"The face is a picture of the mind with the eyes as its interpreter." - Marcus Tullius Cicero

FROM THE EDITOR’S DESK:

- Greetings to all the Teachers and Students of this institution!!

We are glad to note a few rare cases which presented to our OPD and their skilful management.

As the beauty lies in the eyes of the beholder, eyes lying in the straight position (orthophoria) adds to the beauty.

A young girl of 14 yrs, presented late with infantile esotropia and amblyopia was corrected with medial rectus recession and given a cosmetic correction and a confident life ahead.
Sclera is the outer covering of the eye ball which protects the eye, here we have discussed a case following ocular trauma, leading to annular scleritis.

We have presented 14th case of paediatric isolated oculomotor nerve schwannoma with ocular manifestation without neurofibromatosis, which a rarity.

Glaucoma is a ‘silent thief of sight’, to create awareness among medical practitioner and patients we conducted a camp for one week.

Diabetic retinopathy is the leading cause of blindness and today every 6 person out of 10 have diabetes and as longivity has increased we need to keep a check on diabetic changes in eye so we conducted a camp from 18/11/15 to 2/12/15 for early detection and treatment to provide a good quality of life with better eye sight.

We are proud share that our undergraduate student Ms.Yavanika presented a case on ocular complication on herpers zoster ophthalmicus in an oral presentation of cases, held at Kolar medical college.
Ophthalmology Quiz

1. The following are all remnants of the hyaloidal vascular system except:
   A) Mittendorf dot
   B) corneal leukoma
   C) persistent pupillary membrane
   D) Bergmeister papilla

2. A 30-year-old man was hit in his left eye at work and complains of sudden visual loss. You measure his best acuity to be light perception in this eye. Ophthalmic examination is normal. Which test does not rely on the patient’s interpretation of visual information?
   A) Red/green spectacles
   B) Optokinetic nystagmus (OKN) drum
   C) Stereo acuity
   D) Color vision

3. Which cranial nerve is traumatized most commonly with a closed head injury?
   A) Cranial nerve III
   B) Cranial nerve II
   C) Cranial nerve IV
   D) Cranial nerve VI

4. What is the antidote for the crisis caused by an overdose of edrophonium (Tensilon)?
   A) Atropine
   B) Dantrolene
   C) Epinephrine
   D) Verapamil

5. All of the following are characteristics of patients with Lowe syndrome except:
   A) autosomal dominant inheritance
   B) renal tubular acidosis
   C) bilateral congenital cataracts
   D) infantile glaucoma

6. What is the optimum time to operate on a patient with bilateral dense congenital cataracts?
   A) As soon as possible, even within the first few weeks of life
   B) Between 2 months and 6 months of age
   C) Between 6 months and 1 year of age
   D) Between 1 and 2 years of age

7. Which one of the following is not a feature of basal cell carcinoma?
   A) Pearly elevated margins
   B) Likely spread to regional lymph nodes
   C) Ulcerated epithelium
   D) Telangiectatic vessels

8. Xanthelasma eyelid lesions have all the following features except:
   A) associated with systemic hyperlipidemic conditions in approximately 25% of patients
   B) located in the basal epithelial layer of the skin
   C) associated with the Erdheim–Chester disease
   D) microscopically contain foamy histiocytes
9. Homer–Wright rosettes are not found in which of these conditions?
   A) Medulloblastoma
   B) Retinoblastoma
   C) Neuroblastoma
   D) Rhabdomyosarcoma

10. Which form of uveitis is most common in ocular sarcoidosis?
   A) Panuveitis
   B) Intermediate uveitis
   C) Anterior uveitis
   D) Choroiditis

11. Which drug used during general anesthesia is associated with an increase in IOP?
   A) Halothane
   B) Ketamine
   C) Valium
   D) Phenobarbital

12. All of the following may be considered part of the iridocorneal endothelial (ICE) syndrome except:
   A) Chandler syndrome
   B) essential iris atrophy
   C) Cogan–Reese syndrome
   D) posterior embryotoxon

ANS: 1.B 2.B 3.C 4.A 5.A 6.A 7.B 8.B 9.D 10.C 11.B 12.D
PEDIATRIC ISOLATED OCULOMOTOR NERVE SCHWANNOMA: A RARE CASE REPORT

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INTRODUCTION

• Schwannomas are benign peripheral nerve sheath tumors.

