

A study to observe the effectiveness of dacryocystectomy in the management of chronic dacryocystitis



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ABSTRACT

Background: Diseases of the Lacrimal sac could be secondary to the disease of the neighboring areas, namely, that of nose, orbit, and the face. And yet, the diseases of the Lacrimal sac can spread to these areas. **Aims and Objectives:** The present study was undertaken to observe the effectiveness of dacryocystectomy in the management of chronic dacryocystitis. **Materials and Methods:** A total of 35 male and female patients with chronic dacryocystitis were part of the study after obtaining informed consent. All the cases underwent surgery under local anesthesia. Incision was made and lacrimal sac was exposed. Bone resection of lacrimal fossa was performed. This is followed by the incision of the mucosal flaps. Postoperatively, the patient is kept on antibiotic, anti-inflammatory drugs, nasal decongestant drops, and antibiotic eye drops. The skin wound is dressed daily. Irrigation of the Lacrimal sac is done daily from 2nd post-operative day onward with warm saline to which few drops of gentamicin is added. Skin sutures are removed on 5th day. The patients are followed regularly. **Results:** The success rate in our series is 97.14%. The follow-up period in our series ranged between 3 months and 13 months during the follow-up. As described by stallard (1980) and paymann (1982), in 33 of our cases, the initial bony window is fashioned with a lacrimal dissector by inserting it into the suture line between the maxilla and lacrimal bone in the lacrimal fossa and breaking the Lacrimal bone. **Conclusion:** The study results support that dacryocystectomy is effective in the management of chronic dacryocystitis. The study also recommends further studies with larger sample size in this area.

Key words: Dacryocystectomy; Chronic dacryocystitis; Ophthalmology

INTRODUCTION

For the healthy function of the eye, integrity of secretory and drainage mechanism of Lacrimal apparatus is vital. Any derangement will affect the eye adversely. Factors that hinder the drainage of the Lacrimal passages will ultimately end up in dacryocystitis. Dacryocystitis is one of the most common diseases in ophthalmic practice.¹ It manifests through the Lacrimal Sac's inflammation and the naso-Lacrimal duct. Both acute and chronic causes severe symptoms to the patients, Dacryocystitis has little tendency to resolve and its complete cure carries with it problem.² Dacryocystitis could cause serious and

irreparable damage to the cornea leading to the loss of the eye.³ It may give rise to dangerous complication such as panophthalmitis, facial cellulitis, and orbital cellulitis. It may lead on to cavernous sinus thrombophlebitis putting life itself in danger. The disease of the Lacrimal sac can also affect the eye, the orbit and the nose due to its peculiar site, situation, and also the organisms in the Lacrimal sac being a constant source of infection.⁴ It is possible that certain saprophytic organisms of the conjunctiva cul-de-sac or nose may assume pathogenicity due to altered environment in the lacrimal sac. The study of dacryocystitis has three aspects, namely, Local, Regional, and systemic.⁵ Diseases of the Lacrimal sac could be secondary to the disease of

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the neighboring areas, namely, that of nose, orbit, and the face. And yet, the diseases of the lacrimal sac can spread to these areas. Therefore, a comprehensive study of the lacrimal sac and the duct should always include a thorough and detailed study of these areas. “No organ is an Island of itself complete and entire” – John Donne’s. The cardinal symptoms of chronic dacryocystitis are watering and discharge from the eye, causing discomfort and annoyance to the patient.

Aims and objectives

The present study was undertaken to observe the effectiveness of dacryocystectomy in the management of chronic dacryocystitis.

MATERIALS AND METHODS

Study design

This study was observational study.

Study setting

The study was conducted at the outpatient department of ophthalmology of Rangaraya Medical College, Kakinada, and Government Medical College and General Hospital, Anantapur. The study period was from July 2020 to June 2021.

Study population

A total of 35 male and female patients with chronic dacryocystitis were part of the study after obtaining informed consent.

Inclusion criteria

Willing children, young people, and middle-aged individuals having the adult type of chronic dacryocystitis were included in the study. Only the cases having obstruction at the level of the junction of the sac with the nasolacrimal duct are taken up for surgery.

Exclusion criteria

Unwilling participants and individuals with severe complications were excluded from the study.

