

79th AIOC 2021: All India Ophthalmological Society

MANAGEMENT OF CORNEAL THINNING AND PERFORATIONS IN SEVERE ACUTE CHEMICAL INJURIES

Dr Tuhin Chowdhury, Kolkata

In his talk, Dr Tuhin Chowdhury said that proper management in the acute state is most important and determines the long-term outcome. Corneal thinning or perforation, when associated with large areas of sclera ischemia, if left untreated, can lead to various complications such as total melt with extrusion of intraocular contents, anterior staphyloma, secondary glaucoma.

The primary goal of surgery in severe ocular burn cases is globe preservation and ocular surface maintenance. When the globe integrity is saved and the ocular surface is stable, further surgeries can be planned for better visual rehabilitation. The most common comorbidity is glaucoma and needs to be managed aggressively. He emphasized the need for a close follow-up after the initial injury for management of possible sequelae – corneal ulceration or perforation, corneal scarring with limbal stem cell deficiency (LSCD), secondary open-angle glaucoma, conjunctival scarring, dry eye, etc. Oral mucous membrane grafting is combined with tenonplasty for repair of sclerocorneal melt caused by chemical burns. Tenonplasty improves local environment and microcirculation, while oral mucous membrane grafting provides many cells for repair and re-epithelialization.

CAN STEREOACUITY REPLACE VISUAL ACUITY IN AMBLYOPIA RISK FACTOR SCREENING AMONG PRESCHOOLERS?

Sanitha Sathyan, Mathew Kurian, Rosemary C Antony, Angel Edward; Kochi

A combination of visual acuity and stereoacuity test is better, according to a presentation, which addressed the question of whether stereoacuity could replace visual acuity in amblyopia risk factor screening among preschoolers. Combined screening reduces false positives and increases true negatives. If the combination is not possible, then in 3 and 4 year-olds, TNO is better and in 5 and 6 year-olds, TNO or visual acuity charts may be used. 'Pass' in the distance visual acuity screening test or TNO stereo test individually, does not eliminate the need for further evaluation.

CLINICAL, PATHOLOGIC FEATURES AND MANAGEMENT OF ADVANCED EYE AND ORBITAL PLASMACYTOMA

Dr Ankita Aishwarya, Dr Harika Regani, Dr Santosh G Honavar; Hyderabad

Dr Harika Regani presented the findings of a retrospective observational and interventional case series comprising 6 patients, which evaluated the clinical, pathologic features and management of advanced eye and orbital plasmacytoma. She said that although plasmacytoma of the orbit is rare, ophthalmologists should be aware of it. It should be one of our differentials in a case of bony triradiate lesion irrespective of age group.

Dr Regani emphasized the need for a systemic workup for multiple myeloma not only as a treatment guide but also to prognosticate the disease. A detailed histopathological evaluation with immunohistochemistry is important. She further said imaging should focus on the early detection of additional or recurrent lesions, which influence clinical management. Aggressive and early initiation of multimodal treatment is warranted.

PHACO IN HARD CATARACT

Dr Mahipal S Sachdev, New Delhi

Dr Mahipal S Sachdev gave a presentation on phaco in hard cataract. He said the hard cataract is a challenge. The white and brunescant/hard cataracts are associated with increased risk of capsule complications. He also discussed the problems encountered intraoperatively such as incomplete separation of nuclear fragments following chopping, absence of an epinuclear cushion for protection of posterior capsule, posterior capsular tear. Early detection of the posterior capsular tear leads to optimal management, which depends on the stage of surgical procedure at which the tear is detected. He said the use of dispersive ophthalmic viscosurgical device (OVD) tamponades a posterior capsular tear, enabling completion of phacoemulsification and preventing vitreous prolapse. If vitreous prolapse occurs, anterior vitrectomy is done.

