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Results and complications of bicanalicular intubation in external Dacryocystorhinostomy

KEYWORDS: Chronic dacryocystitis, Dacrocystorhinostomy, Silicone tube intubation.

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ABSTRACT *Purpose: To analyse the success rate and complications of primary intubation with silicon tube at 6months follow up of DCR in patients with lacrimal obstruction.*

MATERIALS AND METHODS: In a prospective study, eighteen eyes of seventeen patients with NLDO underwent DCR with intubation after investigating and evaluation as per the predesigned proforma.

Patients were re-assessed at 1 week, 1 month, 2 month, 4 & 6 month after surgery. Success rate defined objectively as patency on lacrimal syringing and subjectively by the absence of epiphora or discharge.

Results: The success rate at 6 months was 94.4%. Complications were encountered like granuloma at the ostium and tube prolapse.

Conclusion: To further improve the success rate,silicone intubation can be considered for the patients with chronic dacryocystitis with risk of failure.

DCR-Dacrocystorhinostomy , NLDO- Nasolacrimal Duct Obstruction.

Introduction

Dacryocystorhinostomy(DCR) is often considerd to be a messy,laborious and non–rewarding surgery by most ophthalmic surgeons . Despite meticulous surgery, failures are often met with.

The two most common causes of DCR failure are common canalicular obstruction & obstruction at the rhinostomy site. Thus, it is known that success is seen in a sufficiently large osteotomy combined with good sac-nasal mucosal flaps[1,2,12,13,14].

Intubation of the nasolacrimal system during DCR, may prevent closure or scarring of the osteotomy or stenosis of the common canaliculus and so improve the success rate [5,6,7,8,9,10]

The present study was done to analyse the success rate and complications of primary intubation DCR in patients with lacrimal obstruction.

MATERIALS AND METHODS

A prospective study was conducted on eighteen eyes of seventeen patients with epiphora or chronic dacryocystitis presenting to or referred at our department.

a) INCLUSION CRITERIA

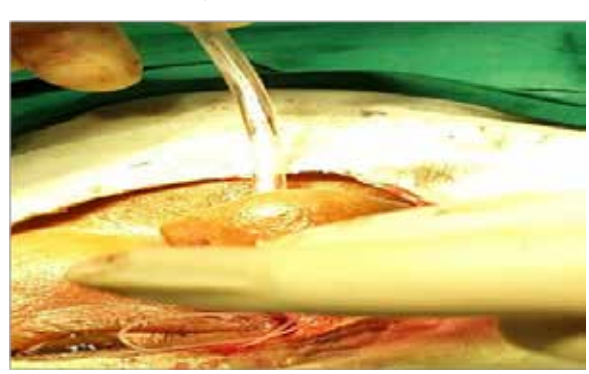
1) Age
2)Increased tear lake on slit lamp examination
3)Regurgitation on pressure over lacrimal sac area
4)Blockage of NLD on syringing
5)Nasal examination –Polyp,Hypertrophic inferior turbinate

B) EXCLUSION CRITERIA

1) Patients having absent puncta, malposition,atresia
2)Canalicular obstruction
3)Nasal polyp, atrophic rhinitis

All the Patients recruited for the study were thoroughly evaluated with complete ophthalmic examination. Nasolacrimal system of patients was assessed by performing syringing. Diagnosis of NLDO made on history of epiphora, regurgitation test, lids examination, nasal examination, probing , syringing and dacryocystography (if necessary). All the patients were investigated to rule out any contraindication to surgery under local or general anesthesia. A written informed consent was taken from all the patients and the procedure was explained in detail with their advantages and possible complications.

The steps of DCR carried out until the flaps of sac & nasal mucosa formation. After removing the nasal pack, a drip set tube was cut and introduced into the nasal cavity brought out through the DCR bony ostium. A bicanalicular silicone tube was introduced into DCR site through the upper and lower puncta and drawn out and these tubes were inserted in to the drip set tube, brought out inferiorly at the nare and the drip set tube was removed. The ends of intubation tubes were tied together and sutured to skin with 6/0 silk inferiorly at the nare.



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Images of silicon tube intubation

All patients were followed up at 1 week, 1 month, 4 & 6 months post-surgery. Tubes were removed 4 months post-surgery. Diagnostic Nasal Endoscopy done to assess the ostium and tube. Patency was evaluated objectively and subjectively at each follow up visit, Syringing was done during the follow up after silicone tube removal . Absence of Epiphora and patency on syringing at the end of 6 months follow up was considered a success.

