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COMPARATIVE STUDY OF EXTERNAL DCR WITH SUTURING OF BOTH ANTERIOR AND POSTERIOR FLAPS VERSUS ANTERIOR FLAPS ALONE

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ABSTRACT: AIMS AND OBJECTIVES OF THE STUDY: To study the external DCR with suturing of both anterior and posterior flaps or only anterior flaps in patients with chronic dacryocystitis attending MMC and RI Mysore. **MATERIALS AND METHOD OF STUDY:** The study was carried out in the department of ophthalmology, MMC & RI, Mysore over a period of 3 years from January 2012 to December 2014. **RESULTS:** out of 100 patients, there were 40 males (40%) and 60 females (60%). Age group ranged from 15 -65yrs. Chronic dacryocystitis was commonly seen in the age group of 31-45yrs 60 (60%) of which 25 were males and 35 were females (Table 1). The patients were divided into 2 groups, (Group A) External DCR with suturing both anterior and posterior flaps and (Group B) suturing anterior flap alone. Success rate following both groups were similar (94%). **CONCLUSION:** The present study shows that the clinical outcome in terms of success of External DCR is similar in both Anterior and posterior flap suture and anterior flap suture alone.

KEYWORDS: DCR (Dacryocystorhinostomy), NLDO (Nasolacrimal duct obstruction).

INTRODUCTION: Dacryocystorhinostomy (DCR) is a surgical procedure designed to effect the drainage of tears from the lacrimal sac into the middle meatus of the nose through a short circuit made in the lacrimal bone and the mucosa.^[1] This operation is indicated for nasolacrimal duct obstruction. The causes of nasolacrimal duct obstruction are idiopathic, iatrogenic, congenital, traumatic, lithiasis and infection. Suspicion of obstruction may be confirmed by syringing, Jones test and dacryocystorhinography (DCG).^[2]

Dacryocystorhinostomy (DCR) for the management of nasolacrimal duct obstruction was first described via external approach by AddeoToti (1904) his steps were to expose the lacrimal sac by an external incision, remove the medial wall, punch out a piece of bone with hammer and chisel, resect a corresponding area of nasal mucous membrane and sew up the external wound. The modern method was described by Dupuy-Dutemps and Bourget (1921), who incised the posterior wall without removal of tissue and approximated flaps of lacrimal sac and nasal mucosa.

There are different techniques of performing DCR operation. In principle, DCR is the removal of the bone lying between the tear sac and the nose, and making an anastomosis between medial wall of the sac and nasal mucosa. Despite satisfactory results reported with several alternative techniques such as nasolacrimal duct intubation, endoscopic or non-endoscopic endonasal DCR,^[3] and endonasal or transcanalicular laser DCR, external DCR remains the method of choice for most oculoplastic surgeons.^[4,5,6]

This study aims to compare the results between external DCR with suturing of both the anterior and posterior flaps, and only the anterior flaps.

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AIMS AND OBJECTIVES: to compare the results between external DCR with suturing of both the anterior and posterior flaps and suturing of anterior flaps alone.

MATERIALS AND METHOD:

Source of data collection: All patients attending out-patient and in-patient, department of ophthalmology, K R Hospital, Mysore, diagnosed with nasolacrimal duct obstruction who fulfill the inclusion and exclusion criteria.

Method of data collection: Sample size:100

Study type: comparative study (Retrospective)

Inclusion Criteria: All patients diagnosed with chronic dacryocystitis with NLDO between the age group of 15-65 yrs.

Exclusion Criteria: All patients diagnosed with chronic dacryocystitis with NLDO With fistula or who had abscess before.

Method of study: Data was collected about the subjects who were diagnosed with nasolacrimal duct obstruction and underwent DCR. Results in terms of patency rates was noted and compared between those who underwent DCR with suturing of both anterior flaps and posterior flaps, and those with suturing of only anterior flaps.

Surgical technique: The surgical techniques were generally consistent, with minor variation in both the groups. Intravenous sedation with midazolam and local anesthesia was given to patient, methylene line was drawn at proposed site of skin incision 11mm nasal to medial canthus.^[7] A blunt dissection was performed through the orbicularis oculi muscle, down to the periosteum, shortly after making a skin incision. Periosteal incision was done anterior to the anterior lacrimal crest, and elevated with a periosteal elevator, to expose the lacrimal sac fossa. An osteotomy of approximately 15 mm × 15 mm is performed with a cittelli's bone punch, and then horizontal and vertical incisions were made, to create an anterior and posterior lacrimal sac and nasal mucosal flaps, or an anterior flap only. Patients were randomized into two groups. In Group A, posterior and anterior flaps were separately sutured, with two interrupted 6-0 Vicryl sutures. In Group B, both posterior flaps were fashioned by total excision, and the anterior flaps were sutured with interrupted sutures. In patients who had only anterior flap anastomosis, the anastomoses were fashioned with interrupted sutures of the edges of both anterior flaps, followed by closure of the orbicularis and skin. All patients received postoperative antibiotic drops, and were followed-up for a minimum of 6 months. Surgical success was defined as resolution of epiphora and patent lacrimal irrigation.

RESULTS: Out of 100 patients, there were 40 males (40%) and 60 females (60%). Age group ranged from 15 -65yrs. Chronic dacryocystitis was commonly seen in the age group of 31-45yrs 60 (60%) of which 25 were males and 35 were females (Table1). The patients were divided into 2 groups, (Group A) External DCR with suturing both anterior and posterior flaps and (Group B) suturing anterior flap alone. Success rate following both groups were similar (94%).

CONCLUSION: The present study shows that the clinical outcome interms of success of External DCR is similar in both Anterior and posterior flap suture and anterior flap suture alone.

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Age	Male	Female	Total
15-30yrs	10 (34.5%)	19 (65.5%)	29
31-45yrs	25 (41.6%)	35 (58.4%)	60
46-60yrs	4 (50%)	4 (50%)	8
>60yrs	1 (33.4%)	2 (66.6%)	3

Table 1: Age and gender distribution

Group category	Success rate	Failure rate	Total
Group A	47 (94%)	3 (6%)	50
Group B	47 (94%)	3 (6%)	50

Table 2: Comparison of the frequency of success between Group A (External DCR with suturing both anterior and posterior flap) Group B (suturing anterior flap only)

Graph 1: Age and gender distribution

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Graph 2: Comparison of the frequency of success between Group A (External DCR with suturing both anterior and posterior flap) Group B (suturing anterior flap only).

Graph 2

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