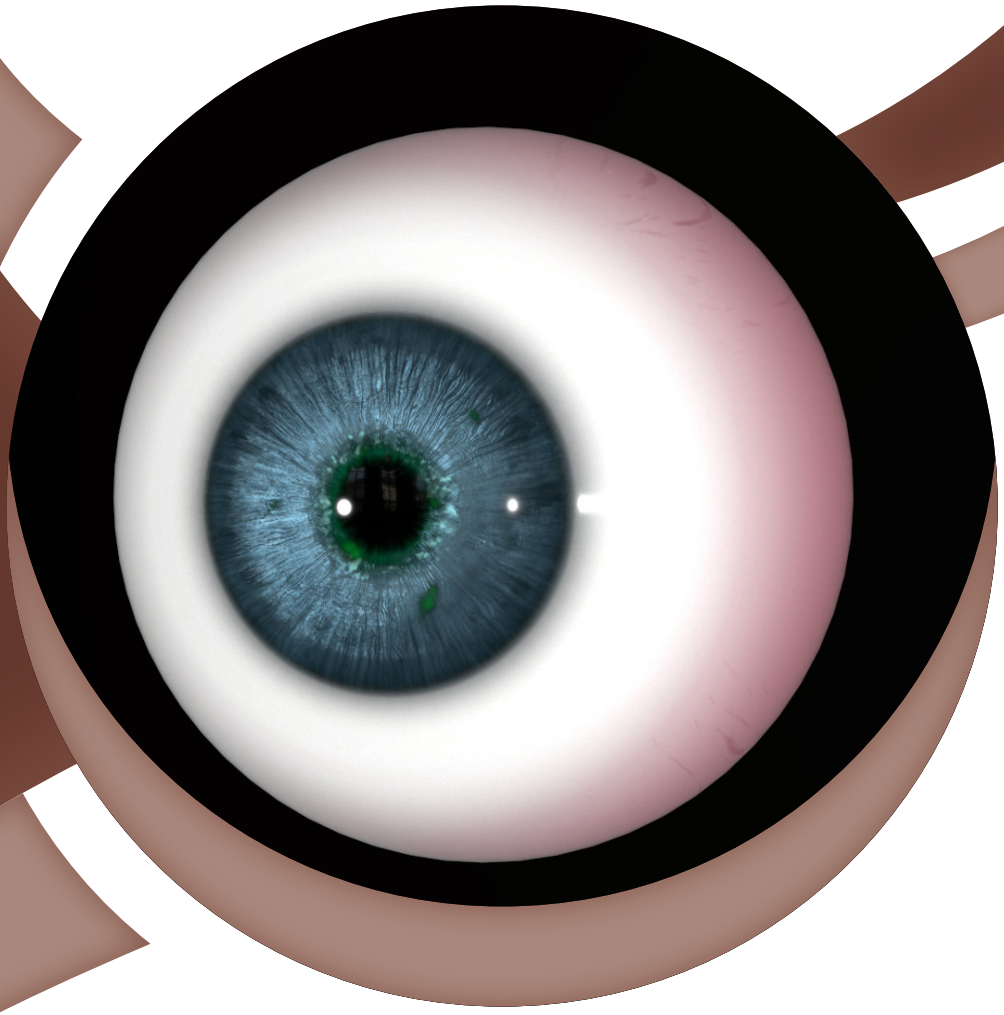

17th Asia Pacific Ophthalmologists Annual Meeting

September 17-18, 2018 Tokyo, Japan

Posters

Athar Shadmani et al., J Clin Exp Ophthalmol 2018, Volume 9
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Comparison of effects of activated omental cell with fat derived stem cell on rat limbal corneal alkaline injury

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Purpose: To investigate whether autologous activated omental cells are as effective as fat derived stem cells, in healing process of alkaline burn in limbus of rats.

Methods: Corneal alkaline burn was created in three groups of rats (each group was composed of six rats). Then each group were treated differently: Group 1 (control group), with topical medication only, group 2: sub-conjunctivally injected by Autologous Activated Omental Cell (AAOC) after alkaline burn induction , group 3: sub-conjunctivally injected by non-autologous abdominal Fat Derived Stem Cells (FDSC).Clinical outcome was evaluated after 2 months by corneal epithelialization, corneal opacity and neovascularization. Pathologic study was done to access corneal integrity and cell proliferation.

