROP management.

Biography

Elena Erokhina has completed her Ophthalmological studies in Kaluga Branch of FGOU MNTK Eye Microsurgery, Russia. She has published 5 papers in reputed journals.

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Primary and secondary intraocular lens implantation in congenital cataract surgery: A comparative study of the visual outcomes

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To compare myopic shift, visual acuity, intraocular pressure (IOP) and ocular alignment in primary versus secondary intraocular lens implantation (IOL-I) following congenital cataract surgery. We retrospectively analyzed the files of all 14 children with congenital cataract who underwent unilateral or bilateral lensectomy, posterior capsulotomy and anterior vitrectomy followed by primary or secondary IOL-I between 2000-2012, at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Preoperative and postoperative assessments of each operated eye regarding axial length, refractive errors, ocular alignment; as well as post-IOL implantation IOP and best corrected visual acuity (BC-VA) were analyzed. Data of 26 eyes (16 in primary and 10 in secondary IOL-I groups) were analyzed. Mean±SD age at cataract surgery was 67.53±48.70 versus 5.90±3.72 months and patients were followed up for 49.33 (±26.23) versus 86.50 (±23.36) months ($p=0.051$), in primary versus secondary IOL-I groups, respectively. Last BC-VA showed 10/16 eyes with good VA versus only 2/10 ($p=0.009$); and mean±SD myopic shift was 0.19±2.38 versus 10.86±11.62 ($p=0.046^*$), in primary versus secondary IOL-I group, respectively. No significant difference was observed in IOP ($p=0.697$). No case of esotropia was detected in primary versus 6 cases in secondary IOL group. Primary IOL-I following cataract surgery was associated to better outcomes with regard to visual acuity, strabismus and myopic shift, as compared to secondary IOL implantation; however, both visual acuity and myopic shift required more frequent evaluation during the time from lensectomy to secondary IOL-I.

Biography

Abrar Alhawsawi has graduated from Medical School at King Abdulaziz University and has been serving as an Ophthalmology Teaching Assistant at Jeddah University, Jeddah, Saudi Arabia.

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The effect of senofilcon- A mechanical protector on corneal endothelial damage during phacoemulsification in rabbit eyes

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Purpose: To investigate the protective effect of a senofilcon-A mechanical protector (9.5 mm trephined senofilcon-A lens, hard shell) preventing corneal endothelial cell damage by phacoemulsification in New Zealand white rabbit eyes.

Setting: Department of Ophthalmology, Seoul Metropolitan Government-Seoul National University Boramae Medical Center.

Methods: In 26 rabbit eyes, endothelial cell count, intraocular pressure, corneal thickness were measured before and 3 days after experiment. In study 1, senofilcon-A mechanical protector was inserted into anterior chamber in hard shell group (6 eyes), and only ocular viscosurgical device (OVD) was injected into anterior chamber in control group (6 eyes). All underwent 10 seconds intermittent phacoemulsification to a total of 2.5 minutes. In study 2, soft shell technique was used in control group (6 eyes). All underwent 5 minutes continuous phacoemulsification. In 2 eyes, we investigated safety and toxicity of senofilcon-A mechanical protector.

Results: In study 1, eyes with maintained mechanical protector resulted in 4% endothelial cell loss compared to 18% endothelial cell loss after phacoemulsification in eyes with OVD alone. However, the difference was not statistically significant ($P=0.394$). Intraocular pressure, central corneal thickness also showed non-significant differences. In study 2, hard shell group showed significantly less damage in endothelial cell loss than soft shell group ($P=0.026$). Intraocular pressure, central corneal thickness showed non-significant differences. Endothelial cell loss caused by senofilcon-A mechanical protector itself was negligible.

Conclusion: The senofilcon-A mechanical protector has protective effect against corneal endothelial cell damage during phacoemulsification in rabbits.

Biography

Young Keun Han is currently an Associate Professor in Department of Ophthalmology, Seoul Metropolitan Government Seoul National University Boramae Medical Center. He is a Cornea, Cataract and Refractive Surgery Specialist and Member of Korean Ophthalmology Society and Korean Contact Lens Study Society. He has published over 30 papers in reputed journals since 2007 and has been serving as an Editorial Board Member of *Korean Journal of Ophthalmology*. He has an overall experience of over 20,000 surgeries mainly cataract surgery, corneal transplantations and refractive surgery.

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Comparative study of outcome of probing in children of different age groups with congenital nasolacrimal duct obstruction

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Purpose: To study the effect of age on outcome of probing in children with congenital nasolacrimal duct obstruction.

Materials & Methods: A prospective study was conducted on patients of 6 months-3years of age with congenital nasolacrimal duct obstruction. All patients were treated with a simple nasolacrimal duct probing as primary treatment. Outcome measures included an ophthalmologic examination with Fluorescein Dye Disappearance Test (FDDT) along with parental history of residual symptoms at 1, 3 and 6 months after surgery.

Results: The results of this study suggest that overall in children with CNLDO, probing had a cure rate of 77.33%. Cure rates in group A (6-12 months) was 76%, group B (12 months, 1 day-18 months) was 88% and group C (18 months, 1 day-3 years) was 68%. There was no statistically significant inter group difference in cure rate ($p=0.312$). Thus, it can be concluded that outcome of probing does not vary with increasing age till 3 years of age. Sex distribution ($p=0.186$), right or left eye involvement ($p=0.15$) did not have significant impact on the success rate of probing. Complication rate in each group was similar and the difference was not statistically significant ($p=0.317$, chi square test).

Conclusion: Primary probing maintains a high success rate without any age related decline in congenital nasolacrimal duct obstruction. Thus, it can be concluded that probing should remain the initial treatment of choice even in children of older age group up to three years of age.

Biography

Ankita Gupta has completed her MBBS from Vardhman Mahavir Medical College, Delhi in 2012 and then completed her MS Ophthalmology from Safdarjung Hospital, Delhi, India in 2015. She has one article published in *Delhi Journal of Ophthalmology* and another in *Indian Journal of Clinical and Experimental Ophthalmology*.

