

Delayed Surgical Management of the Patients with Chronic Dacryocystitis: A Cross Sectional Survey

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ABSTRACT

Purpose: To determine the factors that cause delay in Dacryocystorhinostomy in patients with chronic dacryocystitis.

Study Design: Cross sectional survey.

Place and Duration of Study: Ophthalmology Department DHQ Teaching Hospital Gujranwala from February 2021 to May 2021

Methods: Sixty five ophthalmologists were included in this study. Questionnaire was designed on Google Forms and it composed of four parts. First part included the title and purpose of this study. Second part included professional information regarding qualification and place of practice. Third part included 18 questions that were divided in three sub-sections in terms of factors related to the patient (5 questions), ophthalmologist (9 questions), and health resources provided (4 questions). Responses were recorded in yes/no answers. Last part comprised of blank space for remarks. The electronic link of questionnaire was shared with the participants of ophthalmology educational groups on WhatsApp, Facebook and E-mail. Data was analyzed using SPSS 23.00 software and results were derived based on questionnaire.

Results: Out of 65 ophthalmologists, 48 (72.7%) agreed that patients suffered from delay in surgical management. Among the hospital related factors, 45 (69.23%) ophthalmologists believe that busy Out patient department accounted for most of the delay. Among patient related factors, 51 (78.46%) ophthalmologists were of the view that patients took the disease lightly as it was not vision-threatening. Forty one ophthalmologists (63.07%) reported that there was lack of surgical exposure during training years to learn DCR.

Conclusion: There are various patient related, surgeon related and hospital related factors which play a significant role in delay of surgical management of chronic dacryocystitis.

Key Words: Dacryocystitis, Dacryocystorhinostomy, Epiphora.

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INTRODUCTION

Tear film stability plays a key role in maintaining normal vision. Improper drainage of the tears lead to epiphora.¹ Epiphora can affect a patient's quality of

life (QoL) in many ways. It not only compromises visual acuity but can also lead to peri-orbital skin soreness and splattered glasses. In some cases it can be a cause of social embarrassment because epiphora give resemblance to constant crying. Daily routine activities like reading, driving, working at computer and outdoor activities are affected by poor drainage of tears.²

Causes of epiphora can be classified in different ways. It can be due to obstruction of the lacrimal drainage system or reflex tearing. Another classification is congenital and acquired. The most common cause of epiphora in adult population is

nasolacrimal duct (NLD) obstruction.³ Most of the patients with NLD obstruction suffer from chronic dacryocystitis, with off and on super added acute attacks. Chronic dacryocystitis affects 72.5% of female patients.⁴ Treatment of NLD obstruction is dacryocystorhinostomy (DCR). Patient's quality of life (QoL) improve significantly following DCR, as reported in studies which assessed patients' QoL using Patients Reported Outcome Measure (PROM) questionnaires.^{5,6} Success rate of dacryocystorhinostomy ranges from 63% to 97%.⁵ Despite these benefits of DCR, majority of the patients present with the complications of chronic dacryocystitis due to delay in surgery.

DCR is often delayed due to multiple factors. On patient's behalf they might take this complaint lightly at initial stages. Fear of surgery and post-operative pain add up to delayed decision about surgery. On behalf of ophthalmologists, most of the eye practitioners especially in non-teaching institutes, private setups and primary health care are not willing to do DCR. Possible reasons include busy outdoors and operation theatre lists because of cataract surgery patients. There is fear about unpredictable surgical outcomes of this procedure. Due to these reasons, there are a significant number of epiphora patients who are using multiple topical medications injudiciously, suffering from social stigma and consequent complications as well.

In this study, we intend to identify the factors contributing to delayed surgery in patients with chronic dacryocystitis. This would help to address the factors for the betterment of community.

METHODS

After approval from institutional review board, Gujranwala Medical College (Admn.321/GMC), a cross sectional study was designed. Total 65 eye practitioners were included in this study. As previous literature showed no study regarding factors causing delay in DCR surgery, a self-designed questionnaire was developed for this study. Questionnaire was designed based on author's personal experiences, taking into consideration important responsible factors.

Questionnaire was designed electronically on Google Forms and it was composed of four parts. First part included the title and purpose of this study. In this part participants were also assured about the

confidentiality of the survey. Informed consent was also part of this section. Second part included professional information regarding qualification (MCPS/DOMS/FCPS/MS) and place of practice. Third part included 18 questions that were divided in three sub-sections in terms of factors related to the patient (5 questions), ophthalmologist (9 questions), and health resources provided (4 questions). Responses were recorded in yes/no answers. Last part comprised of blank space for remarks. Participants were thanked and again assured about their privacy at the end.