Results: After three weeks all three groups had relatively same degree of corneal neovascularization and opacity. But at the time of 2-month follow-up, group 3 rats showed the best clinical results with a more clear healed cornea compared with other groups. All rats on group 1 developed severe central corneal neovascularization and opacity with no healing. Auto evisceration was done in two of them. In group 2: Most cases achieved a clear cornea with peripheral neovascularization two of them developed central corneal neovascularization, but in group 3, none of rats developed central corneal neovascularization and all corneas were relatively clear with no epithelial defects.

Conclusion: Activated omental cells are as effective as fat derived stem cells in prevention of corneal neovascularization and wound healing after alkaline burn. Some differences between group 2 and 3 were detected, that should be evaluate in future studies

Biography

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Notes:

Huahong Zhong et al., J Clin Exp Ophthalmol 2018, Volume 9
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Study on the effect of refractive errors in intermittent exotropia after corrective operation

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Objective: To evaluate and compare surgical outcomes with respect to refractive errors in strabismus surgery for the treatment of intermittent exotropia.

Methods: The medical records of 129 patients with intermittent exotropia who were treated with one surgeon from June, 2010 to January, 2015 were reviewed. The patients were divided into three groups according to preoperative refractive error: hyperopia (group A with 20 patients), emmetropia (group B with 63 patients) and myopia (group C with 46 patients). The orthotropia rate and stereoscopic vision were compared among the three groups.

Results: The orthotropia rate was higher in group A and C than in group B at postoperative 3 and 6 months and at the last follow-up ($P<0.05$). Stereoscopic vision was significantly better in group B and C than in group A preoperatively ($P<0.05$). The difference was not significant postoperatively. The surgical success rates according to orthotropia rate and stereoscopic vision were higher in group A and C than in B at postoperative 3 and 6 months and at the last follow-up ($P<0.05$).

Conclusion: Taking into consideration the age, follow-up period postoperatively, orthotropia rate and stereopsis improvement, hyperopia is a good prognostic factor.

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Kim Jooyeon, J Clin Exp Ophthalmol 2018, Volume 9
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Selective retina therapy in patients with central serous chorioretinopathy

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Purpose: We evaluated visual outcomes, changes of central macular thickness in patients with central serous chorioretinopathy after treatment with selective retina therapy.

Methods: 17 eyes of 16 patients who were diagnosed with central serous chorioretinopathy will included in the study. Location of laser was determined by fundus fluorescein angiography performed before laser treatment. OCT was conducted before laser treatment and 1 month after laser treatment to compare central macular thickness. Chart review were done including age, sex, best correct visual acuity, intraocular pressure, slit lamp examination, time of laser conducted after diagnosis, location of laser conducted, side effects.

Results: Average best correct visual acuity at diagnosis and 1 month after laser treatment was 0.20 (logMAR) and 0.12 (logMAR), respectively, showing 0.08 (logMAR) of best correct visual acuity improvement. Average central macular thickness decreased 176.92 um from 213±46 um at baseline to 36±20 um at 1 month after selective retina therapy.

Conclusion: SRT of central serous chorioretinopathy patients showed favorable visual and structural outcomes without the risk of scotoma or other untreatable side effects.

Biography

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Notes:

Wungrak Choi, J Clin Exp Ophthalmol 2018, Volume 9
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Comparison of the trabecular meshwork height between open and closed angles and evaluating the location of the scleral spur in Korean patients

