Management of Congenital Cataract below 6 months of age

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The authors have no relevant financial relationship with the products or services described, reviewed, evaluated or compared in this presentation.
40 eyes were operated for Congenital Cataract between age 1.5 months to 6 months in the last 8 years.

All were dense Amblyogenic Cataracts.

I am presenting my study in an effort to follow International norms and fit them into the poor socio economic scenario of these patients.
Ocular Presentation

- White reflex
- Strabismus
- Nystagmus
- Poor Visual Fixation
- Photophobia
Etiology

- Idiopathic: 32
- Trauma: 0
- Metabolic: 0
- Exposure: 0
- Toxic: 0
- Maternal Infection: 1
- Hereditary: 0
- Genetic (H/O consanguinity): 5
- Associated Ocular Anomalies: 2
Pre operative Evaluation- Ocular

- **Examination**
- **Assessment of V/A**
  - Fixation Pattern
  - Pupillary Rn
  - Menace Reflex
- **Associated Ocular findings**
  - Microcornea
  - Microphthalmos
  - Nanophthalmos
  - Glaucoma
  - Iris defects
  - Subluxation
Ocular Investigations

- Keratometry
- A-Scan
- B-Scan for AL and DD
Clinical Examination

- Paediatric Reference for Anesthesia Fitness and Associated systemic conditions e.g. Mental Retardation, Congenital Heart Disease etc.

Investigations

- CBC / ESR
- Blood sugar
- BUN / Sr. Creatinine
- X-ray chest, ECG/2D ECHO
- Torch titre
- Urine for reducing sub & Amino Acids.
- Plasma for Calcium, Phosphorus, Red Blood cell transferase, Galactokinase levels.
IOL selection

- **Size**
  Should conform to the bag to prevent decentration & pupillary capture.

- **Foldable Acrylic Hydrophobic / Heparin coated**
  Less Pigment deposition / inflammation

- **Power**

- **IOL exchange**
  in case of refractive surprise
Life is more precious than the eye and the Anaesthetist’s decision regarding fitness for GA and timing of Surgery was final.

**Bilateral Cataract**

- Gap of 72 hrs.
- Simultaneous bilateral surgery in high risk cases.
On table Assessment

- IOP
- Corneal Diameter
- Fundus Examination
- K – hand held
- A Scan – to recheck AL
Paediatric Cat Sx diff from adult

**Intra-op problems**
- Miosis
- Scleral collapse
- Vitreous Pressure
- Highly elastic Anterior Capsule
- Posterior Capsular Plaque
- Fibrin Release

**IOL not inserted**
- Bag is not intact
- Pigment release
- Pupillary capture
- Iris chaffing
- P C rent
- Uveitis
Surgical Steps

- **Preparation** of the eye.
- **Incision**
  - 2.2mm at 12 o’clock
- **CCC**
  - Trypan Blue
  - Healon-5
  - Forceps or 26G cystitome or Radio frequency diathermy (Oertli, Berneck, Switzerland).
- **Aspiration** of Cataract.
- **Capsule polishing.**
- **In the bag** Lens Implantation
- **Iridectomy / Vitrectomy**
- **Wound Closure**
Why IOL?

- **Contact Lens** were difficult due to
  - small palpebral aperture,
  - MLN,
  - low socioeconomic condition of parents.

- **IOL** implants provide
  - immediate,
  - constant,
  - high-quality,
  - no-maintenance optical correction of similar magnification to the natural lens.
  - the glasses thus needed were of lower Dioptre, cosmetically acceptable and less cumbersome than **Aphakic Glasses**.
Why IOL?

These are all important advantages in children in whom Visual Rehabilitation and development are influenced by the Paediatric issues of

- Amblyopia,
- Development of binocular function,
- Compliance,
- Convenience,
- Need for familial care.
Post op Management Regime

- Steroids
- Antibiotics
- Pad/Shield
- Anti Glaucoma drugs
- Mydriatics
- Evaluation of Residual Refraction
Post op - Problems to look for

- **External examination**
  - Wound Leak
  - Inflammation
  - Sec. Glaucoma

- **S/L examination**
  - Visual axis opacification
  - PCO/Plaque
  - IOL Decentration,
  - Membrane
  - Post. Synechiae

- **Fundus examination**
Amblyopia - Detection

- Fixation
- Vision
- MLN
- Refraction - Refractive surprise / Myopic shift due to growth of eye.
- **Markers to raise suspicion of Onset & consolidation of Amblyopia**
- Squint
- Menace reflex in each eye
- Alternate occlusion shows a distressed child when better eye is occluded
Occlude the less vision eye

- If Bilateral & less Vn Eye is 6/60 to 6/18 then 6 hrs intermittent occlusion with Vision Therapy.
- If Bilateral & less Vn Eye is 6/18 or better then 2 hrs intermittent occlusion with Vision Therapy.

Synaptophore exercises with occlusion in c/o eccentric fixation or poor central fixation.

Atropinization in case of non compliance to Occlusion alone.

Amblyopia-Management
## Complications

<table>
<thead>
<tr>
<th>Intra Operative</th>
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<tbody>
<tr>
<td>Extension of Rhexis</td>
<td>01</td>
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<tr>
<td>PC rent</td>
<td>01</td>
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<tr>
<td>Floppy Iris</td>
<td>00</td>
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<tr>
<td>Scleral Collapse</td>
<td>00</td>
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<td>Raised IOP</td>
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<table>
<thead>
<tr>
<th>Posterior Opacity</th>
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<tr>
<td>Ocutome Posterior Capsulotomy</td>
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<td>YAG Capsulotomy</td>
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<table>
<thead>
<tr>
<th>Post Operative</th>
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<tbody>
<tr>
<td>Amblyopia</td>
<td>15</td>
</tr>
<tr>
<td>Strabismus</td>
<td>20</td>
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<tr>
<td>Refractive Error &gt; 3D</td>
<td>15</td>
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<tr>
<td>Posterior Synechiae</td>
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<tr>
<td>Manifest Latent Nystagmus</td>
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<tr>
<td>Retinal Detachment</td>
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<tr>
<td>Endophthalmitis</td>
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## Results

<table>
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<th>Visual acuity</th>
<th></th>
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<tbody>
<tr>
<td>Unilateral Cataract(CF)</td>
<td>02</td>
</tr>
<tr>
<td>Bilateral BCVA</td>
<td>38</td>
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<tr>
<td>HM - 1.0</td>
<td>08</td>
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<tr>
<td>1.0 – 0.6</td>
<td>15</td>
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<tr>
<td>0.5 – 0.3</td>
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<td>0.2 – 0.1</td>
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<table>
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<tr>
<th>Visco elastics</th>
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<tbody>
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<td>Viscoat</td>
<td>5</td>
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<td>Discovisc</td>
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<tr>
<td>Healon-5</td>
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<tr>
<td>Healon GV</td>
<td>10</td>
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<tr>
<td>Methyl Cellulose</td>
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Conclusion

In this series we observed the importance of:

- No delay in surgery
- The fashioning of a strong capsulorrhexis using an adaptive viscoelastic
- In the bag implant

*Posterior capsule left untouched for*
- better in-the-bag IOL stability
- avoiding vitreous accessing the anterior chamber
- preventing post segment complications viz. RD
- ease of IOL exchange

- Microincision surgery for tight wound closure
- A rigorous postoperative follow up and Visual Rehabilitation Regime