



Video Abstracts

Post Pandemic Prevalence of Refractive Errors among Elementary School Children in Jakarta, Indonesia

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Purpose: to evaluate the post pandemic prevalence of refractive errors among elementary school children in Jakarta

Setting: field study

Method: ophthalmological examination consisted of UCVA screening by trained teachers using modified and simplified Snellen chart to all students followed by slit lamp examination for anterior and posterior segment and BCVA using autorefractor and subjective refraction using full Snellen chart to 284 school children aged 9 to 12 in 2 elementary schools in Jakarta. Demographic data were obtained via interviews and pre-questionnaire from school database. Correlation between variables, prevalence of refractive errors and demographic characteristics were analyzed using bivariate analysis.

Results: from 284 children, only 9 (4%) had previous spectacles correction, with 111 (40%) diagnosed to having ametropia (myopia and/or astigmatism). Bivariate analysis explored the correlation between prevalence and subject characteristics showed no statistical correlation between school grades and age of subjects towards ametropic diagnosis, even though majority of the subject diagnosed with ametropia was as high as 62% of the total ametropic subjects, therefore clinically correlated.

Conclusion: the significantly increasing prevalence of refractive errors in elementary school children in Jakarta proved the impact of online learning, increase use of smartphones and lack of outdoor time during the last 3 years with only 4% to have received spectacles correction. This high prevalence is to be considered a public health concern. The results of our study should encourage government and healthcare providers to mitigate and accelerate screening, prevention, early detection and management of refractive errors in children in ways to reduce potential risks of future health, social and economic problems

Magic of stem cell grafting in chemical eye injury in a 3 years old child

Dr. Rasha Mousa¹

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3 years old child presented with complete closure of palpebral fissure with obliteration of fornices with adhesions following chemical eye injury one-month prior presentation. US and CT shows normal sized intact globe. I decided to dissect these adhesions and form the fornices and surprising the cornea was intact after removal of the aggressive conjunctivalization, and AC was formed, I dissect all the adhesions and use mitomycin under the conjunctiva. limbal stem cell grafting from the other eye was done to the cornea and amniotic membrane graft used above the cornea. After 6 months the upper half of the cornea is clear with complete epithelialization of the cornea and opacification of lower one third of cornea. Superior fornix is patent and inferior fornix showed partial symblepharon which needed removal and conjunctival graft from other eye in another session

a simple suture modification on Yamane IOL scleral fixation technique in pediatric age group

Dr Heba Metwally¹

¹Memorial Institute for ophthalmic Research , Giza , Egypt

purpose : to add a modification on yamane technique to make it more simple with less risk of slippage of haptics during IOL scleral fixation by yamane technique

Methods : my case was secondary IOL implantation in 3 yrs old boy with no capsular support , i used yamane IOL scleral fixation technique but with a simple suture modification by adding a suture around the leading haptic after retrieval to help preventing the haptic from slippage while doing manipulations in the Anterior chamber or even retrieval of the trailing haptic from the other scleral tunnel

JOURNEY OF A LAMELLAR CATARACT

Nilutparna Das¹, Harsha Bhattacharjee, Swanubhuti Jain, Praveen Dusthakar

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Purpose – Video highlighting the journey of lamellar cataract and its impact on quality of life of a child if left untreated.

Setting – Hospital based setting

Methods – Prospective case series interventional study

Results – Early surgical intervention in lamellar cataract before obscuration of visual axis to prevent amblyopia and reduce the disability adjusted life years in a child.

Conclusions – Prevention of irreversible stimulus-deprivation amblyopia by early screening, detection, surgical intervention and post-operative visual rehabilitation.

Financial Disclosure of all authors - NIL

technique of anterior vitrectomy in cases of anterior PHPV

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purpose is to present a video demonstrating the technique of anterior vitrectomy in cases of anterior PHPV

the idea is to make anterior vitrectomy in circular fashion around the stalk of persistent anterior hyper plastic vitreous
to remove the attachment of the stalk to the surrounding vitreous
the stalk will be displaced gradually away from visual axis
without the need of cauterization of the stalk

Navigating the Challenges: Surgical Management of Cataract in Aniridia

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Purpose: To highlight few considerations while performing cataract surgery in patients with aniridia

Setting :

Chid Sight Institute, LV Prasad Eye Hospital

Video:

Cataract associated with Aniridia has varied presentations. They differ in the morphology and other lens abnormalities like lens subluxation, lens coloboma, microspherophakia and posterior lenticonus. Performing cataract surgery in individuals with aniridia can present unique challenges requiring comprehensive and individualized approach.

