ORIGINAL ARTICLE

DELAYED PRESENTATION OF EPIPHORA IN PAEDIATRIC POPULATION

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ABSTRACT

Objectives: To find out the different causes of delayed presentation the paediatric age groups

Methods: It is Observational cross-sectional study, conducted at Ophthalmology Department**,** XYZ from December 2021 to May 2022. Fifty patients of either gender with congenital epiphora were enrolled in the study. Patients with other causes of increased lacrimation except nasolacrimal duct blockage were excluded. Verbal consent was taken and all the parents were interviewed. All the causes of delayed presentation were noted.

Results: among 50 patients, 30 (60 %) were male and 20 (40%) were female. 15 (30 %) had right epiphora, 21 (42 %) had left epiphora while 14 (28%) had bilateral epiphora. Frequency of visits was also noted. Multiple reasons of delayed presentation were identified including parent's delay being the most common causes in 22 (44%) patients. Other causes were doctor's delay in 16 (32 %) patients, medical mismanagement in 5 (10 %) and lack of education in 4 (8 %) patients.

Conclusion: This study states that parents neglect is the foremost and commonest cause of late of patients with congenital nasolacrimal duct blockage.

Key words: epiphora, delayed presentation, neglect, nasolacrimal duct blockage.

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INTRODUCTION

Epiphora most commonly referred to as full flow of tears onto the face is when there is excessive tear production.[1] Epiphora can occur in one eye (unilateral) or both (bilateral) and often is asymmetrical being worse in one eye than the other.[2] The synonymies term for epiphora is lacrimation that is the excessive tearing caused by reflex hypersecretion.[3] Epiphora can be graded according to mink scale that is no epiphora (grade 0) , epiphora requiring dabbing a day (grade 1) , epiphora requiring dabbing 2-4 times a day (grade 2) , epiphora requiring dabbing 5-10 times a day (Grade3) , epiphora requiring dabbing more than 10 times a day (grade 4), constant tearing (grade 5).[4]

Epiphora can be presented at different times of age. Epiphora is due to either hyper secretion of tears or anomaly which consists of punctum, canaliculi, Lacrimal sac and nasolacrimal duct obstruction. As nasolacrimal duct obstruction occurred due to delayed canalization at the level of valve of hasner.[5]

NLD observation accounts for 6% of new born with wide variation of 12 % to 30% however as many as 90% of nasolacrimal duct obstruction resolve spontaneously within first 6-12 months of life with or without conservative treatment.[6] Conservative management involve maintaining hygiene and topical medications, positive hydrostatic pressure on Lacrimal sac called the

crigler massage. However, it is crucial to rule out other cause of Epiphora like eyelid and lash abnormalities, adnexal diseases and congenital glaucoma. The surgical options left after failure of conservative management is probing under general anaesthesia. Various studies have found probing to be successful in 70-90 % of CNDO.[7] Appropriate time for probing is highly debatable. Some authors believe delaying probing before1 years age is associated with increased success rate which could be due to inflammation and fibrosis in Lacrimal duct system however others believe that delayed probing continues to be an effective treatment well beyond 2 years of age and cure rate don't vary madly with age.[8]

METHOD

This was an observational cross-sectional study conducted at Department of Ophthalmology, XYZ from 1st December 2021 to 31st May 2022. This study was approved by Ethical Review Committee of above-mentioned hospital. Informed verbal consent was taken from all the participants parents. Only those patients in age range of 1.5 to 5 years, who presented at Ophthalmology department with epiphora due to nasolacrimal duct blockage were included in our study. Other causes of epiphora like foreign bodies, allergies and infections etc. were excluded. 50 patients were enrolled in study in 6 months duration. All patients underwent extensive history taking from their guardian especially about duration of epiphora, laterality, number of visits and any history of previous treatments taken was recorded. Further examination was done on slit lamp. Different causes of delayed presentation of epiphora in paediatric age group were identified. Parents were counselled about the consequences of delayed presentation and possible treatment options available were discussed. All data was saved for analysis later. Statistical analysis was done using statistical programme for social sciences (SPSS) version 25.

RESULTS

A total of 50 patients were included in this study, which presented in Ophthalmology department of DHQ Gujranwala, out of which 30 (60 %) were males and 20 (40 %) were females (Table 1). Epiphora was found to be present in right eyes of 15 (30%), in left eyes of 21 (42 %) and bilateral in 14 (28 %) patients. (Table 2).

Table 1: Frequency Distribution of Gender of Patients with Epiphora

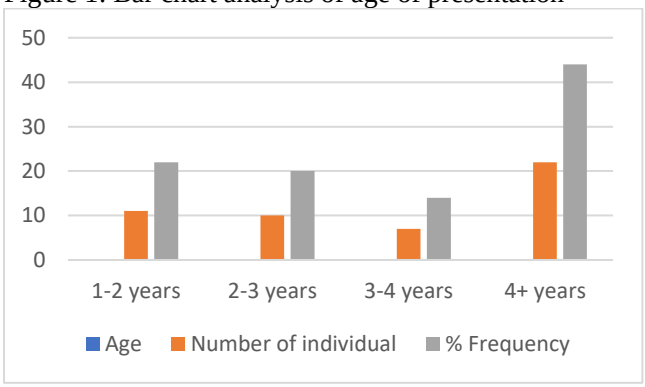
Gender	Number (n)	Percentage (%)
Male	30	60.00
Female	20	40.00
Total	50	100.0

Table 2: Frequency Distribution of Laterality of Epiphora

Laterality	Number (n)	Percentage (%)
Left	15	30.00
Right	21	42.00
Bilateral	14	28.00
Total	50	100.0

11 (22 %) patients were of 1-2 years of age, 10 (20 %) patients belonged to 2-3 years of age. 7 (14%) patients were in age group of 3-4 years while major bulk of patients ,22 (44 %) were above 4 years of age. One patient of 8 years of age was also presented **(Figure 1).**

Figure 1: Bar chart analysis of age of presentation



Most of the patients, 30 (60.00%), were presented to us for the first time. 20 (40.00 %) patients had multiple visits which included visits to ophthalmologist, paediatrician and local general practitioners as well (Table 3).