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Improved transduction efficiencies of modified *Volvox*-derived channelrhodopsin-1 gene by synthetic cell-permeable peptides

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We have been researching gene therapy using AAV for blind patients with Retinitis Pigmentosa (RP) using optogenetic technology. Recently, we succeeded in developing a new type of optogenetic gene, mVChR1, which has different wavelength sensitivity from that of other channelrhodopsins, and safety studies have also been performed for this gene. On the other hands, visual function restored by gene therapy depends on transduction efficiency. Therefore, it is important to improve the transduction efficiency of AAV-mediated gene therapy. The AAV type-2 vector has been used successfully in human gene therapies. However, the transduction efficiency of AAV2 depends on the cell type, and this poses a problem in the efficacy of gene therapy. To improve the transduction efficiency of AAV2, we designed a small peptide consisting of epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor peptide and the HIV-Tat sequence Tat-Y1068. Pre- or co-treatment of CYNOM-K1 cells from cynomolgus monkey embryo skin with Tat-Y1068 increased the transduction efficiencies in a dose-dependent manner and caused p38 phosphorylation. The transduction efficiency of AAV2 into the rat fibroblast cell line RAT-1 highly expressing EGFR was less than the transduction efficiency of AAV2 into CYNOM-K1 cells. Tat-Y1068 increased the transduction efficiency in RAT-1 cells in the same manner as in CYNOM-K1 cells. In conclusion, cell-permeable peptides possessing the EGFR tyrosine kinase inhibitor function might serve as a useful ingredient of AAV2 vector solution for increasing the transduction efficiency of gene therapies.

Biography

Hiroshi Tomita has completed his PhD from Tohoku University and Post-doctoral studies from Oklahoma University School of Medicine. He is the Professor of Iwate University. He has published more than 60 papers in reputed journals and has been serving as an Editorial Board Member of reputed.

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Diagnosis of giant cell arteritis: Is temporal artery biopsy essential in all suspected cases?

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The diagnosis of giant cell arteritis (GCA) is clinically based and is confirmed by specific histological findings on temporal artery biopsy (TAB). Ophthalmic surgeons are often called upon to perform a temporal artery biopsy in order to help in making the diagnosis of giant cell arteritis. We aimed to investigate the need for TAB in cases of suspected GCA; hence we performed a retrospective review of all the TABs performed in our department from January 2013 to February 2016. Patients were identified through the hospital in-patient enquiry database and theatre records. Clinical findings, preoperative erythrocyte sedimentation rate and C-reactive protein, steroid treatment preoperatively, American College of Rheumatology (ACR) criteria for GCA score (1990), British Society for Rheumatology Guidelines for GCA (2010), biopsy result, and follow-up were recorded. STAB lengths were obtained from the histopathology reports. There was a total of 52 TABs performed. The mean age at biopsy was 75 years; 62% were female. The vast majority of the patients (80%) were Caucasian. 85% of patients underwent TAB within 2 weeks of initial clinic appointment. Overall, 30 patients were diagnosed with GCA-12 had histological evidence and 18 were diagnosed with GCA despite a negative biopsy. Predictors of an eventual diagnosis of GCA in a multifarious logistic regression analysis were headache ($p < 0.001$), jaw claudication ($p = 0.008$) and erythrocyte sedimentation rate (ESR) ($p = 0.055$). The alternative diagnoses spectrum included ocular migraine, amaurosis fugax and shingles. 45% of patients developed visual disturbances and 7% loss of vision was documented in our study versus the 20% documented in databases and recent bibliography. The STAB mean length was 15.0 mm. We concluded that 36% patients with negative TAB were still diagnosed as GCA and steroids were continued as per protocol. Positive biopsy has indeed a specificity of 100% and is by definition the gold standard of diagnosis of temporal arteritis. However, in clinical practice, careful clinical evaluation is of paramount importance and may be the most accurate diagnostic technique.

Biography

Charikleia Papandreou is a Trust Specialty Trainee in Ophthalmology in East and North Hertfordshire NHS Trust, UK. She has completed her training as a Foundation Doctor in Accident and Emergency and General Surgery as well as a Core Trainee Doctor in Cardiothoracic Surgery in London. She has completed her Master's degree from University of Charles Bernard in Lyon, France and graduated from the Faculty of Medicine of the National and Kapodistrian University of Athens, Greece in 2011. She has 200 CME credits from courses and seminars in which she attended and actively participated.

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Attitude and practice of Saudi population toward self-medication with over the counter (OTC) ophthalmic preparations

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OTC ophthalmic preparations available to Saudi populations and several issues were raised in the safety of prolonged usage. We aimed to identify Saudi populations' attitude, practice towards self-medicated with OTC ophthalmic preparations. Cross-sectional survey-based study using modified Kadri R's questionnaire targeting all Saudi populations (aged above 15). Only who had used OTC ophthalmic preparations were included. Of total 511 respondents, 83.6% of them were females, 19% and 34.1% of the respondents having history of dryness of the eye and myopia respectively. Almost half of them are familiar with OTC preparation and 66.1% believe that they are not safe to use. More than one third of the respondents agree that the antibiotic, anti-histamine and decongestant eye drops are consider as OTC. However, only 21.9% think the lubricant eye drops are not under OTC categories. 40.1% of them have self-medicated with an OTC and 48.7% don't know the name of the OTC. The lubricants were on the top of the used OTC (38%) followed by antibiotics (8%). 39.2% got the description from the pharmacist and 5.4% got help from social media. 40.6% were using the OTC, because they have used it before and 26.2% used it because of its easy accessibility. Almost all of the respondents said that their condition got improved after usage of OTC. In conclusion, Saudi population has good awareness regarding the OTC ophthalmic preparation. However, their practice showed that they have poor practice and dealing with OTC ophthalmic preparation.

Biography

Amjaad al Harbi is a Medical student at Qassim University, KSA. She is interested in ophthalmology, volunteering work, community oriented and medical research. She is the Member of different teams which aim to help the medical students and community. She has participated in many courses: ECG, Adult Cardiology Course, Summer Research Course and Elective Course in Cardiology. She has attended many conferences either as attendee or presenter.

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Congenital ptosis, scoliosis and malignant hyperthermia susceptibility in siblings with recessive *RYR1* mutations

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The study aims to identify those children with ptosis and who are the candidates for ophthalmic surgery; who might harbor *RYR1* mutations, because intraoperative malignant hyperthermia is potentially lethal. We report for the first time congenital ptosis as the only ophthalmic findings in 2 siblings with scoliosis and underlying recessive *RYR1* mutations. Malignant hyperthermia susceptibility is a rare pharmacogenic disorder of skeletal muscle calcium regulation caused by mutations in the skeletal muscle ryanodine receptor 1 (*RYR1*) gene. It is important to identify those children who are candidates for ophthalmic surgery, who might harbor *RYR1* mutations.

Biography

Amani Al Bakri has completed her Ophthalmology Residency training in King Khaled Eye Specialist Hospital, Saudi Arabia. Currently, she is in her final year of Fellowship in Pediatric Ophthalmology and Strabismus, published few papers and is looking forward to publish more in ocular genetic field.