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Purpose of our study was to analyze the Trabecular Meshwork (TM) height of open and closed angle patients and attempt to present a better way to define the exact location of the scleral spur with the Schwalbe's line method in the Anterior Segment Optical Coherence Tomography (AS-OCT). Our study measured the distance from the scleral spur to the Schwalbe's line as the TM height and compared it between open and closed angle patients, and with results from previous studies. The mean TM height was then applied to locate the scleral spur with Schwalbe's line method. Of the patients who underwent AS-OCT at the Yonsei University Health System between January 2015 and December 2017, 30 patients (60 eyes) with open angle and 30 patients (60 eyes) with closed angle were randomly enrolled. Mean (SD) TM height was 810 (104) μm in the open angle group and 580 (107) μm in the closed angle group which was significantly different. ($p<0.001$) When the actual TM height was compared using the Schwalbe's line method, the accuracy was significantly better with updated reference distance (open: 810 μm, closed: 580 μm) than previously used 1000 μm reference distance. ($P<0.001$) TM height was significantly different between open and closed angle patients. As so, the reference distance for Schwalbe's line method needs to be distinguished according to open and closed angle when it is used for locating the scleral spur. Furthermore, TM height may be an important factor to distinguish open and closed angle.

Biography

Wungrak Choi has completed his Graduation from Yonsei University College of Medicine and is pursuing Ophthalmology as a specialty in Seoul Korea.

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Lu xiangqing et al., J Clin Exp Ophthalmol 2018, Volume 9
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Surgical treatment of recurrent Macular hole

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Objective: To observe the curative effect of recurrent macular hole surgery

Methods: The inner boundary membrane was packed in the macular hole and compacted

Results: All the holes healed after operation

Conclusion: It is a reliable method to treat recurrent macular hole with inner boundary membrane packing.

Biography

Lu xiangqing, chief physician, deputy director of daqing ophthalmology hospital and director of second ward. Eye microcirculation of the professional committee of microcirculation society of China, the Chinese society of traditional Chinese and western medicine combined with an eye professional committee, China association of the public medical institutions of professional committee of the eye, eye management committee members, ophthalmic professional committee of heilongjiang province, daqing medical association professional committee of ophthalmology, the ophthalmology group leader of daqing city medical association. Member of the CPPCC in daqing saltu district.

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17th Asia Pacific Ophthalmologists Annual Meeting

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Accepted Abstracts

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Prevalence of symptomatic dry eye and its risk factors among coastal population in eastern province of Saudi Arabia

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Background: The prevalence of dry eyes is estimated to be between 7.4% and 33.7% depending on the type of studies, its diagnostic test used, or geographic area studied. One of the important environmental risk factor in coastal areas is humidity with high temperature climate, as it will make people resort to air-conditioning leading to increasing of dry eye prevalence.

Objectives: The aim of our study was to estimate the prevalence of symptomatic dry eye and to assess the most frequent risk factors for dry eye among the coastal population of the eastern province of Saudi Arabia.

Methods: An observational cross-sectional study was conducted from April to June 2018 in coastal population of eastern province in Saudi Arabia. The range of target participant was between 6 and 40 years. A valid electronic questionnaire which is Ocular Surface Disease Index (OSDI) was used to assess dry eye symptoms. In addition, demographic profile was created and data about the risk factors were collected. All the questions were closed ended. Result: Out of 471 responses, 65.4% were female. Mean age 23.35(SD ±20.5) for male and 23.03(SD± 19.6) for female. We found out that the prevalence of symptomatic dry eye in the coastal population of eastern province is 62.4%. Most of participants considered to have severe dry eye which account to be 25.5%, followed by mild symptomatic dry eye that account to be 24.8%. Comparing OSDI with these factors: arthritis, diabetes, thyroid diseases, using Antidepressants drug and/or multivitamins supplements shown statistical significances differences. In addition, age and arthritis shows strong correlation with dry eye.

Conclusion: Dry eye is highly prevalent in the coastal population of the eastern province of Saudi Arabia. That clearly indicates that ophthalmologists, optometrists and general practitioners provide essential information about who to avoid dry eye.

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Short-term outcomes of near-infrared photo-biomodulation for permanent diabetic macular edema

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Purpose: To assess the efficacy of photo-biomodulation with near-infrared radiation for treatment of permanent macular edema in diabetic patients.

Methods: 12 eyes of 10 patients with permanent macular edema were included in this study. All patients underwent slit lamp examination and assessment of visual acuity, intraocular pressure, and optical coherence tomography (SD-OCT). Photo-biomodulation was performed using portable device (Warp 10, Quantum device) and applied near to the eye for 300s daily for twice monthly. Patients were re-assessed 1, 2 and 4 months after treatment.