• They constitute about 8% of all intracranial tumors and have a great predilection to arise from sensory nerves.

• Motor nerve schwannomas arising from the oculomotor nerve are very rare. Thirty-eight cases of solitary oculomotor schwannoma reported in the literature include 15 male and 23 female patients, whose age range from 8 to 74 years.

• Currently, only 13 children with oculomotor nerve schwannoma without neurofibromatosis have been sufficiently documented.
Materials and Methods

- A 10 year old school going girl, with history of H/o dull aching headache since 1 year complains of double vision with drooping of eyelids since seven days.
- Precipitating causes: no h/o fever, whooping cough, measles, patching, amblyopia treatment or food poisoning
- No h/o projectile vomiting.
- No h/o trauma.
- Patient conscious, cooperative and oriented with respect to time, place and person.
- General examination: Pulse = 80/ min BP = 120/80 mm of Hg
- Systemic examination: Unremarkable,
- Ocular examination and Squint investigation:
- Old photographs normal
- Head posture: normal.
- Ocular posture: Right eye deflected outward and rotated internally. (Photo-1).
- Cover test: Exotropia (Right eye)
- Secondary deviation greater than primary deviation indicating paralytic squint of right eye (Photo-2).
- Extra Ocular Movements (Photo-3)
- Adduction defective in left gaze (right medial rectus palsy).
- Elevation defective in up gaze both in abduction and adduction (right superior rectus and right inferior oblique palsy).
- Down gaze limitation of right eye (right inferior rectus palsy).
- Intact abduction of the right eye. (intact right VI nerve).
- Intact intorsion (noting the position of conjunctival vessels) of right eye with intact IV nerve.
• Bruckner test: Right eye brighter
• Anterior segment: partial ptosis right eye
• Mid-dilated pupil right eye
• Posterior segment: No papilledema
• VA: 6/6 OU
• Hirschberg’s test: 30 degree right exodeviation
• Past pointing present
• Diplopia charting: showed binocular heteronymous crossed diplopia with false image higher with upper end tilted towards paralysed side
• Worth’s four dot test: 5 dots seen revealing heteronymous diplopia
• Abnormal receding of near point
• Reduced range of accommodation of right eye showing paralysis of accommodation.
• Force duction test: negative
• Other Neurological evaluation: Normal
PHOTO 1: Primary position of gaze showing Incomplete Oculomotor nerve palsy in the right eye with partial ptosis.

PHOTO 2: Secondary deviation in the non paretic left eye greater than primary deviation in the paretic right eye indicating paralytic non-concomitant squint of right eye.

PHOTO 3: Showing eye positions in the nine cardinal gaze positions with restriction of movements in adduction (medial rectus palsy), elevation (superior rectus and inferior oblique palsy), and depression (down and out-inferior rectus palsy) of the right eye.
PHOTO 4: a, b, c, d. 7.5 x 5.1 x 4.8 (AP x T x CC) mm sized lesion is noted along long axis of the proximal most part of cisternal segment of right oculomotor nerve. Lesion is homogenous isointense to grey matter on T1 and T2W1. Lesion is seen to abut right PCA and midbrain on right side. Lesion shows intense homogenous enhancement on post contrast (gadollium) study, arrows depicting the site of lesion.
DISCUSSION

• Right sided acquired incomplete, pupil volving, isolated oculomotor nerve palsy due to tumor (schwannoma) in the cisternal part of the nerve.

• Isolated oculomotor nerve schwannoma without neurofibromatosis is uncommon, with only about 38 documented patients, most of whom are adults. Oculomotor nerve schwannoma is exceptionally rare in children with only 13 cases reported so far.

• Total removal of schwannoma usually results in severe postoperative parent nerve paresis. Surgical interventions like Pterion approach, post-operative stereo tactic radiotherapy is advocated. Surgical treatment for large tumors that present with consciousness disturbance, cranial nerve signs or hemiparesis or with rapid enlargement. Close observation recommended in asymptomatic cases or tumors <10mm.
CONCLUSION

• We have presented the 14th case of pediatric isolated oculomotor nerve schwannoma with ocular manifestations without neurofibromatosis, which is a rarity.