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Kissing nevus with ocular melanosis: A case report in Hail region, Saudi Arabia

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Introduction: Kissing nevus (also known as congenital melanosis bulbi or nevus fusco-ceruleus ophthamo-maxillaris) is a congenital nevus that affects parts of the upper and lower eyelid and owing to its name, because when the eyelids during closure approach and touch (kiss) each other. The entire eye as conjunctiva, sclera, cornea, retina and optic disc could be involved in this disease. The malignant transformation was described in many cases especially in oral, uveal and leptomenigeal melanosis. Unilateral presentation is classically seen in most cases. It is very frequent in Japanese descent and rarely in others descents. This is the first report in northern region of Saudi Arabia.

Case report: A 3 months old boy presented to the ophthalmology clinic in King Khalid Hospital, Hail, Saudi Arabia with a black discoloration of the left eyelids since birth, his family and medical histories were unremarkable. An Ophthalmic examination, the patient is fixing and following the objects normally, pupils equal, round and reactive to light and accommodation, intraocular pressure is 14 mmHg on both eyes. On inspection, the left eye showed dark pigmentation covering the lateral third of left upper and lower lids, along with dark scleral pigmentation. The iris is normal in both eyes. Dilated fundus examination showed dark choroid in left eye. The cycloplegic refraction is not significant bilaterally. The patient is given follow up every 6 months for possible complication.

Result & Discussion: Ota nevus is a rare nevus fusco-caeruleus ophthalmomaxillaris, mostly it is a benign unilateral melanocytosis, 80% of the patients were females 5 years of age and 48% of patients developed a nevus of Ota at or after birth compared to 11% between 1 and 10 years of age and 36% at puberty. In our patient who is 3 months old, came with unilateral black discoloration of upper and lower eyelids, the sclera discoloration and dark choroid. On fundoscopic examination furthermore the vision and ocular function was intact.

Conclusion: To our knowledge it is the first report in Northern Region in Saudi Arabia, which highlights the attention of this rare disease in our area. We recommend lifelong follow up (every 6 months) of diagnosed cases of Ota nevus to catch any melanoma changes or development of glaucoma.

Biography

Rakan M Algorinees is a Medical Intern graduated from College of Medicine, Hail University in Saudi Arabia in June, 2016. He is very much interested in the research field regarding ophthalmology specialty. Currently, he is working on a research paper about a prevalence of myopia among medical students in Hail region, Saudi Arabia.

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Analysis of ophthalmological accident and emergency cases presented to a referral hospital in Saudi Arabia

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Background: Ophthalmic emergencies are the condition that poses an immediate risk to the vision if left without immediate intervention. Globally, patients who visited the emergency room for ocular complains make up approximately 1-6% of the total patients who visited emergency of general hospital.

Objective: To investigate the number and characteristics of ocular patients in King Saud Medical City (KSMC), types of ocular cases, the source of referral and disposal of all new cases.

Methods: Retrospective method was initiated to investigate the patterns of the ocular cases, route of the referral, which presented to the ophthalmic ER in KSMC for the month of June, July and August 2016.

Result: At the time of the study, 608 patients were included in the study. A total of 354 (58.2%) patients were male, 61% were in the age range of 16-45 years. Trauma was the most common diagnosis reported in 382 (62.8%) patients followed by conjunctival problem in 99 (16.2%), lid and lacrimal system in 46 (7.5%), neuro-ophthalmology in 16 (2.6%), retinal disease in 13 (2.1%) and keratitis in 7 (1.1%) patients. The vast majority of patients were self referred (97%). Almost 91% of patients seen and managed by junior residents and 67.3% managed and discharged at the first visit.

Conclusion: Ocular emergencies are an important element of an accident and emergency department load. Eye injuries were the most common reason for the ophthalmology emergency room visits. Patients' education and improvement of health facilities are crucial for prevention of serious eye injuries.

Biography

Majeedah Alotaibi was graduated from King Saud University, College of Medicine and Surgery, Saudi Arabia in 2014. She is currently an Ophthalmology Resident in King Saud Medical City.

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New approaches to treatment of post-traumatic orbital defects and deformities using CAD/CAM technology

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Aim: To evaluate the efficacy of computer simulation and CAD/CAM surgical guides in treatment of patients with post-traumatic orbital defects and deformities.

Materials & Methods: 15 patients with post-traumatic defects and deformities of the orbit were recruited for the study. Bone reconstructions included individualized implant placement (5 patients), bone grafting procedures (3 patients), guided osteotomies and osteosynthesis (7 patients). In all patients computed tomography and 3-D scanning of the skin surface were performed. The obtained data was used for computer modeling and creation of surgical guides for guided osteotomies, bone grafting procedures, plates and implant placement. The anatomic results of the reconstructive surgery were estimated by postoperative CT and compared with the virtual planning of the operation.

Results: The use of computer modeling and CAD/CAM technology increased the precision of the orbital bone reconstruction, reduce the degree of invasiveness and the time required to perform the surgical manipulations. At the same time, comparison of simulation results with clinical outcome indicated the presence of linear and angular deviations in osteotomies, positioning of plates and implants. The degree of these deviations varied significantly, depending on clinical situation, quality of the CT data, algorithms used for computer modeling and template design.

Conclusions: The use of CAD/CAM technology significantly improves the efficiency of planning and carrying out the reconstructive operations. Higher precision of guided surgery requires the high quality of the CT and 3D scans, the use of special techniques in the templates manufacturing, effective interaction between surgeon and biomedical engineer.

Biography

Oxana Petrenko her completed his PhD from National Medical University and Postdoctoral studies from Donetsk National Medical University. She is the Head of Plastic and Reconstructive Surgery of Eye, Orbit and Adnexa course in P.L. Shupik National Medical Academy of Postgraduate Education. She has published more than 150 papers in reputed journals and has been serving as an Editorial Board Member of *Archives of Ophthalmology of Ukraine Journal*.

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3rd generation refractive surgery: Long term safety and efficacy of small incision lenticule extraction

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Purpose: To evaluate safety and efficacy of SMILE on follow up more than 1 year.

Methods: Prospective non comparative multi center case series carried out on 4834 eyes of 2238 myopic patients treated with femtosecond laser SMILE from 2010. Uncorrected visual acuity (UCVA), best spectacle corrected visual acuity (BSCVA), manifest refraction and contrast sensitivity were measured in all cases.

Results: Mean preoperative uncorrected visual acuity (UCVA) was 0.1 (range: 0.03-0.6), mean corrected distance visual acuity (CDVA) was 0.8 (range: 0.4-1.2), and mean spherical equivalent SEQ was -5 (range: -1.5 to -14). All these parameters showed statistically significant change in the postoperative period ($P < 0.01$). Mean postoperative UCVA, BSCVA, and SEQ were 0.88 (range: 0.5-1.2), 0.98 (range: 0.5-1.2), and -0.5 (range: -2.5-+1.75), respectively. A few operative or postoperative complications were reported in our case series.