Results: The mean visual acuity was 0.45±0.29 Snellen and the mean acuity at four months following treatment was 0.66±0.34, VA and increased by 1.85±1.2 Snellen lines (P<0.001). The mean central macula thickness was 537 μm primarily and decreased to 520 μm after treatment (P=0.015). No adverse events were observed, including blurred vision, inflammation and increased intraocular pressure or increased macular edema in any patient.

Conclusion: Photo-biomodulation resulted in a decrease in macular thickness and improvement in visual acuity in patients with permanent macular edema which they have no invasive and expensive treatment.

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Notes:

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Antibiotic prescription for infective conjunctivitis in general practice

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Infective conjunctivitis is a common self-limiting condition which constitutes around 35% of ocular presentation in general practice. A Cochrane systematic review investigating the effect of antibiotic treatment in the management of bacterial conjunctivitis concluded that the benefits from antibiotic use compared to placebo were marginal. UK National clinical guidelines further state that topical antibiotics should not be prescribed as first line treatment for conjunctivitis. The aim of this audit was to compare the frequency of antibiotic prescription at a busy general practice surgery against the standard set by national guidelines. A retrospective analysis of patients presenting with symptoms and signs of infective conjunctivitis over a period of fifteen months were collated using the System. One patient database. 97% of patients included in the study were prescribed topical antibiotics as first line treatment for conjunctivitis. Another 2% of consultations showing evidence of delayed prescribing. Doctor and patient education is important to manage expectations relating to the prescription of antibiotic to reduce unnecessary use. This has implications for reducing antibiotic resistance and improving cost-effectiveness of treatment. Changes implemented at the practice following the audit included updating general practitioners on the latest evidence and national guidelines on infective conjunctivitis management and creating an information leaflet for patients presenting with infective conjunctivitis containing advice on supportive measures to manage their symptoms.

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Cytomegalovirus Retinitis in HIV-negative patient

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Purpose: To report a case of Cytomegalovirus (CMV) retinitis in HIV-negative patient.

Methods: A 58-year-old woman with SLE, proven CMV retinitis was referred.

Results: She was referred with history of recent right eye visual loss. In fundus examination, she had signs of Retinal vasculitis. After initial examination, she was found to have CMV retinitis documented by Polymerase Chain Reaction (PCR) analysis of vitreous sample. She received intra-vitreal Ganciclovir and intravenous Ganciclovir with good response to treatment.

Conclusion: Ophthalmologists should take into account infectious causes of retinal vasculitis before approaching drug therapy.

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Causes of irreversible unilateral or bilateral blindness in the eastern province Saudi population of the Kingdom of Saudi Arabia

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Purpose: To determine the causes of irreversible unilateral and bilateral blindness in an eastern province of the Kingdom of Saudi Arabia.

Methods: This observational exploratory cross-sectional study evaluated patients with irreversible unilateral or bilateral blindness using a non-probability sampling technique which was done in a major referral hospital of the eastern province, in Dammam city. Saudi Patients were enrolled if they had <0.05 (3/6 Snellen acuity) vision in the better eye after correction bilaterally, or visual field of 10-15° around fixation in the better eye. The same was done in unilaterally blind eye patients. The primary investigator excluded treatable cases of blindness such as refractive error, cataract and corneal pathology, occurring after age 5 years. Also keratoconus and recent vitreous hemorrhage (<6 month duration) and operable retinal detachment.

Results: A convenient sample of 100 consecutive unilaterally or bilaterally blind patients comprised the study sample. The mean age of the study sample was 54±2.26 years. The male-to-female ratio was 4:5. The most common cause of blindness in an eye (eyes) was glaucoma in 30%. 78% of the patients had unilateral blindness. Deep ambyopia (11%) turned up to be almost the second most common cause of unilateral blindness occurring mainly in the left eye 10/11.

Conclusion: Glaucoma is the most common cause of irreversible blindness in one or both eyes. Although underestimated (due to old corneal scarring and other causes) amblyopia is likely to be the second most common cause of blindness in in an eye the eastern province of Saudi Arabia. Deep amblyopia occurs more frequently in left eye.

