



## OUTCOME OF DACRYOCYSTEOTOMY IN ELDERLY PATIENTS ATTENDING A TERTIARY CARE CENTRE IN KASHMIR

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**ABSTRACT** **Background:** Dacryocystectomy (DCT) is a surgical procedure that involves complete removal of lacrimal sac. It is a less invasive procedure and can be used as an alternative to dacryocystorhinostomy (DCR) in elderly patients. **Aim:** To determine the surgical outcome of DCT in elderly patients >65 years attending the Department of Ophthalmology, Government Medical College, Srinagar. **Methods:** This was a hospital based prospective study conducted on 35 patients over a period of 2 years from January 2019 to January 2021. Elderly patients >65 years age with presenting complaint of recurrent dacryocystitis, dry eye with no epiphora despite complete nasolacrimal duct obstruction were included in the study. Proper preoperative history was taken with regard to presenting complaints and detailed medical history was recorded. Dry eye was diagnosed using Schirmer-I test and tear film break-up time. Nasolacrimal duct obstruction was diagnosed by fluorescein dye disappearance test and lacrimal irrigation (syringing). Clinical examination was done using slit lamp. **Results:** In our study, mean age of study population was 75±3 years. Majority of patients were females accounting for 65.7% cases. Main indication of DCT in our study was chronic dacryocystitis accounting for 68.6% cases followed by episodes of acute dacryocystitis in 20% cases and irreducible lacrimal sac swelling accounting for 11.4% cases. Overall surgical outcome was good in our study population with no postoperative complaints at the end of 3 months follow-up in 94.3% cases. **Conclusion:** Our study indicated that majority of patients who underwent DCT were female with chronic dacryocystitis being the main indication for DCT. DCT is a useful and safe surgical alternative to DCR in elderly patients with recurrent dacryocystitis and in those with underlying systemic comorbidities in whom DCR is associated with a high risk of intraoperative and postoperative complications.

**KEYWORDS :** Dacryocystectomy; Dacryocystitis; Dacryocystorhinostomy.

### INTRODUCTION

Dacryocystectomy (DCT) is a surgical procedure that refers to complete removal of lacrimal sac. Only absolute indication for dacryocystectomy is malignant tumor of lacrimal sac. Relative indications include recurrent dacryocystitis in patients with severe dry eye disease, patients with cicatrizing autoimmune disorders like Wegner's granulomatosis, patients with debilitating systemic comorbidities, patients with bleeding diathesis, patients with past history of multiple failed dacryocystorhinostomies and patients with severe atrophic rhinitis.<sup>[1]</sup> Before advent of dacryocystorhinostomy (DCR), DCT was the standard of treatment for patients with dacryocystitis and lacrimal fistulas.<sup>[2]</sup> DCT is a less invasive surgical procedure than DCR as lacrimal bone and nasal mucosa remain undisturbed.<sup>[2,3,4]</sup>

### METHODS

A hospital based prospective study was conducted on 35 patients who underwent dacryocystectomy (DCT) at Postgraduate Department of Ophthalmology, GMC Srinagar after obtaining ethical clearance from Institutional Ethical Committee. All eligible cases were recruited prospectively over a period of 2 years from January 2019 to January 2021. The patients were followed up for a period of 3 months to determine the eventual surgical outcome. Elderly patients ≥ 65 years who presented with recurrent dacryocystitis following repeatedly failed DCR procedure were included in the study. Patients with bleeding diathesis (who cannot undergo more invasive DCR procedure), patients with dry eye with no epiphora despite complete nasolacrimal duct obstruction (NLDO) were also included in the study. Proper history was taken from all patients with regard to symptoms at the time of presentation and detailed medical history was also recorded. Clinical examination was performed using slit-lamp. Dry eye was diagnosed by Schirmer-I test and tear film break-up time and a value of <10 after 5 minutes and <10 seconds respectively was taken as dry eye. NLDO was diagnosed by fluorescein dye disappearance test and lacrimal irrigation (syning).