• Indications for surgical excision of the tumour is yet to be established as surgical intervention leads to high incidence of total third nerve palsy, and its aendant co morbidity.

• Improvement in the diagnostic imaging like MRI, increases the likelihood of the detection of the tumor(schwannoma) as chronic headache may mimic ophthalmoplegic migraine.
A DEFINITE SURGICAL CORRECTION TO RARE UNCORRECTED INFANTILE ESOTROPIA WITH ANOMALOUS MEDIAL RECTUS INSERTION

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ABSTRACT

INTRODUCTION

Infantile esotropia is an idiopathic esotropia previously called as congenital esotropia where there is an inward movement of one or both eyes. Up to 4 months of age, infrequent episodes of convergence are normal but thereafter ocular misalignment is abnormal. Congenital esotropia commonly referred as crossed eyes is not present since birth but usually develops within first six months of life in an otherwise normal infant with no significant refractive error and no limitation of ocular motility. Angle of deviation is usually constant and fairly large >30°. Infantile esotropia is usually associated with inferior oblique overaction usually developing after one year of age, dissociated vertical deviation (DVD) in about 70-90% cases and latent horizontal nystagmus.

Patients with infantile esotropia usually do not develop binocular vision. There is alternate fixation in primary gaze and in lateral gaze there is cross fixation. Amblyopia develops in 25-40% when patient fixes more with one eye. Thus surgical correction should be done early in life to avoid amblyopia. Here we encounter a rare case of infantile esotropia with medial rectus insertion anomaly who presented in her adolescence and underwent a definite cosmetic surgical correction by medial rectus recession and ipsilateral lateral rectus resection at same time.

KEYWORDS

Infantile esotropia, Amblyopia, Medial rectus recession, Anomalous medila rectus insertion, Lateral rectus resection.

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INTRODUCTION: Infantile esotropia develops in the early months of infancy and is not present since birth. Parents often give history of transient episodic of misalignment at age of 2 to 4 months. Etiology of infantile esotropia is still unknown. Many theories were proposed, among them Worth 1 had significant assertion that there is irreparable congenital defect in infant’s visual system and surgery is only for cometic reason later date Chavass supported by Costenbader and Parks suggested that the neural components necessary for normal binocular vision are present in strabismic individuals at birth, but the development of fusion is eventually impeded by abnormalities of optical input. So early surgery gives good outcome.

Hereditary component plays a role in etiology. Others being prematurity, perinatal or gestational complications, supplemental oxygen use at birth, use of systemic medications, and male sex. 2 Instrumental delivery is also a contributory factor in it. Awareness of these risk factors can lead to early detection and management of esotropia. Amblyopia 3 develops in structurally normal eye due to lack of fixation. If the brain is not stimulated binocularly the esotropic uncorrected eye goes for amblyopia hampering both the vision and cosmesis of the child.

CASE REPORT: A 14 years old girl attended to the outpatient department of AIMS, Bellur with history of crossed eyes and diminution of vision in left eye. Her grandmother who accompanied her said girl’s eyes have been crossed since two years of age, and the left eye seems to cross more than the right. They have not consulted any doctor these many years, now the girl complains of diminution of vision in left eye since 2 years. She was a full term infant with spontaneous normal delivery without perinatal complications, and no adjoining medical conditions. Her aunt suffers from the same problem in the family.

Her general physical examination was normal. On Ocular Examination she had a head tilt towards left side and left eye was clearly crossed inward (esotropic). There is no facial hemiparesis and any neurological deficit adjoining it. The best corrected visual acuity was 6/6 in right eye but left eye had 6/36 with no improvement with pin hole. With the left eye covered, she fixes and follows easily. However, with the right eye covered and patient faces more trouble following with her left eye as the binocular vision is hampered. Left side on extraocular movement lateral rectus movement was restricted not moving beyond the midline in left eye. The AV phenomenon was not associated with the above eye. There was no nystagmus. Pupils were equally round and reactive to light; no afferent pupil defect with no leukocoria. Corneal reflection test (Hirschberg test) showed 35° to 40° esotropia when penlight was directed towards the cornea, and the reflected image was located temporal to the center of left pupil. Cover–uncover test: On covering the right eye,
there is an outward shift of the left eye. When the eye is uncovered, the left eye shifts back inward. Alternate-cover test: On switching the cover to the left eye, there is an outward shift of the right eye. When the cover is alternated from one eye to the other, there is always an outward shift of the opposite eye. Though patient presented late, surgery was planned in view of cosmetic reason and to prevent further deterioration of vision in her left eye due to amblyopia. The patient was diagnosed with infantile esotropia with amblyopia left eye and was planned for medial rectus recession with lateral rectus resection under GA. Intraoperatively after conjunctival and tenon’s dissection anomalous medial rectus insertion was observed about 3mm from limbus for which 8 mm medial recession and mm lateral rectus resection was done. Postoperatively, her eyes were orthophoric in primary position.

