

CONGENITAL CATARACT- LACK OF AWARENESS: EFFECTS ON DELAYED HOSPITALIZATION & TREATMENTK. Anjaneyulu¹, Balla Vidya Sagar²**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: Study on congenital cataract conducted at regional eye hospital and in coordination with paediatric department. History, symptomatology and observations taken in consideration within days, weeks, months after year. Diagnosed by Torch Light examination and slit lamp examination and B-SCAN examination. Very low number of cases detected out of large number of children screened. It may be due lack of awareness of parents to bring the children to the hospital and health personnel. After diagnosing surgical intervention done. Post-operative visual prognosis good in some cases and some are amblyopic.

KEYWORDS: Congenital Cataract, Rural population, IOL, Needling, PCO, Yag laser, Contact lens, Spectacles, Visual outcome.

AIMS AND OBJECTIVES: A total of 26 Cases admitted with congenital cataract at Govt. Regional Hospital, Kurnool were subjected for the present study was conducted to evaluate the incidence, cause and management of congenital cataract.¹ All cases were selected from the outpatient section of the Hospital. Where they had come for check-up or were referred cases from the paediatric department, where these children have been admitted with other ailments.

MATERIALS AND METHODS: On coming to the outpatient, in most cases the mothers were the informants. A thorough and detailed history was taken with special reference to when was the Symptomatology¹ noticed – in days, weeks, months of after a year? How was the complaint detected – was it on routine examination or due to the symptoms which the child showed or due to any complications or whether it was incidental or was it noticed when the child was taken to a doctor for checkup?

Also a careful history of the chief complaints in detail, followed by a history of present illness, a detailed prenatal history with special reference to any history of trauma, intrauterine infection, any history of taking drugs, history of contact with radiation, nutritional deficiency and birth history to rule out asphyxia, placental insufficiency etc. Any history of previous operation to either eye was also elicited. A detailed history about the health of mother was also taken. Family history included questions on consanguinity and whether details were recorded on proforma a case sheets.

EXAMINATION: After taking the history, the child was subjected to general and systemic examination for which he / she was referred to a paediatrician. They used to record height, weight, mid arm circumference, nutritional status, pulse, BP, mental status, teeth abnormalities, skeletal abnormalities etc. followed by systemic examination of cardio vascular system, respiratory system, per abdomen examination and central nervous system. Their findings were also noted down in the proforma case sheets.

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Then the child was asked brought back to ophthalmology outpatient department for ocular examination. Examination was done either under sedation as advised by the paediatrician or while the child was asleep. Of the child was awake, head posture, facial symmetry, ocular posture and ocular movements were noted. Type of Nystagmus and fixation and squint noted with torch light examination. Then a detailed systemic examination of the eye was conducted.

All the structures of the anterior segment were thoroughly examined for evidence of any abnormality. Papillary reflexes, both direct & consensual reactions to light were carefully noted. Next the lens is examined, type of cataract noted with torch light with special importance to location, density, type of cataract and its extent. Here the parents were asked about the child's vision whether the child was able to identify them, whether he turns his head when toys which squeak are brought near him. In older children more than two years who were able to identify common objects, vision was tested by showing objects before them and making them identify it. In still older children who were able to read they were put before the Snellen's chart or were shown 'E' chart and were asked to identify the letter or were asked to shown which side the arm of 'E' is turned, thus vision was compared with Snellen's chart. In very young children vision was checked by their pattern of fixation of light and following of light.

Next an attempt was made to see the funds. Fundoscopy examination² done now with special attention to vitreous, retina, disc, macula and blood vessels. Also asked about any improvement in vision following atropinisation, An indirect ophthalmoscopy² done now to assess the density of cataract and to make out fundal details. Slit lamp examination in very young children was not possible as there was no facility for hand held Slit Lamp. In older children Slit Lamp examination was done with importance to the pupil and the lens for the type of opacity, extent etc. Those with minimal opacity were treated separately in outpatient.