### Surgical Technique

Surgical procedure was performed under local anaesthesia. Incision was marked using a surgical marking pen, one-third above and two-third below the medial canthal tendon, 3mm to 4mm from the medial canthus along the anterior lacrimal crest. The skin was infiltrated with bupivacaine 0.5% and lignocaine 2% with or without epinephrine 1:20000. Curvilinear incision of about 10 mm to 12 mm in length was given along the planned site using #15 Bard-Parker blade. Blunt dissection was carried out to separate orbicularis muscle from underlying structures. Periosteum was released from other structures

using Freer periosteal elevator. The lacrimal fascia which is contiguous with the periosteum is adherent near the medial canthal tendon. Medial canthal tendon was cut and medial wall of sac was separated bluntly from the surrounding bone. The lateral wall was then separated from orbicularis oculi using Westcott scissors. Lacrimal sac was then amputated at its junction with nasolacrimal duct and the excised specimen was then sent for histopathological examination. Haemostasis was achieved using bipolar cautery. The wound was thoroughly washed and cleaned. The internal part of incision was closed using 6-0 vicryl interrupted sutures. Skin was also closed using interrupted 6-0 vicryl sutures. Antibiotic ointment was applied on the wound site. The patients were then followed up postoperatively on day 1, first week, 1 month and 3 months.

Statistical analysis of data was done using SPSS version 20.

### OBSERVATIONS AND RESULTS

In our study, age of patients ranged from 65-80 years with mean age as 75±3 years (Table-1). 23 patients (65.7%) were females and 12 patients (34.3%) were males. Main indication for DCT in our study was chronic dacryocystitis in 24 patients (68.6%) followed by episodes of acute dacryocystitis in 7 patients (20%) and non-resolving irreducible lacrimal sac swelling (mucocele) with past history of acute or chronic dacryocystitis in 4 patients (11.4%) (Table-2). In our study, underlying medical condition necessitating DCT was seen in 27 patients (77%). Dry eye was seen in 28 patients (80%). Five patients (14.3%) presented with history of previously failed DCR. Overall surgical outcome at the end of 3 months was good in our study with 33 patients (94.3%) having no complaints/ symptoms postoperatively. Only 2 patients (5.7%) complained of postoperative watering at the end of 3 months follow-up. Histopathological examination of excised lacrimal sac specimen did not show evidence of sac tumor in our study population.

Table 1: Mean age of study patients

No. of patients (n)	Age range (years)	Mean age (years)	Standard Deviation
35	65-80	75	3

Table 2: Indications of DCT in study eyes

Indication	No. of patients (n)	Percentage (%)
Chronic dacryocystitis	24	68.6%
Episodes of acute dacryocystitis	7	20%
Irreducible lacrimal sac swelling (mucocele)	4	11.4%

### DISCUSSION

Before the advent of DCR in 1904, chronic dacryocystitis was treated with DCT which was described for the first time by Thomas Woodland in 1724.<sup>[5]</sup> However, now DCR is the gold standard procedure for treatment of dacryocystitis resulting in restoration of lacrimal drainage in up to 95% patients.<sup>[6]</sup> Although nowadays DCT is rarely mentioned in recent literature and is mainly used as a surgical treatment for lacrimal sac tumors, it is still a less invasive procedure that is technically easy to perform with a shorter surgical time and is a safer alternative to DCR in frail elderly patients.<sup>[7,8]</sup>

In our study, we found that mean age of study population was 75±3 years with age group ranging from 65 years to 80 years. Majority of patients who underwent DCT in our study were females. This correlates with the study conducted by Mauriello JA Jr and Vadehra VK<sup>[4]</sup> and study from Saudi Arabia conducted by Ferreiro AG, Dufailiej M et al<sup>[9]</sup> Main indications for DCT in our study were chronic dacryocystitis followed by history of episodes of acute dacryocystitis and irreducible lacrimal sac swelling. Study conducted by Ferreiro AG, Dufailiej M et al<sup>[9]</sup> has also shown chronic dacryocystitis as the main indication for DCT in all the patients whereas study conducted by Mauriello JA Jr and Vadehra VK<sup>[4]</sup> has shown acute dacryocystitis as the presenting complaint in slightly higher percentage of patients (40%) than chronic dacryocystitis (28%). In our study majority of elderly patients had associated dry eye which correlates with the study conducted by Mauriello JA Jr and Vadehra VK.<sup>[4]</sup> We found that majority of patients in our study had good surgical outcome with no complaints postoperatively which is consistent with the studies conducted by Ferreiro AG, Dufailiej M et al<sup>[9]</sup> and Mauriello JA and Vadehra VK.<sup>[4]</sup>

## CONCLUSION

Our study concludes that majority of patients who underwent DCT were frail female patients with chronic dacryocystitis as the main indication. Although the absolute indication for dacryocystectomy remains lacrimal sac tumor but DCT is a useful alternative to more invasive dacryocystorhinostomy procedure in elderly patients especially in those with underlying systemic comorbid conditions including bleeding diathesis and in those with recurrent dacryocystitis associated with dry eye disease.

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