Authors were enrolled as key persons for data collection. The electronic link of questionnaire was shared with the participants of ophthalmology educational groups on WhatsApp, Facebook and via E-mail. Data was analyzed using SPSS 23.00 software and results were derived based on questionnaire.

RESULTS

Total no of ophthalmologist were 65. Detailed information about place of practice and professional qualification is shown in Table 1.

Table 1: Professional Information of Participating Ophthalmologists.

Current Place of Work	Frequency (n = 65)
Public sector	41
Private sector	24
Total	65
Qualification	Frequency (n = 65)
FCPS/MS/FRCS	32
MCPS/DOMS	8
Post Graduate residents	25
Total	65

Table 2 shows the percentage wise response of the participants and questions included in this survey.

Among all the factors mentioned above, top three factors causing delay in surgery are related only to patient's decision of surgery. 78.46% ophthalmologists believed the patients did not consider chronic dacryocystitis as sight threatening disease, 76.92% of ophthalmologists believed that patients had fear of surgery and 75.38% of ophthalmologist believed that patients were reluctant for surgery due to cosmetic reasons leading to delay in management.

Table 2: Questionnaire and participants responses.

Sr. No	Questions	Yes	No
Patient Related Factors			
01.	Cosmetic reasons and surgical incision mark make patients reluctant	75.38 % (49)	24.61%(16)
02.	Patients have misconception of vision loss after surgery	21.53% (14)	78.46%(51)
03.	Patients are reluctant for surgery under local anesthesia	73.84% (48)	26.15%(17)
04.	Disease is not sight threatening so patients take it lightly	78.46% (51)	21.53%(14)
05.	Patient's fear of surgery	76.92% (50)	23.07%(15)
Ophthalmologist Related Factors			
06.	Lack of interest in oculoplastic surgery	27.69% (18)	72.30%(47)
07.	Different management approach	30.76% (20)	69.23% (45)
08.	Lack of interest in dacryocystorhinostomy	21.53% (14)	78.46% (51)
09.	Lack of surgical exposure for learning DCR surgery	63.07% (41)	36.92% (24)
10.	Sufficient skill for DCR but lack of interest in DCR	58.46% (38)	41.53% (27)
11.	Low cost surgery make surgeon reluctant for surgery	50.76% (33)	49.23% (32)
12.	Unpredictable surgical outcomes make surgeon reluctant for surgery	53.84% (35)	46.15% (30)
13.	Surgeon's fear of bleeding during surgery make them reluctant	55.38% (36)	44.61% (29)
14.	General anesthesia complications make surgeon reluctant	49.23% (32)	50.76% (33)
Factors Related To Health Facility Provided			
15.	Busy OPD routine	69.23% (45)	30.76% (20)
16.	Busy operation theater due to cataract surgery	52.30 % (34)	47.69% (31)
17.	Non availability of general anesthesia in operation theaters	64.61% (42)	35.38% (23)
18.	Medico legal issues related to surgery	30.76% (20)	69.23% (45)

DISCUSSION

Most of the previous studies on chronic dacryocystitis only show its gender predisposition, epidemiological background and surgical benefits of DCR but literature shows no study on factors that cause delay in surgical management of these patients.⁴In our study, we summarized all these factors under three domains:

1. Patient related factors.
2. Ophthalmologist related factors.
3. Factors related to health resources.

A study by Coats DK et al on factors responsible for delayed surgical management in adult strabismus, concluded that strabismus surgery was never offered by eye care specialist in 27% cases and surgery was offered but declined by the patient in 23% cases.⁷A study by Naik VD et al from India showed that delay in surgical management of cataract patients was due to public unawareness, economical challenges and distrust in surgery.⁸ Regarding surgical delay in chronic dacryocystitis patients, our study showed that 78.46 % of the ophthalmologists were of the view that patients did not consider chronic dacryocystitis as a sight threatening disease and were reluctant for surgery. Busy OPD routine 69.23% (among the hospital related factors), followed by lack of surgical exposure of surgeons during their residency 63.07%

(among the surgeon related factors) are other factors which are responsible for this delay in surgery.