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Eye worm swimming live in anterior chamber: How to remove live nematode without damaging eye structure? First report from south Borneo, Indonesia

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We are reporting a case of a worm swimming live in Anterior Chamber (AC), which was difficult to be removed due to its wriggling movement and need to be carefully removed without damaging the ocular structure. A 21 year old male presented with a sudden-onset of pain in right eye for 5 days. The complaint was accompanied with irritation and photophobia. On examination, visual acuity was 6/6.5 with his best corrected, with circumcorneal congestion. We performed slit-lamp examination on the AC and witnessed a thin, white motile object with wriggling movement that was swimming live in AC. The worm was removed surgically from AC by using forceps and adding lidocain with NaCl 0.9% intra-corneal to stop its movement. The worm was sent to pathological anatomy department to be examined microscopically. The method of using lidocaine as a chemo-paralysis substance has been proven effective to facilitate an easy removal of the worm so as to prevent major harm to the ocular structure.

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Short-term outcomes of near-infrared photobiomodulation for permanent diabetic macular edema

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Purpose: To assess the efficacy of photo-biomodulation with near-infrared radiation for treatment of permanent macular edema in diabetic patients.

Methods: 12 eyes of 10 patients with permanent macular edema were included in this study. All patients underwent slit lamp examination and assessment of visual acuity, intraocular pressure and optical coherence tomography (SD-OCT). Photo-biomodulation was performed using portable device (Warp 10, Quantum device) and applied near to the eye for 300s daily for two months. Patients were re-assessed 1, 2, and 4 months after treatment.

Results: The mean visual acuity was 0.45±0.29 Snellen and the mean acuity at four months following treatment was 0.66±0.34, VA and increased by 1.85±1.2 Snellen lines (P<0.001). The mean central macula thickness was 537 μm primarily and decreased to 520 μm after treatment (P=0.015). No adverse events were observed, including blurred vision, inflammation and increased intraocular pressure or increased macular edema in any patient.

Conclusion: Photo-biomodulation resulted in a decrease in macular thickness and improvement in visual acuity in patients with permanent macular edema which they have no invasive and expensive treatment.

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Stage of hypertensive retinopathy among patients who undergone cataract surgery in Zamboanga city medical center

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Background: Individuals who are not known hypertensive are noted to have blurring of vision as an initial presentation. Preventable co-morbidity such as hypertension is essential in saving sight in patients with cataract.

Objective: To determine the prevalence of hypertension and stage of hypertensive retinopathy among individuals who undergone cataract surgery and to identify the association between the stage of hypertension and the risk factors for hypertension and the stage of hypertensive retinopathy.

Methods: This prospective study included 203 individuals. All of the participants were noted to have mature cataract surgery done and was noted to have followed up at Tzu Chi Eye center from July 1 2017 to March 30, 2018. The nature, significance and procedure of the study were explained to every identified respondent. There was only one ophthalmologist who saw the participants who enrolled in the study. Once they understood the study, a written informed consent was taken. They were asked to answer questions provided by the researcher and their laboratory results were recorded. A follow up after 2 weeks was done in order to determine the stage of retinopathy of the patients. Demographic variables, hypertensive retinopathy, history of hypertension, medication usage, compliance, ECG changes, proteinuria, creatinine and cardiomegaly on chest x-ray, radiographic identification of atheromatous aorta and fundoscopic examination were analyzed. The Wong and Mitchell classification and the Keith, Wagner and Barker staging system were used for retinopathy grading.

Results: A total of 203 patients (117 men, 86 women) with mature cataract were enrolled in this study, mean age was 64.33±9.7 years. Upon inclusion, 92% are noted with hypertension and 7 out of 10 were noted to have severe hypertension. One out of four patients was newly diagnosed with hypertension. Among previous hyper-tensives 21% were not compliant to treatment. The Grade of hypertensive retinopathy correlated with duration of illness but did not with severity of hypertension.

Conclusion: The American Heart Association stage of hypertension and the stage of hypertensive retinopathy by Keith, Wagner and Barker has been shown to be directly associated with each other. The Grade of Hypertensive Retinopathy reflects duration and not the severity of hypertension.