Table 3: Frequency of visits

Visits	Number (n)	Percentage (%)
First visit	30	60.00
Multiple visits	20	40.00
Total	50	100.0

Table 4: Causes of delayed presentation

Causes	Number (n)	Percentage (%)
Lack education	4	8
Poor socioeconomic status	1	2
Pandemic delay	2	4
Medical mismanagement	5	10
Masking by other diseases	0	0
Doctor delay	16	32
Parents neglect	22	44
Total	50	100.0

In our study, we found multiple causes of delayed presentation of the children with epiphora to an ophthalmologist. We found that the most common cause was parents neglect in 22 (44 %) of patients where the parents thought that this disease may go away on its own or they preferred to get the advice from an elder in the

family or a hakeem. Parents also delayed the doctor's visits due to lack of education in 4 (8%) patients where parents were not aware if epiphora was a disease, if it was treatable, where to get the treatment and the complications associated with it if not treated.

Doctor's delay was the second most common cause being present in 16 (32 %) patients, where doctors delayed the interventional treatment. Most doctors advised the crigler massage and treated the epiphora medically only, not opting the surgical treatment when needed.

Five (10 %) were medically mismanaged where parents took their children to a local practitioner or a paediatrician and they treated the patient according to their knowledge. They did not refer the patient to a consultant ophthalmologist.

Two (4%) patients in our study got delayed treatment due to pandemic as the immediate medical care was not available or patients were unable to reach a tertiary care centre due to lockdown. As free medical and surgical treatment is not being provided in our hospitals, one patient got delayed treatment due to low-income resources.

DISCUSSION

Epiphora in paediatric population is common presentation to ophthalmologist of all the causes congenital epiphora is the major one.[9] Epiphora is most frequently associated with nasolacrimal duct obstruction. This is an obstructive membrane at the valve of Hasner's. We performed an observational cross-sectional study on paediatric group to find out basic reason behind their delayed presentation to ophthalmologist. Congenital epiphora mostly ignored by the patient's guardians but sometimes leads to dreadful complication like chronic dacryocytitis and may followed by pre septal and orbital cellulitis; which progress towards brain and threatened the life of child in form of brain abscess, meningitis and end with cavernous sinus thrombosis of this one in three died even with all emergency measures. Blurring of vision due to difficulty in focusing on retina because of higher tear meniscus on corneal surface which is critical for ematropization. Anisometric amblyopia risk increased in these patients confirmed by different authors.[10,11,12,13]

Congenital epiphora may be unilateral or bilateral a study conducted on success rate of probing showed that it is more common unilateral then bilateral.[13]So as our study which included 30% and 42% with right and left epiphora respectively whereas only 28% cases present with bilateral epiphora. A study conducted on delayed presentation of children showed that 65% of them range from 13 to 24 months and 35% from 25 to 32 months6 which is contrary to ours in which 44% of individuals were above 4 years, 22% from 1 to 2 years, 20% from 2 to 3 years and only 14% from 3 to 4 years.

Increase age reduces the success rate of probing because multiple episodes of chronic infection cause fibrosis and this increase the complexity of procedure.[15,16] So we can say that age of presentation means a lot when we think about the outcome of management. Medical treatment of congenital epiphora includes observation up to the age of 13 months which shows spontaneous resolution ranging from 32% to 95% in several studies.[8,17] Paul conducted a study which shows spontaneous resolution in 15% up to three months 45% up to age of six months, 71% at nine months of age and 93% at 12 months of age.[18] lacrimal massage also helps to improve outcome as crigler showed in his study with success rate of 56% in children less than 2 months, 46% in aged between 2 months to 6 months and only 28 % in those above 6 months.[19] A number of studies pay attention on the use of topical antibiotic in the conservative management of congenital nasolacrimal duct obstruction.[20] On other hand topical antibiotic has their role only when discharge is there.[21] Probing of the lacrimal system is the standard treatment for the children with persistent epiphora. However, timing of this intervention is debatable in which we found several studies reported that age of primary probing always matters as the success rate of probing are variable, resolution ranging from 76.85 to 89% in children from 13 to 18 months age, 54% to 88.6% in children aged 18 to 24 months and 33% to 71.7% in children aged 24 to 36 months9.after this silicon tube intubation can also be adopted, but it has complication like creation of false passage, formation of pyogenic granuloma and erosion or slitting of punctum. Stenting probing is another procedure with mean reported success rate of 41.8% to 66.5 % with complications similar to blond probing .[22] The last resort of intervention for the management of chronic nasolacrimal duct obstruction is DCR; which is quite effective and require high specialties. DCR in not recommended in paediatric group.[22]

CONCLUSION

From above all modes of primary management, patient's guardian plays the main role. They can save the sight or compromise the life of their child. For this, their education is necessary. Socioeconomic status, social values, their visit to the concerned medical person with proper guidelines regarding the different modes of management at the proper age are the main factor which control the fact of child with epiphora in order to prevent his sight and life as results showed the causes of delayed presentation of children with epiphora.

Ethical Approval: *Submitted*

Conflict of Interest: *Authors declare no conflict of interest.*
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