Original Article

Chronic Dacryocystitis — A Clinico-Demographic Study a Tertiary Care Hospital

DOI: dx.doi.org

Barna[1*], Jewell Ilias Rab[2], Md Ashiqur Rahman Akanda[2]

Received: 7 January 2024
Accepted: 23 January 2024
Published: 10 February 2024

Published by:
Sher-E-Bangla Medical College,
Barishal, Bangladesh

*Corresponding Author

Editor: Prof. Dr. HN Sarker

Available Online:
https://bdjournals.org/index.php/planet/article/view/402

ABSTRACT

Introduction*: Chronic dacryocystitis is an inflammation and infection of lacrimal sac. It is a common condition presenting with watering from the eye and a leading cause of ocular discomfort in Bangladesh. Usually, there is a block at the lower end of the nasolacrimal duct where it opens into the inferior meatus. It has higher incidence among females & lower socioeconomic status. Out of many etiological factors of chronic dacryocystitis, poor hygiene and allergy have a major contribution to the disease development.* ***Objectives****: To find out the epidemiological trends such as age and gender distribution, effect of living conditions and occupation etc. on the occurrence of chronic dacryocystitis.* ***Methods and Materials****: This prospective study was carried out from December 2022 to November 2023 at Ophthalmolgy Department, Sher-E-Bangla Medical College & Hospital, Barishal. Total 78 cases of clinically diagnosed chronic dacryocystitis were taken and, clinical analysis of the cases regarding age, sex, presenting symptom, nature of discharge was done. Sac patency test was done in all the cases. DCR was done as treatment.* ***Results****: Maximum number of cases of chronic Dacryocystitis belongs to the seventh decade of life. Of the total 78 cases operated, 38 (48.71%) were in the age group of 61 to 70 years followed by 51 to 60 years. The condition was twice as common in females as in males. Majority 40 (51.28%) of patients had been suffering for 3 to 4 years. Epiphora was present in all the 78(100%) cases, followed by secondary conjunctival inflammation 19 (24.35%) mucopurulent discharge 16 (20.51%). 64(82.05%) were from the lower class.* ***Conclusion****: Chronic dacryocystitis is a common cause of ocular discomfort in our*

(The Planet 2023; 7(1): 27-32)

1. *Assistant Professor, Dept. of Ophthalmology,SBMC&H,*
2. *Associate Professor, Dept. of Paediatric Ophthalmology, NIO &H*

region where majority of population has low socio-economic status, poor health awareness and ocular hygiene, and seeks treatment at a late stage of the disease with inadequate compliance. The study confirms female preponderance of disease, occurring mostly in the seventh decade of life. A lapse of 3-4 years before seeking treatment underlines the importance for imparting proper health education to the people.

***Key words**: Epiphora, Chronic dacryocystitis, Lacrimal sac, Mucopurulent discharge, Nasolacrimal duct,*

INTRODUCTION

Chronic dacryocystitis is a common condition presenting with watering from the eye. Usually there is a block at the nasolacrimal duct where it opens into the inferior meatus [1]. Consequently, there is stasis in the lacrimal sac. Stasis later give rise to infection leading to mucopurulent or purulent discharge from the eye. In these cases, an anastomosis is made between lacrimal sac & nasal mucosa by cutting the intervening bones in lacrimal fossa [2]. 87% causes of epiphora are due to chronic dacryocystitis [3]. There are various epidemiological factors that contribute to chronic dacryocystitis which include race, with black race having predominance and it is more common in females than males [3]. It commonly affects females over 40 years of age with peak incidence in 60 to 70 years [4]. It is usually caused by partial or complete obstruction in lacrimal sac or within nasolacrimal duct. The causes of acquired obstruction are infection, inflammation, neoplasms and trauma [5]. Patient with chronic Dacryocystitis may remain asymptomatic or have watering & discharge from the eye and also there may be a swelling at lacrimal sac region [5]. Untreated Dacryocystitis never undergoes spontaneous resolution. It tends to progress as wall of the sac become atonic and contents can be evacuated only by the external pressure [6]. It commonly occurs in two discrete age categories- infants and older than 40 years. It is commonly encountered by ophthalmologist accounting for 87.1% of epiphora which causes social embarrassment due to chronic watering from eyes [7]. According to Gillil GD et al there is higher incidence among people of lower socioeconomic status [4]. Occupational history is important where in the people working in factories with lot of smoke, fumes and irritants are there and proper protective measures are not there. Chronic dacryocystitis may result into acute dacryocystitis and may lead to lacrimal abscess. Untreated chronic dacryocystitis may cause unilateral chronic conjunctivitis, corneal ulcers, lacrimal abscess,lacrimal fistula and panophthalmitis may occur if any intraocular surgery is performed in presence of unrecognized dacryocystitis. Other complications are orbital cellulitis, cavernosus sinus thrombosis and orbital thromboplebitis. Most of the people consider watering from eyes as minor discomfort and avoid themselves from presenting to ophthalmologist as they are unaware of the deleterious complications.