Fig. 1: Pre-Op Photos of Infantile Esotropia Case

Fig. 2: Intra-Operative Photos
DISCUSSION: Strabismus is misalignment of visual axes of two eyes. Broadly it can be classified as 1) Apparent squint or pseudostrabismus, 2) latent squint 3) Manifest squint (heterophoria) - a)concomitant squint b)incomitant squint. Infantile esotropia is one of the concomitant squint and also the most common type of infantile strabismus. Congenital esotropia is a misnomer as esotropia is not present at birth and presents within six months of age. Genetic component plays a major role. Other factors associated are prematurity, instrumental delivery, use of supplemental oxygen, hydrocephalus, developmental delay, seizure disorders, intraventricular hemorrhage.

Strabismic amblyopia is the other major problem of infantile esotropia. In most cases, one eye the fixing one remains dominant and the other eye does not focus, and hence it fails to develop the normal visual pathway in childhood as the brain ignores the signals from that eye to avoid diplopia. Thus amblyopia develops and the esotropic eye is known as lazy eye. If the eyes are alternatingly fixing it’s a good sign as the vision can actually be equal in both eyes, but up to 40% will have associated amblyopia. Angle of deviation is usually constant and large. An estimate of the amount of esodeviation can be made with corneal reflection testing. The Hirschberg corneal reflex test is a rough but handy method to estimate the angle of manifest squint involving shining a light onto the cornea. If an eye is deviated inward, the light reflex will be temporal to the pupil center. The definitive method of testing for strabismus is the cover-uncover test. An occluder is placed over the fixing eye and the opposite eye is observed. In case of esotropia there will be inward deviation.

Pseudoesotropia (pseudostrabismus) is the most common differential diagnosis, where a wide, flat nasal bridge with prominent epicanthal folds gives a crossed appearance. Accommodative esotropia is also frequent, which is treated with glasses as the patient is far-sighted (hyperopic) and the strain to focus causes the eyes to turn inward. Other differential diagnosis of infantile esotropia includes bilateral congenital sixth nerve palsy, secondary due to organic diseases, mechanical limitations of eye movements such as Duane syndrome (agenesis of the sixth nerve nucleus, accompanied by globe retraction on adduction) and Mobius syndrome (palsy of sixth, seventh, and twelfth cranial nerves). Nystagmus blockage syndrome in which convergence dampens a horizontal nystagmus.

Treatment of infantile esotropia is mainly focused to correct amblyopia if present. The weaker eye is made to focus by patching the fixing eye to treat the amblyopia. Once vision improves surgical alignment is planned. Most commonly done surgery is medial rectus recession and lateral rectus resection. This procedure involves detaching the medial rectus muscles from their scleral insertion sites, then suturing them to the sclera several millimeters behind the original insertion sites. This effectively weakens the muscles, diminishing their adducting effect. Earlier the surgery better the level of stereoscopic depth perception (stereopsis). So surgery should be planned within two years of age more recent studies suggest by one year of age.

A close follow up should be kept after surgery for any postoperative misalignment and amblyopia. Parents should be counselled for requirement of repeated surgeries for misalignment and other motility disorder in future.
Alignment to near-orthophoria is the typical goal. This results in a stable alignment with an excellent appearance with good visual outcome.

CONCLUSION: Very early surgery can result in excellent motor alignment and high-grade stereo acuity in some patients with congenital esotropia but in our case patient presented at 14 years of age so a medial rectus recession with lateral rectus resection was planned giving the patient excellent cosmetic correction with little correction to amblyopia.

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