

CONGENITAL CATARACT PROBLEMS & SOLUTIONS

UNILATERAL CONGENITAL CATARACT

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Introduction

- ◉ The management of infantile cataracts is one of the most controversial topics in the field of paediatric ophthalmology

Controversies in Unilateral Congenital Cataract (UCC)

- ◉ Optimal **age** to remove the cataract in a neonate
- ◉ **IOL implantation** as a **primary** versus **secondary** procedure

1. Aetiology

Aetiology

- Unilateral cataracts are usually isolated sporadic incidents ,not associated with any systemic or ocular diseases.
- 86% of Unilateral and 68% of Bilateral Paediatric Cataracts have no discernible cause*.

*Johar et al., Epidemiology based etiological study of pediatric cataract in western India. Indian J Med Sci 58:115-121. 2004

DD from other causes of Leukocoria

- In a 2008 study by *Haider et al*, 60% of patients who presented with leukocoria had congenital cataracts (18% unilateral and 42% bilateral).

Haider S, Qureshi W, Ali A. Leukocoria in children. *J Pediatr Ophthalmol Strabismus*. May-Jun 2008;45(3):179-80.

2. Management

Strategy

- ◉ **Not** all cataracts are *visually significant*.
- ◉ If a lenticular opacity is in the visual axis, it is usually considered visually significant and requires removal.
- ◉ Cataracts in the center of the visual axis that are greater than ± 3 mm in diameter are generally considered visually significant.
- ◉ This principle is furthermore correlated with the clinical ophthalmological examination of the patient.
- ◉ Importance of the **RED REFLEX**

Role of Refractive Errors

- ◉ A study at Wills Eye Hospital concluded that, in terms of the risk factor for **amblyopia**, more important than the cataract size is the ***anisometropia*** induced by the congenital lens opacities.
- ◉ Patients with CALOs who had anisometropia of 1 diopter (D) or more were 6.5 times more likely to develop amblyopia.

Ceyhan D, Schnall BM, Breckenridge A, et al. Risk factors for amblyopia in congenital anterior lens opacities. *J AAPOS*. Dec 2005;9(6):537-41.

I. Conservative Management

1. Spectacles
2. Patching
3. Dilatation

Dilatation

- ◉ When lens opacities are confined to the center of the anterior capsule or the anterior cortex, mild dilation of the pupils with Atropine 1% can improve vision and postpone the need for surgery.
- ◉ *Photophobia* and *partial loss of accommodation* are side effects of this measure.

II. Surgical Management

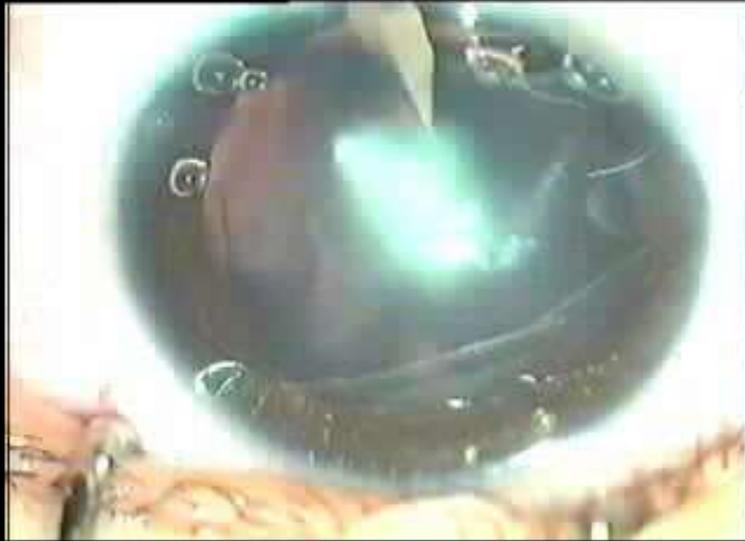
- ◉ Lensectomy or I/A with primary posterior capsulectomy and anterior vitrectomy is the procedure of choice .
- ◉ Approach: - limbal
- pars plana
- ◉ Aphakic Rehabilitation

Optimal Age For Unilateral Cataract Surgery

Still controversial

- **6 weeks** in case of unilateral cataracts to avoid the sensitive period during which they are susceptible to visual deprivation.
- Removing a cataract before **4 weeks** of age is associated with a higher risk of complications esp. aphakic glaucoma, pupillary membranes.
- Risks of general anaesthesia are higher <4 weeks of age.

3. Surgery



4. Rehabilitation

Infant Aphakia Treatment Study IATS

- The optimal optical treatment of aphakia in infants is *unknown*.
- The Infant Aphakia Treatment Study is a randomized, multicenter (12 sites) clinical trial designed to provide evidence of whether optical treatment with an IOL or a contact lens after **unilateral** cataract surgery during infancy is associated with a better visual outcome.

[The infant aphakia treatment study: design and clinical measures at enrollment](#) Infant Aphakia Treatment Study Group, Lambert SR, Buckley EG, Drews-Botsch C, DuBois L, Hartmann E, Lynn MJ, Plager DA, Wilson ME. Arch Ophthalmol. 2010 Jan;128(1):21-7

Infant Aphakia Treatment Study IATS

- **114 infants** with unilateral congenital cataracts were assigned to undergo cataract surgery with or without IOL implantation.
- Children randomized to IOL treatment had their residual refractive error corrected with spectacles.
- Children randomized to no IOL treatment had their aphakia treated with a contact lens.

Infant Aphakia Treatment Study IATS

- The *median age* at the time of cataract surgery was **1.8 months**.
- Fifty-seven children were randomized to each treatment group.

Infant Aphakia Treatment Study IATS

1 year results:

- There was no statistically significant difference in grating visual acuity at 1 year between the IOL and contact lens groups.
- However, additional intraocular operations were performed more frequently in the IOL group.

A randomized clinical trial comparing contact lens with intraocular lens correction of monocular aphakia during infancy: grating acuity and adverse events at age 1 year. Infant Aphakia Treatment Study Group, Lambert SR, Buckley EG, Drews-Botsch C, DuBois L, Hartmann EE, Lynn MJ, Plager DA, Wilson ME. Arch Ophthalmol. 2010 Jul;128(7):810-8. Epub 2010 May 10.

My Personal Experience

- If cataract is not dense or totally obscuring the visual axis:
 1. Atropinize both sides
 2. Refraction and fitting with glasses
 3. Patch

- **If cataract is dense:**

Lensectomy + IOL insertion..

- In the same sitting if straightforward
- In case of associated pathology postpone IOL insertion depending on expected improvement

**Thank you
for your attention**