Those parents who have admitted their children were told about the complications, about the visual outcome following surgery and about the choice of aphakic correction to be given. Many parents agreed for intraocular lens, none of the parents were ready for contact lenses and few agreed for aphakic spectacle glasses. On admission they were investigated.

INVESTIGATIONS: 1) Routine haemogram. 2) Routine Urine examination. 3) Blood for VDRL to rule out congenital syphilis. 4) Fasting blood sugar. 5) Chest X – ray. 6) Skull X-ray. 7) Haem agglutination test for Toxoplasmosis. 8) Ultrasound 'B' scans examination².

A cause of disease was concluded from investigations in few cases. Rest of the cases were treated as those with unknown aetiology.

MANAGEMENT: Those with incomplete opacities were advised atropine 1% ointment twice daily on alternate days and sent home to come back when the child developed further deterioration of the vision. Other cases were operated upon. All cases underwent operations under general anaesthesia. Before operation intraocular pressure recording and lacrimal sac patency was done.

SURGICAL PROCEDURES: Depending on the type, cataract surgery was planned. Majority of cases underwent Extra Capsular Cataract extraction with PCIOL. Few cases underwent Needling Aspiration and Capsulotomy in the same procedure. In few cases Needling was done. Few cases underwent only Extra Capsular Lens matter extraction. In one case Needling Aspiration with ACIOL was kept. After surgery pad and bandage was applied.

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Dressing done on the first post-operative day. Dressing removed, the eye was examined and antibiotic and steroid drops and mydriatics applied. The child was kept in hospital for a minimum of five days if the eye is quiet. Discharged on the sixth day with advice of putting drops, ointment and called for review after one week. No aphakic correction given them. Vision was also checked with fundus examination.

Treatment given was:

Systemic antibiotics.

1. Steroid and antibiotic eye drops.
2. Steroid and antibiotic ointment at night.
3. Mydriatics.
4. Systemic steroids administered in Children with severe reaction and inflammation.

On follows up at the end of one week, if the eye was found to be quiet. The parents were advised to continue usage of steroid and antibiotic eye drops and a primary refractive correction was given mainly in the form of aphakic spectacles with frame size 46. The parents were asked to tie the spectacles around the head using a band or sling. In case of unilateral involvement with cataract extraction (Aphakia), to that eye therapy for amblyopia was initiated immediately. In any case a child with bilateral cataract involvement one eye is only operated (aphakia) the parents were advised to bring back the child after about a week for cataract extraction to the other eye.

OBSERVATIONS:

Age (Years)	No. of Children	Percentage
Less than of equal to 1 Year	2	7.69
1-3	4	15.38
3-6	10	38.46
6-9	6	23.07
10+	4	15.38
Total	26	100.00

TABLE I: AGE WISE DISTRIBUTION OF 26 CASES

Sex	No of Children	Percentage
Male	11	42.30
Female	15	57.70
Total	26	100.00

TABLE II: AGE WISE DISTRIBUTION OF 26 CASES

Eye Affected	No. Cases	Percentage
Right	3	11.54
Left	5	19.23
Bi-lateral	18	69.23
Total	26	100.00

**TABLE III: DISTRIBUTION OF CASES
ACCORDING TO EYE AFFECTED**

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Consanguinity	No. Cases	Percentage
Consanguineous	13	50
Non Consanguineous	13	50
Total	26	100.00

TABLE IV: CONSANGUINITY

SL. No.	Diseases	No. of Cases	Percentage
01	Horizontal Nystagmus	20	76.92
02	Rotatory Nystagmus	03	11.53
03	Microphthalmos	05	19.23
04	Squint a) Esotropia	06	23.07
	b) Exotropia	06	23.07
05	Systolic Murmur	01	3.84
06	Loss of hearing	01	3.84
07	Mental retardation	01	3.84
08	Failure to thrive	01	3.84