Conclusion: SMILE is a safe and effective procedure with long term refractive stability. SMILE seems to be a reasonable way to deal with some atypical cases which will be discussed.

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Thiol/disulphide homeostasis in patients with keratoconus by a novel assay

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Purpose: We aimed to identify serum thiol/disulphide homeostasis between keratoconus patients and controls.

Methods: 28 keratoconus patients and 30 control subjects with similar age and gender were evaluated in the present study. Levels of native thiol, total thiol and disulphide as well as disulphide/native thiol, disulphide/total thiol, native thiol/total thiol were analyzed and compared between keratoconus and control groups using a novel automatized spectrophotometric assay.

Results: There were significant differences between keratoconus patients and the control group for native thiol, total thiol and disulphide levels ($p: 0.001$, $p: 0.04$, $p: 0.03$, respectively) as well as disulphide/native thiol and disulphide/total thiol and native thiol/total thiol ratios ($p: 0.02$, $p: 0.01$, $p: 0.001$, respectively). We found no significant correlation between age and all of the thiol/disulphide parameters ($p > 0.05$, all of the values).

Conclusion: To best of our knowledge, we have shown for the first time that imbalance of thiol/disulphide homeostasis in keratoconus patients. This metabolic imbalance of thiol/disulphide may play an important role in the pathogenesis of keratoconus and, so, can be discussed in prevention, diagnosis and maybe treatment of keratoconus as well.

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Prevalence of refractive errors and associated risk factors among primary school students in Jazan male population

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Refractive error is a very common eye disorder. It is a very serious problem that there are 153 million people with uncorrected refractive errors in the world. There are three types of refractive errors myopia, hyperopia and astigmatism. The visual system is so important, though the presence of all the anatomical structures at birth it continues to mature and develop until school age. Environmental factors that make the student spend more time in close activities such as reading, playing video games, watching TV and excessive use of smart phones are important potential risk factors for developing refractive errors. The global prevalence of refractive errors in children from 5-15 years is 0.96% which represent 12.8 million children. Few studies in Saudi Arabia are conducted about the prevalence of the refractive error in primary school students. There are some variations in the prevalence of refractive errors in Saudi Arabia ranging from 23% in Abha city to 13.7% Alhassa to 10.7% in Jeddah. Children with uncorrected refractive errors may tend to have many problems that may face them, such as they cannot read the board clearly and they may face reading and writing problems that may result in decrease in the participation in the indoor and outdoor activities. We will conduct a cross-sectional study on young male primary school students (age range from 6-12 years) in Jazan. We have chosen six governorates randomly; one school from each governorate, 83 students from each school and the total is 498 students. We will measure their refraction using an auto refractor and Snellen E chart. The reason of this study is to measure the prevalence of refractive errors in Jazan region since there was no previous study about it. Prevalence helps you know the magnitude of a problem in the community.

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Audit on retinopathy of prematurity screening

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Introduction: Premature babies are at risk of sight-threatening, retinopathy of prematurity (ROP). If untreated, severe ROP can result in serious vision impairment. The goal of screening is to identify the more severe stages early enough to allow appropriate intervention.

Aim: To measure adherence on completeness of ROP screening program and timing of first screening in premature babies admitted on special care baby unit.

Methods: We extracted the bulk of our information from BadgerNet, a platform designed for the recording of all daily events within the unit. 84 babies admitted to the unit during between 01/03/14 to 29/02/16 eligible for ROP screening were identified on BadgerNet. Hospital case notes of babies who were recorded as late for their ROP screening were requested.

Results:

1. % of babies <32 weeks GA or <1501g birthweight who receive at least one ROP eye examination - achieved 100%
2. % of babies < 27 weeks GA receiving a first ROP screening exam by 31 completed weeks postmenstrual age- achieved 91%
3. % of babies 27 –32 weeks receiving a first ROP screening exam before 4 completed weeks postnatal age- standard 95% - achieved 94%
4. % of babies >32 weeks but <1501g birthweight receiving a first ROP screening exam before 5 completed weeks postnatal age - achieved 100%

Conclusion: There is a need for more efficient and effective recording of ROP screening test for eligible babies to achieve improvement in compliance with the guidance. Implementation of a sticker system on cover of patients' notes to prompt nursing staffs and clinicians to document ROP screening in case notes and to ensure screening is arranged on time. Ophthalmologists to access badger for recording of ROP screening in real time to avoid existing lag between recording and actual screening.

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Patient perception of dilating eye drops in the eye clinic

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Background & Aim: Mydriatic drops are commonly used in ophthalmology clinic to aid fundus examination. The risk of mydriatic drops precipitating glaucoma is low. However, mydriatic drops can have an impact on patients and their experience of ophthalmic services. Patient centered care should address patients' expectations. Research into patient perceptions of dilating eye drops is limited. Patient's perceptions of dilating eye drops, side effects and the information patients received in clinic was reviewed.

Methods: A printed questionnaire was given to all patients attending clinic (single-centre) for the period of one week (July 2014) and returned by the patients on leaving the department. The questionnaire assessed patient demographics, patient satisfaction, prior information given, clinic information and whether patients had driven to clinic.

Results: 162 questionnaires were completed. Overall patients were happy with the way they received information about the dilating drops and 98% (n=159) reported they would be happy to have the drops again in the future. 82% (n=13) of patients, had been informed prior to attending clinic that dilating eye drops may be used. But several patients were unsure why the drops were needed (27%, n= 44) and worryingly, 16% (n= 26) of patients admitted to driving immediately after their appointment. Most patients were informed of the risks associated with mydriatic drops and the majority of patients felt blurred vision was the most troublesome, potential side effect (83%, n=134). 72% (n=117) of patients were aware pain may occur and when to seek medical advice, whilst 83% had been informed of the potential risk of glaucoma following drop instillation.

Conclusion: In sampling just one department, six different data sources were used to inform patients of the potential side effects of dilating drops. It appeared that a simpler, replicable and more consistent method of consenting patients for mydriatic drops was required to aid informed, patient consent. The potential side effects of mydriatic drugs did not deter patients from re-attending clinics. The majority of patients would be happy to receive dilating drops in the future. Increased patient education prior to attending clinic is needed to ensure the issue of driving is addressed.

Biography

Rachel Fletcher is a Junior Doctor in the UK. She has completed her Medical degree at Peninsula Medical School and is currently pursuing Diploma of Tropical Medicine at Liverpool School Tropical Medicine.