Recommendation: Although cataract operations are low risk, the current practice of referring these patients for medical evaluation prior to surgery is an excellent opportunity to diagnose new hyper-tensives and identify noncompliant cases. Initiating appropriate treatment may prevent complications among these elderly patients.

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Acute choroidal neo-vascular membrane in a 22-year-old patient which was initially assessed with central serous retinopathy secondary to antidepressant medications

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This is a case of a 22-year-old female from the Philippines with a chief complaint of blurring of vision who developed choroidal neovascular membrane with central retinopathy. The patient had history of anti-psychotropic oral medications use for 1 year duration (Escitalopram, Quetiapine, Clonazepam and Alprazolam). She was diagnosed with major depressive disorder 1 year prior and presented on the day of consult with sudden blurring of vision of the left eye. Best corrected vision was 20/20 on the right eye and 20/70 on the left eye. Fundus exam revealed a surface elevation in the foveal area. Fluorescein angiography and ocular coherence tomography read as central serous retinopathy. However, further examination after 15 days on OCT revealed a choroidal neo-vascular membrane developing. Aflibercept injection 0.4 ml was injected once a month for 3 doses. Patient improved to 20/30 on the affected eye thereafter. Central serous chorioriorethinopathy is characterized by sudden unilateral blurring of vision. Histologically, neurosensory detachments and/or retinal pigment detachments can be seen mostly confined in the macula and is said to have occurred because of leakage of fluid to the sub-retinal spaces. Management includes careful observation in most cases. However, there is no protocol in management of atypical CSR secondary to anti depressive medication overdose. We propose that because membranes are irreversible, patients who develop an atypical case of central serous chorioretinopathy due to antipsychotic drugs need a protocol for monitoring, and if needed, anti VEGF treatment 0.4 ml every month was effective in this case.

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To evaluate the intraoperative and postoperative performance of Cionni-modified ring (CTR) aided phacoemulsification and IOL implantation in a sub-luxated lens

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Purpose: To evaluate the intraoperative and postoperative performance of Cionni-modified ring (CTR) aided phacoemulsification and IOL implantation in a sub-luxated lens.

Design: Prospective observational study.

Methods: This study was carried out at lotus eye hospital, Coimbatore, India. The study population comprised 30 eyes of 25 patients with sub-luxated lenses that underwent lens extraction, capsular bag fixation with modified CTR and in-the-bag (IOL) implantation. Main outcome measures were intraoperative performance and postoperative Best-Corrected Visual Acuity (BCVA), IOL centration and complications.

Results: The mean age was 36.77 years (4-75 years). Mean extent of subluxation was 7.1-2.0 clock hours. Preoperatively, vitreous was detected in the anterior chambers of 3 eyes (10.0%). Two-port anterior chamber vitrectomy was performed in 3 eyes. Mean follow-up was 24 months. Mean preoperative BCVA was 0.83-0.60 logMAR (30 eyes). Mean postoperative BCVA at final follow-up was 0.28-0.32 logMAR (30 eyes) ($P<0.001$). In 1 eye (3.33%) IOL de-centration was noted and repositioned. Posterior capsule opacification developed in 2 eyes (6.67%) and required Nd:YAG capsulotomy in both cases. Other complications included capsular phimosis in 1 eye (3.33%) and posterior synechiae in 1 eye (3.33%).

Conclusion: In-the-bag implantation of a Cionni's modified CTR with IOL appears to be a safe option in the eyes with sub-luxated cataract, ensuring a stable IOL with few complications.