In this video we illustrate a few considerations of performing cataract surgery in patients with aniridia which includes preoperative assessment that may influence surgical decision-making, challenges to anticipate during cataract surgery and the techniques modified to address these challenges during surgery. We also illustrate the surgical management of complex situations of lens subluxation, lens coloboma, microspherophakia and posterior lenticonus in association with cataract in Aniridia. Intraocular lens selection, postoperative care and monitoring of specific issues, complications that can be encountered pre, intra and post cataract surgery and the surgical outcomes of aniridia patient following cataract surgery will be depicted.

Financial Disclosure: None

"Little changes for Little eyes"-- Ergonomics for Pediatric Ophthalmologists

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Purpose- More than other departments, pediatric ophthalmologists are challenged by repetitive non-ergonomic postures that may lead to long-term musculoskeletal issues. Due to disparity in height, grueling cooperation of children and static postures of the wrists, elbows, neck and back in OR can result in crippling back pain, neck pain and carpal tunnel syndrome. Through this video we would like to highlight about common ergonomic disasters of a paediatric ophthalmologist and how to mitigate them.

Setting- This video was conceptualized and shot in a tertiary eye care Centre in South of India.

Methods- OPD requires few modifications like reclining the patient for retinoscopy and refraction, kneeling down the child to bring the child chin level to slit lamp chin rest height, using foot support while performing indirect ophthalmoscopy of infants and using child friendly bed and furniture. In OR adjusting the height of table, chair and microscope and using loupe to perform surgeries can help surgeons maintain effective postures.

Results and conclusion- Musculoskeletal pain appears to be common among Paediatric ophthalmologists. Awkward posture and prolonged working hours are responsible for the same.

Modifications in instrumentation, postural habits and regular exercises are needed to strengthen our back for future.

A B-scan in time saves nine!

Dr Maithri Arunkumar¹, Dr Jyoti Matalia¹

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Purpose: The incidence of raised intracranial pressure (ICP) either due to primary or secondary causes is on the rise. With the advent of magnetic resonance imaging (MRI), diagnosing and prognosticating raised intracranial pressure has become easier and non-invasive. However, it is time-consuming, expensive and contraindicated in many cases. We would like to describe a much easier, faster, non-invasive and cheaper method of diagnosing raised ICP using ultrasound B-scan.

Setting: The technique demonstrated in this video is followed in the pediatric ophthalmology, strabismus and neuro-ophthalmology clinic at a tertiary eye hospital in South India for the detection of raised ICP.

Methods: In cases of raised ICP, the optic nerve is affected and it can cause minimal to significant visual loss if not treated at the right time. This video demonstrates the use of ultrasound B-scan to detect papilledema in such cases. The indications, technique and interpretation of the test is discussed with case examples. The difference between true and pseudo disc edema is also highlighted.

Results: With an 8 Mhz probe that is routinely used for retinal B-scans, we can detect sub-arachnoid fluid (SAF) around the optic nerve. It shows an intraocular elevation along with increased optic nerve sheath diameter and the presence of sub-arachnoid fluid around the nerve (crescent sign) that is observed is pathognomonic to papilledema. It can be used to confirm raised ICP as the etiology for disc edema as opposed to other causes such as optic neuritis and pseudo-disc edema.

Conclusion: Ultrasound B-scan is not only a diagnostic indicator for papilledema but can be used to step up or taper treatment by using serial scans on follow-up as well. In the setting of progressive vision loss, doing a quick B-scan can also aid us in deciding strategies to salvage vision, either through optic nerve sheath fenestration or shunt procedures thereby saving time and money required for serial MRI scans and preventing invasive procedures like lumbar puncture. It takes less than two minutes and can save a patient's vision!

Get past the jerk – Evaluation of acquired nystagmus made easy

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¹Narayana Nethralaya, Bangalore, India

Purpose: To differentiate various types of nystagmus with an animated and case scenario-based video.

Setting: Pediatric ophthalmology and strabismus clinic at a tertiary eye hospital in South India.

Methods: This is an video describing different types of acquired nystagmus with animation, clearly dissecting out the various eye movements of each type to help arrive at a diagnosis. Case - based scenarios are also discussed in the video to correlate with the etiology and site of lesion.

Results: This video will help any ophthalmologist to understand the nuances in evaluation of a patient with nystagmus.