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Plasma rich in growth factors in drops for treatment of dry eye in patients with graft versus host disease

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Purpose: Evaluate the therapeutic effect of plasma rich in growth factors (PRGF) in the form of eye drops, for the treatment of dry eye in patients with graft-versus-host disease (GVHD) in chronic phase, developed post-transplant bone marrow.

Methods: Four patients with GVHD in chronic phase after transplantation of Allogeneic Hematopoietic Stem Cell (Allo-HSC) have been diagnosed with dry eye syndrome refractory to conventional treatment (including autologous serum). They were evaluated in this description of clinical cases. The PRGF was extracted from the serum of each patient studied, and also quantitative records symptoms (Visual Analogue Scale: frequency and severity of symptoms) were obtained. Psychometric Survey of Dry Eye (OSDI), visual acuity test, tear breakup time (tBUT) and Schirmer's test without anesthesia; these measures were taken before initiation of treatment with PRGF. In the next week, month, and then in successive visits, even some patients have been followed for more than a year.

Results: Four patients were selected, three of whom were men and one woman. The age was understood between 47 and 61 years (mean age, 54.5±5.73). After four weeks of treatment the OSDI test (Ocular Surface Disease Index) decreased significantly: 59% (initial OSDI: 45.5±6.24; final OSDI: 19±2.45); the decrease in Visual Analog Scale (VAS) was not significant in frequency, however for VAS-Severity tends to a significant statistical difference. For visual acuity of the most affected eye, a mean improvement of 33.3% was found, results also found improvement in tBUT and Schirmer's test. No significant adverse effects as a result of PRGF treatment were found during the monitoring period.

Conclusions: In patients with graft-versus-host disease chronic phase, who have developed severe dry eye syndrome, and have had previous conventional treatments without improvement, including the use of autologous serum; now have the option of treatment with eye drops PRGF. This therapy shows improvement of symptoms, findings on physical examination as tBUT and very importantly achieves improvement in visual acuity test.

Biography

Ronald Avila Sanchez completed his training as a physician at the age of 26 years (National University of Colombia). He has completed postgraduate studies in: R & D of drugs, Health Management, have an MBA. Currently he is completing his training as an ophthalmologist at the Hospital Universitario Central de Asturias, and is a doctoral candidate to the research of Ophthalmology and Vision Sciences (Univesidad of Oviedo, Eye Research Foundation, ophthalmological Institute Fernandez-Vega). Results of his research have been presented at national and international congresses ophthalmology. The research results are pending publication (5 articles of international journals).

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Recognizing the association between visual loss and hospital falls: A risk reduction initiative

Magnus Theodorsson and Preeya Kandasamy
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Problem: Across Europe, patient falls in hospital account for 1.5% of gross healthcare expenditure. The multiple consequences of this significantly increase patient morbidity and mortality. This study, in a large regional hospital, assesses what proportion of inpatients, who have suffered a fall, have visual loss; what degree of this can be termed as visual impairment and what percentage of falls had either of these documented in their medical notes.

Methodology: Manual, 4-month retrospective data collection across 9 medical wards.

Findings: 93 patients had documented falls. 72% of the sample had low vision or worse when assessed against the International Council of Ophthalmology Visual Standards. 81% were 65 years or older and 95% of these had low vision or worse. Of the 72% inpatients that had this visual impairment, only 2 cases had documentation of this in their medical notes (2%). This lack of documentation of visual problems in hospital notes is a significant limitation in identifying patients vulnerable to falling and impedes risk reduction of future falls. The United Kingdom National Audit of Inpatient Falls 2015 recommends that all patients 65 years or older must be assessed for visual impairment and have this taken into account in their management, highlighting the shortcomings that this study has identified.

Conclusion: To limit cost secondary to this preventable phenomenon, this investigation recommends that all hospital-admission pro forma prompt consideration of visual impairment in each patient, especially those 65 years or older; post-fall, all cases must be reviewed by a physician and include assessment of the patient's level of functional vision if required with subsequent action thereafter; visual impairment to be considered for every patient as standard in nurse-led inter-ward handover. This is advised for all major hospitals where a reduction in falls is targeted and increased awareness warranted, aiming for improved patient outcomes.

Biography

Magnus Theodorsson is a Foundation Year 2 Doctor working in Hillingdon Hospital, London. He has special interest in ophthalmology and pursuing Specialty training in the field.

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Intraocular pressure measurements difference between re-usable and disposable tonometer in relation to the central corneal thickness and effect of cataract operation on corneal thickness

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Purpose: The purpose of this study was to evaluate the accuracy of the disposable applanation tonometer head as a potential substitute to the standard reusable applanation tonometer head for IOP measurements and to determine the influence of Central Corneal Thickness (CCT) on IOP measurements with these tonometer heads and determine effect of corneal incision on the post-operative CCT.

Methodology: The IOP of 30 post cataract surgery patients was measured with disposable and the standard reusable tonometer head after informed consent. Corneal thickness was recorded in operated and un-operated eye.

Results: The mean IOP using the reusable tonometer head in both eyes was 13.4±3.11 mmHg and with the disposable head was 13.11±3.18 mmHg with the mean difference of 0.29±0.08 mmHg. Disposable tonometer recorded higher IOP in patients with thicker cornea (0.1±0.2 mm Hg) than in patients with thinner cornea (0.4±0.3 mmHg) and lower in the normal CCT patients.

Conclusion: The disposable tonometer prism provides a reliable, effective and safe alternative to the reusable tonometer prism with the advantages of eliminating the need for chemical disinfection and the risk of cross infection.

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Switch to Aflibercept in diabetic macular edema patients unresponsive to anti-VEGF

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Introduction & Aim: The diabetic macular edema is the leading cause of blindness in working-age patients. The aim of this study was to evaluate the efficacy of aflibercept in patients with diabetic macular edema unresponsive to anti-VEGF.

Material & Methods: Retrospective chart review of patients with diabetic macular edema unresponsive to anti-VEGF switched to aflibercept with 3 months of follow up. All patients have had a minimum of 3 injections of anti-VEGF before switch. Changes in best correct visual acuity, central retinal thickness and frequency of injection were analyzed. Additionally, the percentage of subjects who had vision ≥ 20/40 (logMAR 0.3) and ≤ 20/200 (logMAR +1) were evaluated.

Results: A total of 32 eyes from 26 diabetic patients were included. The mean age was 65±10 years old and the majority was female (53%). The mean number of previous anti-VEGF injections was 5.03±2.19 and the mean number of aflibercept injections at the end of the study was 2.00±0.00. The central retinal thickness at baseline was 501.47±150.51 µm and 367.97±124.61 µm at 3 months follow up (P=0.000). The best correct visual acuity at baseline was 0.71±0.36 logMAR and 0.65±0.33 logMAR at the end of the follow up (P=0.037). At baseline 12.5% of patients had vision 20/40 or better comparing with 25% at 3rd month follow up. At baseline 28.13% of patients had vision 20/200 or inferior comparing with 15.63% at the end of the follow up. Approximately 63% of patients improved vision, 18.75% maintained vision and 18.75% loss vision at the end of the study. Further analysis did not show any correlation between central retinal thicknesses, best correct visual acuity and the number of prior anti-VEGF treatments.