SURGICAL MANAGEMENT TIPS – PUK

Dr Ishantha Jayasekara, Sri Lanka

Peripheral ulcerative keratitis (PUK) is a destructive inflammatory disease of the juxtalimbal corneal stroma

that is associated with epithelial defect, presence of inflammatory cells in the stroma and progressive stromal melting. Delivering his presentation, Dr Ishantha Jayasekara further said that PUK is a potentially blinding disease, sometimes proving to be recalcitrant to all modes of therapy. The imbalance between collagenase (MMP-1) and its tissue inhibitor (TIMP-1) has been proposed as the reason for rapid keratolysis, which is a hallmark of the condition, he added. Timely diagnosis, detection of underlying systemic inflammatory disease and proper treatment can prevent complications. Dr Jayasekara also said that it is often associated with potentially life-threatening systemic vasculitic autoimmune diseases and needs to be treated with a systematic approach. Hence, a thorough systemic history is very important. He suggested that surgical management, even though technically challenging, can give a better prognosis in all stages of disease.

PEDIATRIC HSV

Dr Kathryn Colby, USA

Dr Kathryn Colby said during her presentation that herpes simplex virus (HSV) is an important disease in children, adding that a high percentage have stromal disease. She emphasized that there is a high risk of recurrence, with significant risk for corneal scarring, induced astigmatism and reduced vision. Dr Kathryn said that we must always consider HSV whenever there is unilateral, recurrent disease in the anterior segment, no matter what the manifestation. She added that a trial of acyclovir (ACV) can be very helpful in challenging pediatric cases.

She said that oral ACV can be used and the dosage must be adjusted as the child grows. She advised to consider long-term ACV prophylaxis if there is stromal disease. She also advised to be careful while using topical steroids and said that amblyopia management is key.

APPLICATION AND RELIABILITY OF CORVIS ST IN CLINICAL SCENARIOS

Dr Namrata Sharma, New Delhi

The CORVIS ST allows dynamic and noninvasive imaging of deformation of cornea in response to a puff of air, said Dr Namrata Sharma in her presentation on the application and reality of CORVIS ST in various clinical scenarios. Further describing its features, she said that the high-speed Scheimpflug camera records deformation at 4,330 frames/sec over a horizontal range

of 8.5 mm. Recording measurement time is 30 ms with acquisition of 140 digital frames. It is used in the evaluation of biomechanical response, tonometry and pachymetry.

An important clinical use of biomechanics is to overcome well-known errors in the measurement of intraocular pressure (IOP) with the common applanation tonometer. Additionally, it can be used to screen for diseases such as keratoconus and glaucoma, predict response to corneal procedures such as laser vision correction and corneal collagen cross-linking. Biomechanics should be more inclusive to include cases of other disease pathology, corneal transplants including donor corneas, she added. Although we are still in a stage of infancy, there is a potential to change the whole new world of biomechanics.

ABUSIVE HEAD TRAUMA: WHERE DOES TRUTH LIE?

Dr Donny W Suh, USA

During a presentation, Dr Donny discussed about abusive head trauma (AHT). He said that it has different names – Battered infant, Battered child syndrome, Whiplash shaking infant, Shaken baby syndrome (SBS), Nonaccidental trauma and AHT. He said that AHT is the most common cause of traumatic death in children below 12 months of age.

He discussed the pathophysiology of brain injury – 2 types of injury by acceleration and deceleration. He mentioned that vessel bifurcations experience greater stress. In peripheral retina, there are greater number of bifurcating vessels. This may explain the diffuse nature of retinal hemorrhages in SBS. He added that all pre-, intra-, subretinal layers experience similar stress. He said that computer and animal models support the hypothesis that shaking an eye at a frequency as low as 2.2 cycles/sec can produce stress levels that exceed the minimum threshold for producing VR separation in young sheep and monkey eyes due to mechanical failure. Similar mechanical failure may occur in human eyes if stress levels exceed vitreoretinal adhesion.

Dr Donny said that their finite element can be used to recreate the trauma based on history provided and calculate the force/pressure applied to the retinal structures. This information can be useful for deciding whether to further pursue the extensive and careful medical and social history investigation of circumstances surrounding a trauma event.