Conclusion: Evaluation of a case of nystagmus might seem like a herculean task even for experienced ophthalmologists. The key lies in being able to identify characteristic features that differentiate congenital from acquired nystagmus. Our video demonstrates exactly that. From an interesting video with animations, we show you how to approach a case of nystagmus in a simplified format.

LOOK BEFORE YOU LEAP

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Purpose: To highlight the importance of inspecting the previously recessed/resected muscle in case of a consecutive strabismus.

Setting: A 12-year old boy with intermittent exotropia going in to right exotropia noted since last 6 years, with right suppression for distance and good stereopsis for near. History of Medial Rectus(MR)recession 5mm both eyes done at the age of 3 years from elsewhere. Rest of the ocular examination is normal

Methods: Squint evaluation revealed 12 PD exotropia for distance and near which increased to 20 PD for distance and 25 PD exotropia for near post patch test. A second stage surgery with Lateral rectus recession 4mm and MR advancement 3mm Right eye planned. Intra-operatively, on hooking the MR, we found a thin fibrovascular capsule at 10mm from the medial limbus with actual muscle much behind at about 12mm from the previous recession site. The slipped MR was secured with 6-0 sutures, advanced and reattached to sclera at 10mm from the limbus. The fibrovascular capsule was excised and wound closed.

Results: A good result was obtained postoperatively with orthotropia for distance, small esophoria for near and excellent binocular vision(Fusion for distance and 60 arc seconds of near stereopsis) till last follow up at 3 months. The prompt identification of slipped MR with translucent fibrovascular capsule attached to sclera, safe securing and advancement with sutures and excision of the fibrovascular capsule helped in restoring its anatomical and functional integrity. The subtle clues for late slippage of MR here being the slow exodrift over the years, larger near deviation and minimal, nevertheless visible(-1) limitation of adduction right eye, which were previously missed.

Conclusions : In re-operations, always explore and confirm the insertion and integrity of the recessed muscle before proceeding, even if the strabismus appears comitant with normal ocular movements. A late slippage of muscle must be kept in mind all cases of consecutive strabismus.

Financial Disclosure: Nil

Surgical management of acute Strabismus secondary to Orbital Trauma

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Purpose

To demonstrate the various scenarios requiring surgical management of acute strabismus in orbital trauma.

Venue

Child Sight Institute, L V Prasad Eye Institute, India

Method and materials

Video article – Surgical correction of strabismus secondary to trauma by a team approach in varied situations.

Patients who developed strabismus secondary to orbital and/or facial trauma due to one of the following mechanisms

1. Muscle involvement in orbital wall fractures
2. Muscle contusion
3. Traumatic disinsertion or laceration of the extraocular muscles
4. Acute nerve palsy causing paralytic strabismus.

and who underwent immediate surgical correction were included. Surgical videos demonstrating the types of approach, technique of surgery in each type and practical tips have been included.

Results

A series of surgically managed cases highlighting the complexity of strabismus in orbital trauma and the unpredictable outcome following surgery have been evaluated. The management requires the involvement of a multidisciplinary team and sometimes the desired outcome may need multiple surgeries as well as use of adjunctive therapies like botulinum toxin.

Conclusion

Strabismus resulting from orbital trauma tends to be complex and requires a tailored and versatile surgical approach with multidisciplinary management including at times a neurosurgeon, oculoplastic surgeon apart from a strabismologist.

Overall, this video article aims to provide a comprehensive overview of the surgical management in acute strabismus in orbital trauma.

Financial Disclosure

None

Unusual presentations of Strabismus in Thyroid eye disease

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Purpose: To highlight unusual clinical presentation of thyroid eye disease

Video:

The classical presentation of strabismus in thyroid eye disease is hypotropia with limited elevation and esotropia with limited abduction. The goal of the surgery in thyroid eye disease is binocular single vision in primary gaze and downgaze with some amount of increase in range of motility. This video highlights unusual interesting presentations and management of strabismus in patients with inactive stage of thyroid eye disease. Namely, large hypotropia with chin down abnormal head posture, paediatric thyroid eye disease, ocular myasthenia with thyroid eye disease, involvement of uncommon oblique and lateral rectus, concept of fixation duress for upper eyelid retraction, management of torsional diplopia and pattern strabismus in thyroid eye disease, resections in management of thyroid eye disease are illustrated.

Financial Disclosure

None

Fill in the blanks- Transposition for missing muscles.