METHODS AND MATERIALS

This prospective study was carried out from December 2022 to November 2023 at Ophthalmolgy Department, Sher-E-Bangla

Medical College & Hospital, Barishal .78 patients of chronic dacryocystitis were studied and analyzed.

Inclusion criteria: Patients of epiphora who after syringing of the lacrimal drainage system had confirmed obstruction and then was selected for dacryocystorhinostomy (DCR) surgery at Sher-E-Bangla Medical College, Barishal.

Exclusion criteria: All patients who had undergone any surgical intervention in the past like dacryocystorhinostomy, and congenital naso-lacrimal duct obstruction were excluded from the study. Patients with nasal pathology were also excluded from the study. The patients who met the inclusion criteria were questioned for details on: demographic profile (Name, Age, Sex, Occupation and Address); socioeconomic status, chief complaints, medical history, treatment history and surgical history Examination of eyes and adnexa with torch light & slit lamp was done. Syringing of the lacrimal sac was done in all patients. The study adhered with the tenets of the Declaration of Helsinki. The local ethics committee approved the study protocol. Informed consent was obtained from each participant before the enrollment. These details were collected and analyzed using SPSS software and conclusion was derived based on observations.

RESULT

Table I shows that 48.71 % cases were in age group of 61-70 years, followed by 23.07% in 51-60 years and is rare (3.84%) in 71-80 years age range; so, 71.78% cases are in the age group of 51-70.

Table I: Age distribution of study subjects

Age group (Years)	Number (n=78)	Percentage
20-30	5	6.41%
31-40	7	8.97%
41-50	7	8.97%
51-60	18	23.07%
61-70	38	48.71%
71-80	3	3.84%

Table II Shows that chronic dacryocystitis is more common in females (67.94%) than males (32.06%). So, male to female ratio is 1:2.

Table II: Sex distribution of study subjects

Sex group	Number	Percentage
Male	25	32.06%
Female	53	67.94%
Total	**78**	**100%**

Watering is present in all the 78 (100%) cases. Conjunctival congestion in 19 (24.35%) & Mucopurulent discharge in 16 (20.51%) (**Table III).**

Table III: Distribution of presenting symptoms among study subjects

Presenting symptoms	Number(n=78)	Percentage
Watering	78	100%

Mucopurulent Discharge	16	20.51%
Conjunctival congestion	19	24.35%
Swelling over sac area	13	16.66%
Mucocele	07	8.97%
Lacrimal abscess/Preseptal cellulitis	02	2.56%

Table IV shows Duration of symptoms.

Table IV: Duration of symptoms

Duration in years	Number of cases(n=78)	Percentage
0-1	05	6.41%
l-2	09	11.53%
2-3	22	28.20%
3-4	40	51.28%
4-5	02	02.56%
Total	**78**	**100%**

Occupation of study subjects is shown in **Table V.**

Table V: Occupation of study subjects

Occupation	Number of patients (n=78)	Percentage
Farmer	25	32.05%
Small business	04	05.12%
Private job	02	02.56%
Labor	27	34.61%
unemployed	05	06.41%

Table VI shows distribution of Socio-economic status of study subjects.

Table VI: Distribution of Socio-economic status of study subjects

Socio-economic status	Number (n=78)	Percentage
Lower class	64	82.05%
Middle class	14	17.95%
Total	78	100%

DISCUSSION

Chronic Dacryocystitis leads to epiphora which is an important cause of ocular discomfort in Bangladesh. Our present study included 78 cases and all of whom underwent Dacryocystorhinostomy in Ophthalmology department of Sher-E-Bangla Medical College & Hospital, Barishal from December 2022 to November 2023.

All the data from patients with respect to their age, sex, occupation, association to allergies, recurrent infections, trauma (iatrogenic, accidental) was noted down.

In our study we found that, disease prevalence was highest in the age group of 61-70 years that was 38 (48.71%) followed by 18 (23.07%) in the age group of 51-60 years. It is known that older patients are predisposed to this condition as the lacrimal drainage system loses its elasticity and thins, and tears fail to flush debris. Jacobs BH2 in a study found maximum incidence in age group of 40-55 years. While Saxena RC and Garg KC [8] quoted a maximum age incidence in the 4th decade.

In this study, 53 (67.94%) patients were female and 25 (32.06%) male, similar results was found in most other studies [9,10]. Gilliland *et al*., believed the predilection in females may be due to the smaller diameter of the nasolacrimal duct

in females than in men and hormonal factors [11].

Most of the patients presented with more than a single symptom. Epiphora was the commonest symptom present in all 78 (100%) patients, as also observed in studies from Pune [12] and Ranchi. Discharge was found in 16 (20.51%) of cases and 19(24.35%) of all cases presented with conjunctival congestion.