Conclusions: Patients with diabetic macular edema unresponsive to previous multiple anti-VEGF injections demonstrate a significant anatomical and functional improvement with switch to aflibercept.

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The correlation between vitreomacular traction and subfoveal choroidal thickness

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Purpose: To investigate structure of vitreomacular traction (VMT), specifically, if a correlation exists between 1) the VMT type/grade and the central foveal thickness (CFT) and subfoveal and adjacent choroidal thickness, 2) the vitreomacular/foveal angle (VMFA) and the CFT and subfoveal and adjacent choroidal thickness, and 3) the diameter of vitreomacular adhesion (VMA) and CFT and subfoveal and adjacent choroidal thickness.

Materials & Methods: Retrospective, multicenter image analysis study. We analyzed raster scans of the macula taken with spectral-domain optical coherence tomography (SD-OCT) of 61 eyes of 55 patients with VMT. Conventional scans of the vitreoretinal interface were analyzed to measure CFT and degree of VMFA. Enhanced depth imaging (EDI) scans were analyzed to measure choroidal thickness in the macula. Multivariate test of means and t-test were used to statistical comparisons.

Results: There was no statistically significant difference in CFT between focal vs. broad and concurrent vs. isolated type VMT. Central ($p=0.009$), nasal ($p=0.004$) and temporal ($p=0.007$) subfoveal choroidal thickness was significantly higher in broad VMT compared to focal VMT. There was difference in both CFT ($p=0.035$) and central ($p=0.005$), nasal ($p=0.01$) and temporal ($p=0.001$) choroidal thickness between moderate vs. severe VMT. There was correlation between VMFA and CFT, where a wider angle was associated with increased CFT ($p=0.026$). The broader VMA was associated with increased central subfoveal ($p=0.032$), nasal ($p=0.05$) and temporal ($p=0.01$) choroidal thickness.

Conclusions: Eyes with broad VMT have thicker choroid than eyes with focal VMT, which have a more open vitreomacular angle.

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Three-year outcomes of canaloplasty for the treatment of open-angle glaucoma

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Purpose: To investigate the long term safety and efficacy outcomes of canaloplasty for the treatment of open-angle glaucoma (OAG).

Setting: Dean McGee Eye Institute, United States of America.

Methods: This nonrandomized, single center, retrospective study explored the effect of canaloplasty (as a stand-alone procedure and combined with cataract surgery) in adult open-angle glaucoma patients. The primary endpoints investigated included mean IOP and mean number of glaucoma medications over a 3-year period. The secondary endpoints included surgical and postsurgical complications and secondary interventions.

Results: The study cohort included 318 subjects with a mean age of 72.5 years (range: 18.1-100 years). Mean baseline IOP for the cohort was reported at 19.7 mmHg which was reduced to 14.4 mmHg at 12 months, 14.0 mmHg at two years and 14.7 mmHg at three years ($p<0.001$). Medication dependency reduced from 2.1 drops before surgery to 0.5 drops at 12 months, to 0.6 drops at two and three years ($p<0.001$). The frequency of surgical and postsurgical complications was low, with no serious adverse events recorded.

Conclusion: Canaloplasty was shown to be safe and effective in achieving long-term IOP reductions and reduced dependence on anti-glaucoma medications in the treatment of open-angle glaucoma.

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Safety and efficacy of ab-interno canaloplasty (ABiC) for the treatment of open-angle glaucoma

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Purpose: To investigate the safety and efficacy of ABiC in reducing IOP and glaucoma medication dependence in OAG.

Setting: Dean McGee Eye Institute, United States of America.

Methods: This non-randomized, single center study explored the effect of ABiC or combined cataract surgery-ABiC in adult OAG patients. The primary endpoints included mean IOP and mean number of glaucoma medications over a 12-month period. Secondary endpoints included surgical/postoperative complications and secondary interventions.

Results: The study cohort included 106 subjects with a baseline mean IOP of 19.5 ± 6.6 mmHg which reduced to 15.7 ± 4.4 mmHg (n=69), 15.0 ± 3.8 mmHg (n=69) and 13.9 ± 1.9 mmHg (n=20) at 3, 6 and 12 months postoperative, respectively. Medication dependency reduced from 2 ± 1 drops before surgery to 0 ± 1 drops at 3, 6 and 12 months postoperative, representing a total average decrease of 28.7% in IOP and 100% in glaucoma medications at 12 months postoperative versus baseline. In the group of patients who underwent standalone ABiC, mean IOP was reduced by 36.8% from 22.0 ± 8.2 mmHg preoperatively (n=38) to 13.9 ± 1.6 mmHg at 12 months postoperative (n=8) with a 50% reduction in medication. There were no intra- or postoperative complications.

Conclusion: ABiC is safe and effective in achieving IOP reduction and reduces dependence on anti-glaucoma medications in patients with OAG, both as a standalone procedure and combined with phacoemulsification.

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Infantile blindness: Causes and role of inheritance

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The study is considered to be the first study in Sudan concerned with children who were born blind. It was aimed to find out the main causes of born blindness, and the role of inheritance through their families'. The study was done in Khartoum State-Sudan. Any subject who was registered as blind since birth, his visual acuity 3/60 or less, and who agreed to participate in this study was included. Permission was taken from the leader of the centers of blinds. Verbal consent was obtained before examinations. Personal demographic data, history, visual acuity test and refraction, ocular examinations were taken. A questionnaire was used to assess parents' relationship and history of blindness. A total number of 211 subjects were screened, 120 subjects (56.87%) were suitable. 75.83% males and 24.17% females. Their mean age was 23.15 ± 8.1 years. The causes of born blindness were congenital cataract (28.33%), corneal abnormalities (28.33%), optic nerve defects (27.5%) retinal abnormalities (5.83), structural abnormalities (3.33%) and 6.67% of the subjects were without ocular anatomical defects. 75% of the subjects showed positive family history of blindness, 93.33% of the subjects' parents were related (71.66% of the parents were of 1st degree cousins 10% 2nd degree and 11.67% far relationship). 75% of the subjects families of positive history of blindness and all the subjects of negative family history, and their parents were related. 75% of childhood blindness was inherited (51.66% autosomal recessive, 9.17% autosomal dominant, 14.17% X-linked and 25% isolated cases).