Methods

All the cases underwent surgery under local anesthesia. Incision was made and lacrimal sac was exposed. Bone resection of lacrimal fossa was performed. This is followed by the incision of the mucosal flaps. Postoperatively, the patient is kept on antibiotic, anti-inflammatory drugs, nasal decongestant drops, and antibiotic eye drops. The skin wound is dressed daily. Irrigation of the lacrimal sac is done daily from 2nd post-operative day onward with warm saline to which few drops of gentamicin are added. Skin sutures are removed on 5th day. The patients are followed regularly (Figures 1 and 2).

RESULTS

The success rate in our study was 97.14%. The follow-up period in our series ranged between 3 months and 13 months during the follow-up. As described by stallard (1980) and paymann (1982), in 33 of our cases, the initial bony window is fashioned with a lacrimal dissector by inserting it into the suture line between the maxilla and lacrimal bone in the lacrimal fossa and breaking the lacrimal bone. The bony opening is extended with a citelli’s punch. In two cases with thick lacrimal, bone gauge and hammer are used to fashion the bony window. In these cases, the nasal mucosa was damaged. In three cases, the bony anatomy was distorted by the presence of ethmoid air cells in the area of bony window. PICO (1971) noted three cases in his series of 121 patients. The thin bony walls and the mucosal lining of the cells are removed with strong forceps until true nasal mucosa is reached. Small lacrimal sac was encountered in three cases. In these cases, the lacrimal panel is fashioned by making the vertical incision more posteriorly. In one case with lacrimal fistula, the fistulous track was excised and the same opening was used to make the sac panel (Tables 1-4).

DISCUSSION

Dacryocystitis may be congenital, traumatic, inflammation, or neoplastic in origin. Apart from a standard ocular examination, all patients with dacryocystitis should undergo a thorough rhinological examination, histopathological examination of the lacrimal sac, and dacryocystography to evaluate the lacrimal system. In this way, diagnosis can be established with relative certainty. The treatment of chronic dacryocystitis is mainly surgical. The surgical methods are dacryocystectomy, dacrycystorhinostomy, naso-lacrimal intubation, and silicon intubation.⁶ Dacryocystectomy removes infection and makes conjunctival cul-de-sac sterile



Figure 1: Incision and endonasal anesthesia

Table 1: Age group-wise distribution of the patients

Age	Number of patients	Percentage
0–10	1	2.85
11–20	2	5.71
21–30	6	17.15
31–40	14	39.99
41–50	9	25.72
51–60	3	8.58

Data were presented as frequency and percentage

Table 2: Gender-wise distribution of the patients

Sex	Number of patients	Percentage
Female	30	85.72
Male	5	14.28

Data were presented as frequency and percentage

Table 3: Residence-wise distribution of the patients

Area	Number of patients	Percentage
Rural	27	77.14
Urban	8	22.86

Data were presented as frequency and percentage

Table 4: Clinical types of the patients

S. No.	Laterality	No. of patients	Percentage
1	Chronic catarrhal dacryocystitis	3	8.58
2	Ch. Suppurative dacryocystitis (including one case of corneal ulcer)	19	54.28
3	Mucocele	12	34.29
4	Lacrimal fistula	1	2.85

Data were presented as frequency and percentage

but watering persists.⁷ It is so annoying and disabling to the patients that they, according to Dr. Gilbert of Massachusetts Hospital, are willing to undergo second surgery to get epiphora relieved. Constant wiping for prolonged periods leads to lower punctal aversion and slight ectropion which further accentuates the original epiphora. Dacryocystorhinostomy is an ideal operation for the treatment of chronic dacryocystitis as it not only eliminates infection but also provides drainage channel for tears.⁸ Tears are drained into the middle meatus of the nose through an opening in the lacrimal bone.⁹ In the past, dacryocystectomy was favored procedure for all conditions of lacrimal sac.¹⁰ Now, according to Keith Lyle, it is indicated in three diseases of Lacrimal sac – namely, malignant lesions, tuberculosis, and syphilis dacryocystorhinostomy almost entirely replaced

**Figure 2:** Wound closure

it at present. Although dacryocystorhinostomy takes little longer time to perform, it is true, which is undesirable in old patients and it is somewhat more traumatic than simple excision of the sac, these disadvantages are more than compensated for by the better end results. Patients suffering from chronic dacryocystitis; previously, all were treated by dacryocystectomy. The study results support that dacryocystectomy is effective in the management of chronic dacryocystitis. The success rate in our study was 97.14%.

Limitations of the study

The study sample size was less. Hence, results may not be generalized.

CONCLUSION

The study results support that dacryocystectomy is effective in the management of chronic dacryocystitis. The study also recommends further studies with larger sample size in this area.

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