TABLE V: ASSOCIATED DISEASES

Antenatal History	No. of Cases	Percentage
Birth asphyxia	02	7.69
P.E.T	02	7.69
Toxoplasmosis	01	3.84
Rubella	01	3.84
Normal	20	76.92
Total	26	100.00

TABLE VI: ANTENATAL HISTORY

Type	Male	Female	Total	Percentage
Zonular Cataract	5	8	13	50.00
Total Cataract	2	4	6	23.07
Post. Polar Cataract	2	0	2	7.69
Ant. Polar Cataract	1	1	2	7.69
Ant. Capsular Cataract	0	2	2	7.69
Coronary Cataract	1	0	1	3.84
Total	11	15	26	100.00

TABLE VII: TYPES OF CATARACT – SEX WISE

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Type	Right	Left	Bi - lateral	Total
Zonular Cataract	0	4	9	13
Total Cataract	1	0	5	6
Post. Polar Cataract	1	0	1	2
Ant. Polar Cataract	1	0	1	2
Ant. Capsular Cataract	0	0	2	2
Coronary Cataract	0	1	0	1
Total	3	5	18	26

TABLE VIII: TYPES OF CATARACT – EYES AFFECTED

Type of Operation	No. of Cases	Percentage
Needling	2	7.69
Needling, Aspiration (with Capsulotomy)	3	11.53
Linear extraction	1	3.84
Extra capsular lens matter extraction	5	19.23
Needling aspiration with IOL	1	3.84
Extra capsular extraction with PCIOL	10	38.46
Extra capsular extraction with PCIOL & Primary Posterior Capsulotomy	4	15.38
Total	26	100.00

TABLE IX: MANAGEMENT OF CONGENITAL CATARACT

Post. Op. Complications	No. of Cases	Percentage
Iritis	3	11.53
Uveitis	1	3.84
Decentration of IOL	1	7.14
Posterior Capsule Opacification	18	69.23

TABLE X: POST OPERATIVE COMPLICATIONS

DISCUSSION: 26 Cases of congenital cataract, who underwent surgery, were analyzed according to different characteristics and are presented.

According to age between 1 year to 14 Years. Most of the cases (10 out of 26 i.e. 38.46%) were in the age group 3-6 Years. 2 Children were 1 Year Old.

Sex wise distribution among 26 cases 11 were male (42.30%) and 15 cases were females (57.70%). Male female ratio is 0.73:1.

That in 18 out of 26 cases (69.23%) both eyes were affected by cataract. In five cases only left eye was affected (19.23%) and only right eye was affected in 3 cases (11.54%)

On order to assess the relationship between congenital cataract and consanguinity 26 cases were analyzed. It was observed that 50% of cases were born to consanguineous married parents and 50% to non- consanguineous married parents. Which shows an equal distribution of cases.

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The distribution of congenital cataract cases with associated diseases. Majority of cases (76.92%) had horizontal Nystagmus. Microphthalmos was seen in 5 cases (19.23%) followed by 3 cases of Rotatory Nystagmus (11.53%). 6 cases each with quint (23.07%). 1 cases each of mental retardation. Systolic murmur, Loss of hearing and failure to thrive were also seen.

Congenital cataract in relation to antenatal history was assessed. 6 out of 26 cases had relevant antenatal complications (15.38%), 2 cases had birth asphyxia(7.69%), 2 mothers had P.E.T(7.69%), and in 1 case each mother suffered from Rubella and Toxoplasmosis (3.84%).

50% of cases (13 out of 26) were Zonular cataracts. Total cataract was seen in 6 cases each (23.07%), in 2 cases (7.69%) each posterior Polar cataract, Anterior Polar cataract, Anterior Capsular Cataracts were seen, In 1 case Coronary cataract was seen.

Among the male and female children Zonular cataract was the commonest type.

50% of bilateral eyes affected were of Zonular cataract type. In case of Only left eye affected it was 80% (4 out of 5).