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Purpose-The absence of extraocular muscles has been recognized as a rare cause of strabismus, causes being congenital, traumatic, surgically induced. Through this video we describe three cases of absent/missing muscles causing strabismus and their management by transposition.

Setting: Tertiary eye care center in southern India

Methods- In case 1, there was absent inferior and lateral rectus secondary to infected scleral buckle and was managed by inferior oblique transposition and medial rectus Nishida procedure. The second case shows congenital absence of lateral rectus muscle managed by medial rectus recession and vertical rectus transposition third case is traumatic disruption of medial rectus muscle which was managed by lateral rectus Hang back recession and medial rectus muscle exploration and periosteal fixation.

Results - Transposition procedures without tendon splitting distribute the muscle force vector in the desired direction of missed muscle and can achieve satisfactory ocular alignment, in both congenital aplasia or surgical unrecoverable lost muscle cases.

Conclusion- In case of squint secondary to missing muscles operative imaging, forced duction test and intraoperative exploration helps in diagnosis. Surgery though challenging can be managed with modifications like Hang back recession and transposition.

Navigating the Uncommon: Head Tilt Correction in Down Syndrome

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Purpose: To present rare association of incomitant horizontal strabismus on head tilt in children with Down syndrome.

Video:

Abnormal head posture is attributed to various identifiable and non-identifiable, ocular and non-ocular causes, namely incomitant strabismus, nystagmus, dissociated deviation, refractive error, visual field defect, hearing loss and musculo-skeletal deformities of the head and neck.

This video highlights the rare association of incomitant horizontal strabismus on head tilt in children with Down syndrome. We illustrate various case scenarios in children with Down syndrome, presenting with head tilt, whom on evaluation had esotropia in the primary gaze and the amount of esotropia varied on head tilts. Children presented with a head tilt on a side with least horizontal deviation. The likely cause of head tilt such as vertical deviation, dissociated deviation and nystagmus were ruled out in our patients. All these children underwent horizontal rectus muscle recession (Bimedial recession) for the esotropia and we notice the improvement/resolution of abnormal head posture.

Management of esotropia dependent head tilt, surgical dose and its outcome and also the indication of vertical shift of horizontal muscle to improve head tilts is highlighted in this video.

Financial Disclosure:

None

True Transposition surgery for Large angle exotropia- A novel procedure

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Title: True Transposition surgery for Large angle exotropia- A novel procedure

Purpose:

Surgical management of large angle constant exotropias is quite challenging. The negative psychosocial impact of strabismus in adults mandates the need for surgical correction. Variety of surgical procedures like bilateral lateral rectus recession, simultaneous three or four muscle surgery have been tried for large angle exotropias. Muscle sparing surgeries like botulinum injection combined with resection-recession procedures, or combination of rectus muscle recessions with a central tenectomy have also been performed. Risk of anterior segment ischemia, inconsistent results, and an unpleasant experience of going through a second surgery are the important drawbacks. The main purpose of this abstract is to demonstrate a novel surgical technique in the management of large angle constant exotropia in a 28-year-old female.

Setting / venue:

A 28-year-old female presented to the squint outpatient department with constant deviation of both eyes alternatively. Her Best corrected visual acuity in both eyes is 20/20 with alternate suppression in both eyes. A constant large exotropia of 85prism diopters was measured in Prism bar cover test for distance and near. On diagnosis, the patient was not willing for surgery on two eyes and refused to undergo multiple surgeries.

Methods:

A novel technique of True muscle transposition was planned to achieve orthophoria in a single setting, operating on one eye. Lateral rectus muscle was approached via limbal conjunctival incision and disinserted from its origin after securing it with a 6-0 vicryl suture. Medial rectus is secured in a similar fashion on medial side. A 5.5 mm resection is done and the stump is held by the knots to identify the direction of muscle fibres. The retained MR muscle is sutured to the insertion plane. End to end suturing of the resected muscle to lateral rectus was done and the lengthened muscle recession was done by 9.0mm. Conjunctiva is closed with 8-0 Vicryl suture.

Results:

Almost total correction of the deviation was achieved post operatively. No evidence of diplopia or extra ocular movement restriction is noted post operatively. Advantages of this procedure over the previous techniques being uniocular procedure, being an autograft, no chances of rejection and full correction of squint is achieved in a single surgery. Precautions were taken that Resected end of the MR muscle was sutured to the disinserted end of Lateral rectus. Additional benefit of maintaining the Anatomical arrangement of the muscle fibres is achieved by this technique.