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Notes:

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Orbital cellulitis presenting as proptosis in an 8-year old male

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An 8 year old male presented with sudden-onset proptosis and decreased vision in the left eye. Magnetic resonance imaging done showed a left-sided sub-periosteal ethmoidal abscess associated with maxillary sinusitis. The patient was started on empiric intra-vitreal antibiotics with no improvement in symptoms. He subsequently underwent surgical drainage through a combined external Lynch and internal transnasal endoscopic sinus approach. Cultures of collected purulent material revealed normal orbital flora and *P. pneumotropica* in the maxillary sinus. Antibiotics were shifted accordingly. On the fourth post-operative day, proptosis had resolved and vision had improved. At least 10% of all orbital cellulitis cases are complicated by the presence of orbital or sub-periosteal abscesses. While current practice recommends close observation and intravenous antibiotics only in children under 9 years of age with small to moderately-sized abscesses and no intracranial or dental involvement, individualized treatment is important. Prompt imaging and a discerning clinical eye are thus central in guiding treatment, particularly in patients who require surgical intervention.

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MicroRNA and the ocular renin-angiotensin system

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Angiotensin (Ang) II, the most physiologically active component of RAS, mediates its effect through two G-protein coupled receptors, Ang II type 1 or type 2 (AT1R and AT2R), having different signal transduction mechanisms. Most of the known cardiovascular effects of Ang II are mediated by AT1R. Prorenin has long been considered as an inactive precursor of renin, without any biological function of its own. However, prorenin binding to a receptor called (pro)renin receptor (PRR) has been recently reported to exert biological effects in the retina. It is also known now that Prorenin is highly elevated in ocular fluid of diabetic patients with proliferative retinopathy, which all suggest that Prorenin and the system RAS are very important in the eye. Using RNA interference tools, we have shown that both the receptors are implicated in hyperglycemia-induced increase of vascular endothelial growth factor (VEGF), VEGFR2, and transforming growth factor beta (TGFβ1). In order to block the effect of Ang II through AT1R and AT2R, in our experiments we inhibited angiotensin converting enzyme (ACE) by perindopril, where Ang II formation is blocked. We have shown that the increased prorenin synthesis due to hyperglycemia has been attributed to the activation of PRR and VEGF by a mechanism involving NADPH oxidase activity, miRNA-21, HIF1-α and NF-κB. Furthermore, we have demonstrated that the downstream targets of miR-21 are three important genes SMAD7, an inhibitor of TGF-β1-induced VEGF expression, PTEN, a negative regulator of PI3 kinase/Akt signaling pathway and SPRY1, a negative regulator of ERK signaling pathway. The PRR-mediated induction of VEGF under hyperglycemic conditions occurs via Rac1 signaling by regulating miR-21 expression. Our studies suggest that hyperglycemia-induced PRR signaling may play a role in the VEGF-induced angiogenesis that may lead to proliferative diabetic retinopathy, wet AMD and other vascular complications in the eye.

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Will final-year medical students be ready to do diabetic retinopathy screening and make appropriate referring decision in upcoming internist life?

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Background: Diabetic Retinopathy (DR) was a leading cause of visual loss worldwide. Primary care physician with competences to refer DR patients appropriately might help prevent permanent visual loss from this organ damaged. We assessed accuracy of DR grading and referring decision of final-year medical students who will become primary care physicians in the upcoming year.

Method: The study was conducted in Vachira Phuket Hospital. All 22 final-year medical students were enrolled. To complete questionnaires which consisted of twenty images demonstrating varied stages of DR, participants were assigned to grade DR and make referring decision. The images were selected from standard photographs displayed in reliable publications. AAO DR classification system which classified DR into no DR, mild nonproliferative DR (NPDR), moderate NPDR, severe NPDR and proliferative DR(PDR) was used as a classification system in this study. Sensitivity and specificity of DR grading were analyzed. Referring scores would be assessed if DR staging was correctly marked.

Results: Average DR staging and referring score were respectively 8.36 and 7.59 out of 20. Given that passing level of staging and referring score was 80%, no students achieved this level. Average grading sensitivity of mild NPDR, moderate NPDR, severe NPDR and PDR were 45.45%, 40.90%, 30.68% and 48.86%, respectively. The specificity of DR was 43.18%.

Conclusion: To provide early DR diagnosis, prevent DR complication and reduce numbers of patient in tertiary care centers, the impediment to retain medical students' long-term knowledge and make referring decision properly should be figured out. Moreover, medical students' obstacles of DR grading should be promptly interpreted in further study.

Discussion: The study revealed that most of final-year medical students did not have enough competences to do DR grading and refer the patient sensibly.

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