More than half of the patients had symptoms for 3-4 years. This was probably due to the fact that dacryocystitis is common in poor people who has poor ocular hygiene and seeks health advice usually from non-medical personnel unless forced to do so due to their financial problem, they are also unaware of long-term complications of the disease. Patients with poor hygiene are known to be at greater risk [13].

In our series of study majority of the cases were laborers 27 (34.61%), followed by farmers 25 (32.05%). 04 (05.12%) of the cases were small traders and 5 (06.41%) were unemployed, which shows that majority of the patients belonged to poor and low middle class families who lack in their cleanliness and scrupulousness in maintaining their eyes clean. Chronic dacryocystitis is less common among people of urban areas & in middle class to rich class who take maximum hygienic measures to maintain their eyes clean.

The living standard is an important determinant of socioeconomic status which does have influence over the prevalence of few diseases. In our study we tried to access the relationship of socioeconomic status with chronic dacryocystitis. We found that 64(82.05%) of the patients were from low socioeconomic strata & the rest 14(17.95%) were from the lower middle class.

It was observed in a study that highest rate of patients were female and most of the females came from the middle and lower income groups, who worked in the farms and used wood and dried cow dung for cooking, which gave away a lot of smoke particles, which could have settled down in the conjunctive sac, entered the nasolacrimal duct through tears and in turn had blocked the nasolacrimal duct [14,15].

CONCLUSION

From present study we may conclude that most of the cases of chronic dacryocystitis were seen in elderly age group, females, rural people and low socio-economic status. Most of the people consider watering from eyes as minor discomfort and avoid themselves from presenting to ophthalmologist as they are unaware of further deleterious complications. The study confirms female preponderance of disease, occurring mostly in the fifth to seventh decade. Epiphora was the most common symptom. A lapse of three to four years before seeking treatment underlines the importance for imparting proper health education to the people. There is some co-relation between dacryocystitis and poor socioeconomic status. DCR is the treatment of choice.

ACKNOWLEDGMENT

We acknowledge all the patients and the staffs involved. There were no financial or other conflicts of interest

REFERENCES

1. *Kanski JJ, Bowling B. Clinical ophthalmology: a systematic approach. 3rd ed. Elsevier Health Sciences; 2011:66.*
2. *Tandon R. Parsons diseases of the eye, 22nd ed. Elsevier India; 2014:476.*
3. *SP Wadgaonkar, PA Patil, DB Nikumbh, SS Rathod, CM Sawat, "Epidemiology of chronic dacryocystitis with special reference to socioeconomic status: A rural hospital study" Indian Journal of Clinical and Experimental Ophthalmology (2016 January-March) 2(1),52-56.*
4. *Gillil G.D. Texas Ophthalmic Plastic, Reconstructive Orbital Surgery Associates eMed Space, opthal lacrimal August 18,2009.*
5. *MyrenYanoff, Jay S. Duker. The lacrimal drainage system, Chapter-98, In: Ophthalmology, 2nd Edn. Mosby Publication. Pp.761-769 J Community Med. 2008 January;33(1):50-51.*
6. *Sihota R , Ton R. Disease of the lacrimal apparatus Parson's Disease of eye 20th ed , New Delhi-Elsevier 2007;P447.*
7. *Jacobs HG. Symptomatic epiphora. Brit J Opthl 1959;43:415.*
8. *Saxena RC, Garg KC. Scope of Dacryocystorhinostomy. J of All- India Ophthal. Soc 1969;17:55-58.*
9. *Yang JW, Oh HN. Success rate and complications of endonasal dacryocystorhinostomy with unciformectomy. Graefes Arch Clin Exp Ophthalmol 2012;250:1509-13.*
10. *Knežević MM, Vlajković GP, Stojković MŽ, Rašić DM, Stanković BR, Božić MM. Comparison of postoperative pain and satisfaction after dacryocystorhinostomy in patients operated on under local and general anesthesia. Med Sci Monit 2012;18:CR265-70.*
11. *Gilliland G. Dacryocystitis. In: Agarwal S, Agarwal A, Apple DJ, Buratto L, Alio JL, Pandey SK, et al., editors. Textbook of Ophthalmology. 1st ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd.; 2002. p. 705-12.*
12. *S Sinha, "Clinicodemographic Profile of Patients with Lacrimal Sac Problems in a Tertiary Care Centre of Jharkhand" International Journal of Ocular Oncology and Oculoplasty, April-June, 2017;3(2):141-144 144*
13. *JJ Hurwitz, "Orbit and Lacrimal Gland: The Lacrimal Drainage system" In: Yanoff, Duker JS, editors. Ophthalmology, 4th ed. Philadelphia, Saunders;2013: 1349.*
14. *Komínek P, Matoušek P, Štrympl P. Dacryocystitis as the first symptom of sinonasal carcinoma. Ophthalmology 2010;24:343–5.*
15. *Singh M, Jain V, Singh SP, Gupta SC. Endoscopic dacryocystorhinostomy in cases of dacryocystitis due to atrophic rhinitis. J LaryngolOtol2004;118:426–8.*