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Pan ocular surface rejuvenation in chemical burn

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Journey of ocular chemical burn can lead to sight threatening problems. Delayed complications damage entire ocular surface, from obliteration of fornices by symblepharon to partial or total stem cell loss leading to conjunctivalization of cornea. It requires reconstruction of fornices and rejuvenating conjunctival and corneal surfaces by stem cell grafting. It may be very frustrating as it is not a single stage management; it requires step by step approach. Bilateral involvements are very difficult to treat but in unilateral cases, stem cells of other eye are available to recover loss. This presentation will discuss management of unilateral delayed complications of ocular burn. Step by step approach depends on severity of symblepharon and degree of stem cell loss. Mild to moderate symblepharon can be treated along with stem cell transplantation but severe symblepharon requires, first its correction and later stem cell grafting. Success of stem cell transplantation of cornea depends on environment of ocular surface, therefore it is necessary to rebuild ocular surface. Amniotic membrane is proved to be effective in reconstructing the entire ocular surface. Properties of amniotic membrane enables to reform fornix after release of symblepharon. To rejuvenate cornea, conjunctivalization of corneal surface is cleared off by keratectomy. After preparing bed, stem cells from other eye transplanted by SLET procedures. This step by step surgical management strategy achieves near normal ocular surface and helps in restoring vision.

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PLEXR: The revolution in blepharoplasty

Sotiris G Tsioumas

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Introduction: Plexr is a cordless micro-surgical hand operated device that transfers concentrated heat to the treated skin tissues. It uses the difference in voltage between the device and the patient's skin. The difference in voltage generates a small electrical arc, similar to a minute lightning. The small lightning causes the sublimation of the fluids contained in superficial part of the skin, without unwanted heat transmission of the adjacent tissues. This medical device is global patent of Electro-surgery professor at State University of Rome Giorgio Fippi.

Objective: The purpose of the study is to demonstrate that there are other technical methods than conventional surgery and laser that have excellent results, less complications and lower costs.

Methodology: The upper eye lid blepharoplasty performed to 1000 persons (800 women and 200 men). Target group: 23-82 year old (whether they were smokers or not, had large or small excess skin)

Results: 800 out of the 1000 persons have achieved 100% of the desired result in three sessions. 200 out of 1000 persons in one or two sessions compared with classical blepharoplasty surgical outcomes were excellent without sutures and incisions, ectropion and entropion, slanted eyes, lagophthalmos and other complications. The recovery takes place in a shorter period of time (7-15 days) and allows the patients to return to their activities even after treatment.

Conclusion: Plexr proved to be highly effective in removing excess upper eyelid skin without surgical intervention. It has also been used very successfully for the correction of eyelid skin post surgical blepharoplasty. Plexr has become an invaluable asset to my clinic, offering patients a procedure with virtually minimal downtime, minimal cost and outstanding aesthetic results.

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Plexr, vibrance, OFF in oculoplastic surgery

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Introduction: As eye surgeon engaged in Oculoplastic surgery over ten years, I found that the medical devices Plexr, Vibrance and O.F.F can be used in oculoplastic surgery with good clinical results. In the area of eye aging appears vigorously, these methods allow patient to look younger without bloodshed, without altering his characteristics.

Methods: We got cases where patients formerly had undergone Oculoplastic surgery like blepharoplasty, entropion, ectropion, chalazion, xanthelasmata, nodules, hemangiomas, falling eyelids, eye bags, dark circles and correction surgical blepharoplasty. All diseases treated by applying one or a combination of the three techniques. The sessions were needed accordingly the disease was between one and six. All were treated non-invasively in my private clinic.

Results: The results were excellent. There is no complication, no deterioration in the characteristics or any change of gaze.

Conclusion: Soft Surgery came to give an alternative to oculoplastic surgery. Plexr, Vibrance, OFF can treat the entire range of oculoplastic without surgery, stitches, offering quick recovery to the patient and physical effects.

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2-3 months safety and efficacy in AMD patients treated with Ziv-Aflibercept

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Background & Aim: Aflibercept is an approved therapy for neovascular macular degeneration (AMD) while ziv-aflibercept is approved for oncology and is cost-effective relative to the expensive same molecule aflibercept. *In vitro* and *in vivo* studies did not detect toxicity to the retinal pigment epithelium cells using ziv-aflibercept. Our purpose is to ascertain the 3-month safety and efficacy in AMD treated with intra-vitreous ziv-aflibercept.

Methods: Prospectively, consecutive patients with wet age related macular degeneration that required aflibercept underwent ziv-aflibercept intra-vitreous injection of 0.05 ml of compounded ziv-aflibercept (1.25 mg) from March 2015 to November 2015 in the Lebanese series and scattered select cases in the Indian cases. Monitoring of best-corrected visual acuity, intraocular inflammation, cataract progression and retinal structure by spectral domain OCT were carried initially, one week, one month, two months and three months after injections. The study received Institutional Review Board approval and received the registration NCT02486484.

Results: 30 eyes were treated (22 Caucasians, 8 Indians; 16 men, 14 women; 14 right eye and 16 right eye) with mean age of 74.3 years with 11 naïve cases and 19 having had prior injections 4 months prior to our treatment. Best-corrected visual acuity improved from baseline logMar 1.08 to 0.74 at 1 week, 0.72 at 1 month, 0.67 at 2 month and 0.71 at 3 month ($p < 0.001$ for all time periods). CMT in microns decreased from 332.8 to 302.0 at 1 week, 244.8 at 1 month, 225.9 at 2 months and 208.2 at 3 month ($p < 0.001$ for all time periods). There were no signs of intraocular inflammation, or change in lens status throughout the study. Intraocular pressure was unchanged initial and at 3 month in 10 eyes (12.8 ± 2.3 mmHg vs. 12.8 ± 2.2 mmHg). Significance was also present for the Lebanese series alone and for virgin cases in the Lebanese series.

Conclusions: Off label use of ziv-aflibercept improves visual acuity, without ocular toxicity and offers a cheaper alternative to the same molecule aflibercept, especially in the third world.

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Pattern of refractive error and visual impairment due to uncorrected refractive error among the pediatric populations attending Ophthalmology Department of Dhulikhel Hospital

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Background: Uncorrected refractive errors are common cause of visual impairment and blindness worldwide. According to mid-term review of Nepal Blindness Survey 2010, estimated 1,013,141 children under 16 years of age have refractive error and the prevalence of refractive error among the children of this age group is assumed to be 10% based on different studies ranging from 3 to 20%. Pediatric populations are not quick in sharing their visual problems and also parents are unaware of the problems. So, most of children are presented lately and hence are forced to live visually impaired life prior to the interventions.

Design: A hospital based prospective study.