Posterior Capusle Opacification is seen in most of the post-operative cases (all most all cases, which had not undergone primary posterior Capsulotomy I.e. 69.23%), 3 cases developed Iritis (11.53%) and 1 case (3.84%) suffered from Uveitis. Among PCIOL cases 1 Case (7.94%) had Decentration of IOL. Posterior Capusle Opacification is seen in most of the post-operative cases (all most all cases, which had not undergone primary posterior Capsulotomy I.e. 69.23%), 3 cases developed Iritis⁴ (11.53%) and 1 case (3.84%) suffered from Uveitis. Among PCIOL cases 1 Case (7.94%) had Decentration of IOL.

SUMMARY AND CONCLUSIONS: The aim of study was to evaluate the incidence, aetiology, and management of congenital cataract. Since few parents refused surgery to their children at a very young age, only 26 children who underwent operation were taken up for the present study. Since only 26 children underwent operation the correct incidence of congenital cataract could not be reached.

Cases which did not need admission to the hospital were not included in this study. Eg. Cases of incomplete opacities where the child had a certain amount of vision through the periphery or in cases with central lenticular opacities. All these children were advised Atropine 1% eye ointment initially twice daily for a week and to continue its use by applying once a week. The parents of these children were advised to consult the Ophthalmologist whenever the child had further deterioration of vision.

In all the cases, a minimum period of one month follow up was done. Some cases were lost the follow up. Some cases never turned up at all for follow up.

The following facts have been Observed : Age wise distribution of cases showed that most cases came late between the ages of 3-6 years, few cases came as the parents either could not have noticed it in the child or would have ignored in totally:

1. High incidence children in the school going age, since these children would have found difficulty in school to cope up with the class.
2. Females were affected more than males. 1: 0.73.
3. Maximum number of cases occurred in low socio economic status may be due to poor hygiene, illiteracy, Ignorance of simple negligence.

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4. Few pregnant mothers had regular antenatal check – up.
5. Distribution of cases according to eye involved showed that 18 out of 26 cases had bilateral involvement. In 5 cases only the left eye was involved and right eye was involved in only 3 cases.
6. This showed that bilateral involvement was the most commonest mode of presentation.
7. 50% of the cases were born to consanguineous married parents and 50% to non-consanguineous married parents, which showed an equal distribution of the cases and probably its involvement in congenital cataract.
8. Most of the cases which occurred were of unknown aethiology. 20 out of 26 cases i.e.76.92%, 2 cases each of birth asphyxia and PET occurred and 1 case each of Rubella and Toxoplasmolsis Occurred.
9. 88.45 % of cases showed Nystagmus, which showed a relationship between Nystagmus and congenital cataracts. Most of the children had either horizontal or Rotatory Nystagmus. Nystagmus occurring along with congenital cataract is always a bad sign, showing that child had been visually deprived from the time fixation has occurred.
10. Zonular cataract was the most commonest type of cataract.
11. Most children admitted had vision of only fixation of light or and hand moments.
12. Vision in young children could be checked with only fixation pattern as there was no other alternate method for examination.
13. Older children were asked to attempt 'E' chart.
14. Hence concluded that IOL was well suitable for children after 2 years.
15. Few cases were managed by Needling Only, Needling with aspiration and capsulotomy, and 'ECCE' only.
16. Almost all cases which had not undergone primary posterior Capsulotomy developed PC Opacification, which was treated with YAG laser.³ Hence concluded that PC Opacification is the most common post-operative complication.
17. No contact lens was tried as the parents refused to, may be due to trauma of the Procedure of high cost of the contact lens and frequent follow – up.
18. Aphakic spectacle glasses were prescribed to aphakic children within one week of operation. To older children above 5 years bi-focals were prescribed for distance and near vision.
19. Visual improvement of unilateral cataract⁵ involvement after operation was less. And 'PCIOL' with posterior Capsulotomy is the best procedure for unilateral cases.
20. Cases seen after 1 year of age⁶ showed less of visual improvement.
21. In all cases therapy for amblyopia⁷ was initiated immediately starting from waking hours. To complete occlusion till vision in amblyopic eye had improved.

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