In ophthalmological practice surgeons are more concerned about the visual prognosis of patient. Cataract is one of the major cause of visual impairment around the globe.⁹ Among other causes are Age related macular degeneration (AMD), diabetic retinopathy, glaucoma and trachoma.¹⁰ All the above mentioned diseases burden the health sector causing delay in DCR surgery. Therefore chronic dacryocystitis when untreated can complicate into acute or chronic dacryocystitis, lacrimal abscess, and lacrimal fistula. It can also cause conjunctivitis, corneal ulcers, orbital cellulitis leading to blindness, moreover psychological stress and social embarrassment due to continuous watering. DCR is the treatment of choice for chronic dacryocystitis.^{11,12} Traditional approach is external DCR with or without Mitomycin C.¹³

New modality is endonasal DCR alone or with MMC.¹⁴ Probing can also have a role in patients with chronic dacryocystitis.¹⁵ Probing with MMC also have promising outcomes. Literature shows only a few cases (04 cases) of dacryocystitis that caused visual impairment.¹⁶ Therefore, it is generally believed that chronic dacryocystitis is not sight threatening and

patients show reluctance regarding surgical management.

Cosmesis and psychological stress are other reasons behind delayed surgery.¹⁷ Our study also relates that patients delay DCR due to cosmetic issues, though this issue has been resolved by endonasal DCR.¹⁸ Previous studies also showed that workload can affect the potential of health professionals towards the patient management.^{19,20,21} In our study, ophthalmologists believed that 69.23% of patients got delay in surgery due to busy OPD and 52.3% of the patients got delayed due to busy OT schedule.

Previous literature shows no study regarding the relationship of non-availability of General anesthesia, its complications and fear of bleeding during dacryocystorhinostomy causing delay in DCR surgery. This study showed a direct relationship. We could not find relationship of delayed DCR with the surgeon related factors (described above) in literature. However, in our study surgeons believed in their direct relationship.

Limitations of this survey are small sample size and not considering the patients' reviews regarding delay in their surgical management. Although this study involves ophthalmologist working in different setups but statistics cannot be generalized.

Health professionals should take their responsibilities towards delay in surgical management of NLD block. These factors should be addressed. Moreover, education of patients, improvement of hospital based care and provision of health facilities in hospital can improve the patient management towards his particular problem.

CONCLUSION

There are various patient related, surgeon related and hospital related factors which play a significant role in delay of surgical management of chronic dacryocystitis. These factors should be tackled by the ophthalmic community in our part of the world.

Ethical Approval

The study was approved by the Institutional review board/Ethical review board (Admn.321/GMC).

Conflict of Interest

Authors declared no conflict of interest.

REFERENCES

1. **Shin J-H, Kim Y-D, Woo KIJBo.** Impact of epiphora on vision-related quality of life. *BMC Ophthalmol.* 2015; **15** (1): 1-6.
2. **Jutley G, Karim R, Joharatnam N, Latif S, Lynch T, Oliver JJ.** Patient satisfaction following endoscopic endonasal dacryocystorhinostomy: a quality of life study. *Eye*, 2013; **27** (9): 1084-1089.
3. **Sipkova Z, Vonica O, Olurin O, Obi EE, Pearson AR.** Assessment of patient-reported outcome and quality of life improvement following surgery for epiphora. *Eye (Lond)*. 2017 Dec; **31** (12): 1664-1671. Doi: 10.1038/eye.2017.120. Epub 2017 Jun 16. PMID: 28622317; PMCID: PMC5733284.
4. **Majidaee M, Mohammadi M, Sheikh MR, Khademlu M, Gorji MH.** Patients undergoing dacryocystorhinostomy surgery in northern iran: an epidemiologic study. *Ann Med Health Sci Res.* 2014 May; **4** (3): 365-368. doi: 10.4103/2141-9248.133461. PMID: 24971210; PMCID: PMC4071735.
5. **Pokharel SM, Chaudhary S, Chaurasiya BD.** Factors affecting the success rate of external dacryocystorhinostomy at BP Koirala Institute of Health Sciences, Dharan, Nepal. *Birat J Health Sci.* 2017; **2** (2): 196-200.
6. **Kubba H, Swan IR, Gatehouse S.** The Glasgow Children's Benefit Inventory: a new instrument for assessing health-related benefit after an intervention. *Ann Otol Rhinol Laryngol.* 2004 Dec; **113** (12): 980-986. Doi: 10.1177/000348940411301208. PMID: 15633901.
7. **Coats DK, Stager DR Sr, Beauchamp GR, Stager DR Jr, Mazow ML, Paysse EA, Felius J.** Reasons for delay of surgical intervention in adult strabismus. *Arch Ophthalmol.* 2005 Apr; **123** (4): 497-499. Doi: 10.1001/archophth.123.4.497. PMID: 15824223.
8. **Naik VD, Usgaonkar UP, Albal VH.** Reasons for delay of surgical treatment among patients with senile mature cataract in Goa. *Int J Community Med Public Health*, 2018; **5** (6): 2529.
9. **Resnikoff S, Pascolini D, Etya'ale D, Kocur I, Pararajasegaram R, Pokharel GP, Mariotti SP.** Global data on visual impairment in the year 2002. *Bull World Health Organ.* 2004 Nov; **82** (11): 844-851. Epub 2004 Dec 14. PMID: 15640920; PMCID: PMC2623053.
10. **Schuster AK, Erb C, Hoffmann EM, Dietlein T, Pfeiffer N.** The Diagnosis and Treatment of Glaucoma. *Deutsches Arzteblatt International*, 2020; **117** (13): 225-234.
11. **Erdöl H, Akyol N, Imamoglu HI, Sözen E.** Long-term follow-up of external dacryocystorhinostomy and the factors affecting its success. *Orbit.* 2005 Jun; **24** (2): 99-102. Doi: 10.1080/01676830590926693. PMID: 16191796.