Methods: Data were collected from December 1st 2015 to May 30th 2016. Presenting visual acuity, age of presentation, refractive status, best corrected visual acuity and status of visual impairment were assessed in children ages ranging from 3-15 years presenting to the Ophthalmology Department of Dhulikhel Hospital.

Result: Out of a total of 1,498 children examined during the study period, 116 (7.74%) had refractive error. Among these 60 (51.70%) were females and 56 (48.30%) were males. The mean age at presentation was 11.45 ± 3.62 years. Astigmatism was the most common subtype seen in 45.26% (N=105 eyes), followed by Myopia (42.67%, N=99 eyes) and hypermetropia (11.21%, N=26 eyes). Only 36.20% (N=42) pediatric population were using spectacle and rest 63.8% (N=74) didn't use spectacle prior to the examination. 62.90% (N= 73 children) had some of visual impairment during their presentation. There was statistically significant improvement in visual acuity after appropriate refractive correction.

Conclusion: Lack of awareness, infrequent ocular examination and lack of community or preschool vision screening were the main causes for the late presentation and significant visual impairment associated with the condition. Uncorrected or lately corrected refractive error may cause amblyopia and other complications.

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Clinical results of keratoconus patients treated with corneal collagen cross-linking alone versus corneal collagen cross-linking combined with intacs implantation

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Background: The study aims to compare the refractive and topographic outcomes of keratoconic eyes treated with Corneal Collagen cross-linking (CXL) alone versus corneal collagen cross-linking (CXL) combined with intacs implantation.

Design: A prospective comparative study.

Participants: The study recruited 38 eyes of 30 consecutive progressive keratoconus patients.

Methods: In Group-I, 24 eyes were treated with CXL alone and in Group-II, 14 eyes underwent CXL combined with simultaneous femtosecond-assisted intacs implantation. Visual acuity, refraction and corneal topography were assessed and compared between the two groups at baseline, three months and six months.

Result: The mean age of participants was 26.5±7.9 (range 15-51) years. The average of follow up was 6.66±0.68 (range 5.5-8). At the final follow up, Group II (CXL combined with intacs) resulted in an additional improvement of uncorrected distance visual acuity (UDVA) by 0.2 Log units (p≤0.05), spherical power by 0.80 dioptre (p≤0.05) and cylindrical by 2.10 D (p≤0.05). Flattening of 1.5D more both mean keratometry (Kmean) and steepest keratometry (Kmax) also flattened by 1.50 dioptre with the combined procedure. Corneal volume decreased in Group I whereas, there was an increase by 2.89 mm in the combined procedure.

Conclusion: Refractive and topographic outcomes improved post-operatively in both the groups; however, the simultaneously combined procedure provided significantly better results. The refractive outcomes in both groups were independent of gender, age and the eye involved.

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Ring-attached amniotic membrane application in persistent corneal epithelial defect

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Purpose: To evaluate the efficacy of ring-attached amniotic membrane application in persistent corneal epithelial defect.

Methods: 71-year-old woman who had experienced pain, vision loss and redness in her right eye for two months was admitted to our clinic. There was a persistent corneal epithelial defect which was resistant to medical treatment in her right eye. An amniotic membrane which was fixed all around to the symblepharon ring by using fibrin sealant was applied to the ocular surface.

Results: Corneal epithelial defect healed redness and pain disappeared after two weeks follow-up. Afterwards, multilayered amniotic membrane patch graft transplantation was applied and the patient was followed without complication.

Conclusions: The ring-attached amniotic membrane application is a useful, non-invasive and easy technique for treatment of persistent corneal epithelial defects in suitable conditions. This procedure may be considerable both for ensuring of preoperative ocular surface stability, reducing the ocular irritation and a good option for the patients in whom surgery is not applicable. Further studies are needed in large series with longer follow-up to evaluate the success and efficiency of this technique.

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Bevacizumab monotherapy or combined with laser versus laser monotherapy in Mongolian patients with diabetic macular edema

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Objectives: To evaluate the efficacy and safety of bevacizumab monotherapy or combined with laser versus laser monotherapy in Mongolian patients with visual impairment due to diabetic macular edema.

Design: Prospective, randomized, single-center, a 12 month, laser-controlled, clinical trial.

Participants: One hundred twelve patients aged ≥ 18 years, with type 1 or 2 diabetes mellitus and best corrected visual acuity (BCVA) in the study eye of 35 to 69 Early Treatment Diabetic Retinopathy Study (ETDRS) letters at 4m (Snellen equivalent: 6/60 or 6/12), with visual impairment due to center-involved diabetic macular edema (DME).

Methods: Patients were randomized to one of the three treatment arms: intra-vitreous bevacizumab (n=42), and intra-vitreous bevacizumab with laser (n=35), or laser alone (n=35). Bevacizumab injections were given for 3 initial monthly doses and then pro re nata (PRN) thereafter based on BCVA stability and DME progression. Laser photocoagulation was given at baseline then PRN as per ETDRS guidelines.

Main Outcome Measures: Average change in BCVA from baseline to months 1 through 12, central subfield thickness (CST) and safety over 12 months.

Results: Bevacizumab monotherapy or combined with laser were superior to laser monotherapy in improving mean change in BCVA letter score from baseline to months 1 through 12 (+8.3 and +11.3 vs. +0.06 letters; both $p < 0.0001$). Although the improvement was greater with bevacizumab combined with laser than with the other two arms ($p < 0.0001$ for bevacizumab combined with laser vs. laser monotherapy and $p < 0.006$ for bevacizumab combined with laser vs. bevacizumab monotherapy). At month 12, greater proportion of patients gained ≥ 10 and ≥ 15 letters and with BCVA letter score > 73 with bevacizumab monotherapy (23.8% and 7.1% and 4.8%, respectively) and bevacizumab + laser (57.1% and 28.6% and 14.3%, respectively) versus laser monotherapy (0% and 0% and 0%). The mean central subfield thickness was significantly reduced from baseline to month 12 with bevacizumab ($-124.4 \mu\text{m}$) and bevacizumab + laser ($-129.0 \mu\text{m}$) versus laser ($-62.0 \mu\text{m}$; both $p < 0.002$). Patients received a mean of 8.1 and 6.3 bevacizumab injections in the bevacizumab and bevacizumab + laser arms. Conjunctival hemorrhage was the most common ocular events. No endophthalmitis cases occurred. Bevacizumab monotherapy or combined with laser was not associated with an increased risk of cardiovascular or cerebrovascular events in this study.

Conclusion: Bevacizumab monotherapy or combined with laser showed superior BCVA improvements over macular laser treatment alone in Mongolian patients with visual impairment due to diabetic macular edema.

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