Conclusions:

Large angle exotropia in adults has a negative psychosocial impact as per the studies. But the existing surgical procedures like three or four muscle surgeries and muscle sparing techniques are cumbersome and pose challenges like anterior segment ischemia, residual deviation and multiple procedures. We believe True transposition surgery is worth considering in such cases.

Financial disclosure: nil

Predecemantic compression sutures combined with intrastromal puncture evacuation of edema & injection of gas in the anterior chamber as primary treatment of sever acute hydrops in pediatric age group

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In this video, I will present the technique of evacuation of stromal edema and compression corneal sutures as a surgical primary treatment of acute hydrops in pediatric patients who needs rapid recovery of the acute hydrops

Down but not out - Managing Heavy Eye Syndrome

Dr Smita Kapoor

¹Vision eye centre, New Delhi, India

Purpose - The purpose of the video is to show a novel technique of loop myopexy using 240 silicone band in a patient with strabismus fixus.

- **Setting/Venue** - The surgery was performed by a trained strabismus surgeon at Vision Eye Centres, New Delhi.
- **Methods** - A 28-year-old male presented with complaints of progressive inward and downward deviation of the left eye since 10 years. There was no history of trauma or any other inciting factor. His best corrected visual acuity was (OD) 20/30,N9 (-18 DS) and (OS) counting fingers close to face (-20 DS). The corneal reflex showed more than 45 degrees of esotropia and hypotropia with inability of the eye to supraduct and abduct beyond midline. Axial length was 27 mm in the right eye 30 mm in the left eye. A diagnosis of strabismus fixus was confirmed on CT scan which showed nasalization of the superior rectus and inferior displacement of the lateral rectus. He underwent loop myopexy of the superior and lateral rectus. This is a novel technique in which, after conjunctival peritomy and hooking of the superior & lateral recti, two partial thickness scleral tunnels are constructed in the superotemporal quadrant. A 240 silicone band is passed through the superior rectus, then through the scleral tunnel and then through the lateral rectus muscle. The ends of the silicone bands are approximated and the apposing ends of the band sutured using 5-0 polyester sutures. A 7mm hang back medial rectus recession was also performed.
- **Results** - The patient was orthotropic on day 1, at 1 month and 6 months postoperatively. There was marked improvement in abduction (-4 to -1) and elevation (-4 to -1). There was no band protrusion or suture granuloma postoperatively.
- **Conclusions (max 100 words)** : This technique of silicone band loop myopexy through a scleral tunnel with fixation using polyester sutures has proven to be a safe and effective technique and has given satisfactory postoperative results. Long term stability of the procedure has not been defined yet.
- **Financial Disclosure** - The authors have no financial disclosure

Challenges and Tips in managing posterior polar cataracts in children

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Aim – To present the challenges and tips in managing posterior polar cataract (PPC) surgeries in children

Setting and Methods – Video assisted steps in the management of paediatric PPC's with tips to tackle the challenges of posterior capsule management and intra ocular lens placement

Results – To show the important steps and tricks to manage paediatric PPC's to reduce intra operative complications

Diplopia in Thyroid eye disease - When to use adjustable sutures

Dr Smita Kapoor

¹Vision eye Centre, New Delhi, India

Purpose - The purpose of the video is to explain the use of adjustable sutures in a patient with thyroid eye disease post orbital decompression.

- Setting/Venue - The surgery was performed by a trained strabismus surgeon at Vision Eye Centres, New Delhi.
- Methods - A 35-year-old presented with complaints of double vision following orbital decompression for thyroid eye disease. His best corrected visual acuity at presentation was 6/6, N6 in both eyes. He had a face turn to the right. He had an esotropia in the right eye with limited abduction. Rest of the ocular movements were normal. Prism cover test revealed a deviation of 15 PD base out in primary gaze, 30 PD base out in dextroversion and 5 PD base in in levoversion. A prism adaptation was done and surgery was planned 6 months following the onset the diplopia. The patient underwent 5mm lateral rectus resection and 5mm Medial rectus recession using a bow tie adjustable suture. The adjustment was done 6 hours after surgery.

Results - The patient was orthophoric in primary gaze on day 1, at 1 month and 6 months postoperatively and the head posture improved. Abduction restriction and diplopia in dextroversion remained as it was preoperatively.

Conclusions - Double vision after decompression for thyroid eye disease has been reported to be between 0 to 64% in literature. Common causes include fibrosis of muscles and displacement of muscle cone. Adjustable sutures in such cases where the angle of deviation is small. Prism adaptation helps in further decision making.

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