12. **Pandya VB, Lee S, Bengner R, Danks JJ, Kourt G, Martin PA, et al.** External dacryocystorhinostomy: assessing factors that influence outcome. *Orbit.* 2010; **29 (5)**: 291-297.
13. **Feng YF, Yu JG, Shi JL, Huang JH, Sun YL, Zhao YE.** A meta-analysis of primary external dacryocystorhinostomy with and without mitomycin C. *Ophthalmic Epidemiol.* 2012 Dec; **19 (6)**: 364-370. Doi: 10.3109/09286586.2012.733792. PMID: 23171205.
14. **Dolmetsch AM.** Nonlaser endoscopic endonasal dacryocystorhinostomy with adjunctive mitomycin C in nasolacrimal duct obstruction in adults. *Ophthalmology.* 2010 May; **117 (5)**: 1037-1040. Doi: 10.1016/j.ophtha.2009.09.028. Epub 2010 Jan 15. PMID: 20079535.
15. **Agrawal GJ.** Clinical Outcome and Complications of Therapeutic Nasolacrimal Duct Probing in Adult Cases of Chronic Dacryocystitis. *Int J Cur Res Rev.* 2017; **9 (18)**: 26.
16. **Pfeiffer ML, Hacopian A, Merritt H, Phillips ME, Richani K.** Complete Vision Loss following Orbital Cellulitis Secondary to Acute Dacryocystitis. *Case Rep Ophthalmol Med.* 2016; **2016**: 9630698. Doi: 10.1155/2016/9630698. Epub 2016 Oct 10. PMID: 27803829; PMCID: PMC5075612.
17. **Al Shehri F, Duan L, Ratnapalan S.** Psychosocial impacts of adult strabismus and strabismus surgery: a review of the literature. *Can J Ophthalmol.* 2020 Oct; **55 (5)**: 445-451. doi: 10.1016/j.jcjo.2016.08.013. Epub 2016 Nov 8. PMID: 33131636.
18. **Gaub V.** External versus endonasal dacryocystorhinostomy in a specialized lacrimal surgery center. *Saudi J Ophthalmol.* 2014; **28 (1)**: 36-39.
19. **Zavala AM, Day GE, Plummer D, Bamford-Wade A.** Decision-making under pressure: medical errors in uncertain and dynamic environments. *Aust Health Rev.* 2018 Aug; **42 (4)**: 395-402. Doi: 10.1071/AH16088. PMID: 28578757.
20. **Prints M, Fishbein D, Arnold R, Stander E, Miller K, Kim T, et al.** Understanding the perception of workload in the emergency department and its impact on medical decision making. *The Am J Emerg Med.* 2020; **38 (2)**: 397-399.
21. **Qureshi SM, Purdy N, Mohani A, Neumann WP.** Predicting the effect of nurse-patient ratio on nurse workload and care quality using discrete event simulation. *J Nurs Manag.* 2019; **27 (5)**: 971-980.

Authors' Designation and Contribution

Bazla Batool; Postgraduate Resident: *Literature search, Data analysis, Statistical analysis, Manuscript preparation.*

Usama Iqbal; Postgraduate Resident: *Concepts, Design, Data acquisition, Manuscript editing, Manuscript review.*

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