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Research Article

**A DESCRIPTIVE CASE SERIES STUDY COMPLICATION OF  
CORNEAL APPROACH 20 GAUGE VITRECTOMY IN CASES  
OF CONGENITAL CATARACT**<sup>1</sup>Mariya Zehra, <sup>1</sup>Salman Khaliq, <sup>2</sup>Zainul Abi Din<sup>1</sup>Mayo Hospital Lahore<sup>2</sup>Sheikh Zayed hospital Rahim Yar Khan**Abstract:**

**Objective;** To determine the complications of corneal approach 20 Gauge vitrectomy in cases of congenital cataract.

**Methodology:** This was a descriptive case series study conducted at Department of Ophthalmology, Services Hospital, Lahore during July 2017 to April 2017. In this study the cases with irrespective of gender with age less than 2 years and having congenital cataract were included. The cases with any abnormality in the anterior chamber, glaucoma and those with uveitis were excluded. The surgeries were done under general anaesthesia and the incision at cornea was made at 2 and 10 o clock position with 20 gauge micro vireo retinal blade. The cases were then followed at 24 hours and then at 1 week to look for complications i.e. conjunctival congestion and anterior chamber reaction.

**Results:** In this study, there were total 30 cases operated. There were total 17 (56.67%) males and 9 (30%) of the cases had bilateral congenital cataract. The mean age at presentation was  $11.33 \pm 4.12$  months. Out of the complications at day 1 anterior chamber reaction was seen more and was observed in 9 (30%) of the cases as compared to conjunctival congestion seen in 5 (16.67%) of cases with  $p= 0.67$ . While at day 7 only one case had conjunctival congestion and the none with anterior chamber reaction.

**Conclusion:** Complications are not uncommon after corneal approach 20 Gauge vitrectomy in cases of congenital cataract and the most common is anterior chamber reaction.

**Key words:** Vitrectomy, conjunctival congestion, anterior chamber.

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**INTRODUCTION:**

Cataract is the most common entity needing surgical intervention in the adult population and the congenital cataracts are also not uncommon and according to a survey, there are considered as the aetiology leading to blindness in around 10 percent of the all childhood cases globally [1].

The detection of cataract is not easy in children and especially in very early stage of life; but its important as the early surgical intervention is need to avoid the cataract associated sensory deprivation leading to amblyopia for which long term visual rehabilitation is required. There are multiple therapeutic options and modalities used but the most common and routinely done surgical intervention in these cases of congenital cataract is continuous curvilinear capsulorhexis (CCC), aspiration of the soft lens matter, posterior circular capsulorhexis and removal of anterior vitreous [2,3].

The paediatric eye is not ideally identical like that of adult eye and some anatomical differences. The sclera is relatively more thin and elastic and increased vitreous pressure can lead to shallowing in anterior chamber during ocular surgeries and making it even more difficult. Vitrectorhexis is defined as the procedure where vitrectomy cutter is used to open anterior vitreous chamber and is an alternated to curvi-linear or continuous capsulorhexis and has shown better results and minima side effect profiles; out of which anterior chamber reaction and conjunctival congestion are the most common one [4,5].

**Objective:**

To determine the complications of corneal approach 20 Gauge vitrectomy in cases of congenital cataract.

**Study Design:**

Descriptive Case Series.

**Study Setting:**

Department of Ophthalmology, Services Hospital, Lahore

**Duration of Study:**

July 2017 to April 2017

**Sampling Technique:**

Non-probability, consecutive sampling.

**Methods;**

In this study the cases with irrespective of gender with age less than 2 years and having congenital cataract were included. The cases with any abnormality in the anterior chamber, glaucoma and those with uveitis were excluded. The surgeries were done under general anaesthesia and the incision at cornea was made at 2 and 10 o clock position with 20 gauge micro vireo retinal blade. The cases were then followed at 24 hours and then at 1 week to look for complications i.e. conjunctival congestion and anterior chamber reaction.

**Statistical analysis;**

The data was entered and analysed by using SPSS version 23. Post stratification chi square test was applied taking p value  $\leq 0.05$  as significant.

**RESULTS:**

In this study, there were total 30 cases operated. There were total 17 (56.67%) males and 9 (30%) of the cases had bilateral congenital cataract as in table I. The mean age at presentation was  $11.33 \pm 4.12$  months (table II). Out of the complications at day 1 anterior chamber reaction was seen more and was observed in 9 (30%) of the cases as compared to conjunctival congestion seen in 5 (16.67%) of cases with  $p = 0.67$ . While at day 7 only one case had conjunctival congestion and the none with anterior chamber reaction as shown in table III.

**Table No. I Study Demographics**

Variables	Number	Percentage
<b>Gender</b>		
Female	13	43.33%
Male	17	56.67%
<b>Laterality</b>		
Uni-lateral	21	70%
Bi-lateral	09	30%

Table No. II Age and time to complications

Variables	Mean	Range
Age (months)	11.33±4.12	6-18
Time to complications (days)	4.21±1.78	1-7

Table No. III. Complications

Complications	Yes	No	p value
<b>At day 1</b>			
Conjunctival congestion	5 (16.67%)	25 (83.33%)	0.67
Anterior chamber reaction	9 (30%)	21 (70%)	
<b>At day 7</b>			
Conjunctival congestion	1 (3.33%)	29 (96.67%)	1.0
Anterior chamber reaction	0 (0%)	30 (100%)	

**DISCUSSION:**

The development of the eye continues during the childhood and infancy and continues at early age and any abnormality can lead to visual disturbances. In cases of congenital cataract, it interferes with the accommodation and vision and lead to amblyopic vision. Aspiration of lens and anterior and posterior CCC are the most common modalities while anterior vitrectomy by using pars plana approach, posterior capsule incision with 20G MVR blade and anterior vitreous removal with 20G vitrectomy system are in recent trends.

There were no major complications and majority of the cases had none of the side effects in the present study. This was similar to the study done by Wilson Jr et al where they compared the Vitrectorhexis and manual CCC, in children from new born to the 16 years of age and it was seen that Vitrectorhexis had shown good efficacy and the side effects included conjunctival congestion and was seen in 21% of the cases as compared to 47% of cases with manual CCC. Furthermore, they stratified that the side effects were the maximum in cases that had age less than 5 years of age as compared to older children.<sup>6</sup> This finding was also supported by the study done by

Ozgun Ilhan et al where they found Vitrectorhexis as better and safe technique for congenital cataract; though this difference was not statistically significant [7].

It has been shown in wide range of studies in the past where for Vitrectorhexis, multiple needles i.e. 20G, 23G, 25G [8,9] were tried for corneal approach for the management of congenital cataract. According to a study done by Suyan Li et al, they evaluated the effectiveness of the same procedure with 23G needle and it was also found very safe only mild post operative inflammation was seen and it was resolved within 7 days of the procedure [10].

In a study done by Memon MN et al they used the 20G needle for vitrectomy in congenital cataract and they found conjunctival congestion in 14% of the cases at day 1 and 27.5% of the cases and anterior chamber reaction at day 1 as compared to 16.67% and 30% of the cases in our study, while none of the cases had either of these complications at 1 weeks while in the present study, only 1 (3.33%) case had conjunctival congestion at day [11].

**CONCLUSION:**

Complications are not uncommon after corneal approach 20 Gauge vitrectomy in cases of congenital

cataract and the most common is anterior chamber reaction.

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