RESULTS:

All the 18 patients who underwent DCR with silicone tube intubation were followed up to 6 months. All the patients assigned to this study were of the age group 10-85 years, most common age group being 40-55 years (Table I), majority were females(64.7%).Out of the 18 cases of chronic dacryocystitis, three cases had associated mucocele and two had lacrimal fistula, two was recurrent chronic dacryocystitis (details in Table II). Only five patients had no associated nasal pathology, the details are given in the table III below. Dacryocystography was done in 3 patients of the 18 patients and showed the findings as in Table IV.

Diagnosis	No. of eyes	%
CDC	11	61.1
LACRIMAL FISTULA	2	11.1
MUCOCELE	3	16.7
RECURRENT CDC	2	11.1
Total	18	100

TABLE I- AGE WISE DISTRIBUTION

TABLE II- CLINICAL DIAGNOSIS

Age group	No. of patients	%
10- 25	5	27.8
26-39	4	22.2
40 – 55	5	29.4
56 – 69	2	11.1
70- 85	1	5.6
Total	17	100

Associated ENT pathology	No. of cases	%
DNS	10	55.6
DNS, Chronic sinusistis, H/O B/L partial turbinectomy	1	5.6
DNS+ HIT+ stenosed stoma	1	5.6
HMT	1	5.6
NAD	5	27.8
Total	18	100

TableIII-Nasal pathology

Postoperative complications	No. of eyes	%
accidental prolapse of ST	4	22.2
granulation tissue	2	11.1
granulation tissue, mucopus at ostium	1	5.6
mucopus at ostium	1	5.6
suture site erythema	1	5.6
Nil	9	50
Total	18	100

Post operative sac syringing at 4 months	No. of cases	%
not patent	1	5.6
partial regurgitation from upper punctum	1	5.6
Patent	17	94.4

Fig II: Postoperative follow up at 1 month showing bicanalicular silicone tube in situ at the ostium

DISCUSSION

Chronic dacryocystitis is preferentially more common in adults over middle life from third to seventh decades[1,2]. In the present study, maximum number of cases belonged to the age group of 40-55 years (38.2%). The average mean age of our study was 46.4 years.NLDO is more common in middle aged and elderly females. An already narrow lacrimal fossa in women predisposes them to obstruction by the sloughed off debris[5,6].

A high success rate in our patients with primary DCR can be attributed to the following factors**:**

- Meticulous surgery and proper identification of the structures.

- A comparatively big osteotomy opening particularly in children and young pts.

- STI in all DCR surgeries.

- Tight apposition of the sac and mucosal flaps.

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- Non absorbale suture to secure the tubes at the nares.

Table VIII: Success rate

RESULT	No. of cases	%
Success	17	94.4
Failure	1	5.6
Total	18	100

Table IX: Comparison with other study:

STUDY	SUCCESS RATE	
	Conventional DCR	DCR with silicone tube intubation
Saiju and others[1]	90%	87%
Mir zaman and others[8]	95%	97.5%
Kacaniku G, Spahler [10]	87.5%	95.1%
Present study		94.4%

Limitations : This is a study with small sample size with less duration of follow up .A large sample size and longer duration of follow up are needed.

CONCLUSION:

It is easy and worth while to use silicone tube intubation in all DCR patients with the help of cut drip set tube (to pass the probes of the tube)

REFERENCE 1. Saiju R, Morse LJ, Weinberg D, Shrestha MK, Ruit S. Prospective randomized comparison of external Dacryocystorhinostomy with and without silicone intubation. Br J Ophthalmol. 2009;93(9):1220-22. | 2. Connell PP, Fulcher TP, Chacko E, o'Connor MJ, Moraity P. Long term follow up of nasolacrimal intubation in adults. Br J Ophthalmol. 2006;90(3):435-36. | 3. Rizvi SAR, Sharma SC, Tripathy S, Sharma S. Management of Traumatic Dacryocystitis and failed DCR using silicone tube intubation. Indian J Otolaryngol / Head Neck Surg. 2011;63(3):264-68. | 4. Welham R A N, Wulc A E. Management of unsuccessful lacrimal surgery. Br J Ophthal. 1987;71:152-7. | 5. Sodhi PK, Pandey RM, Malik KP. Experience with bicanalicular intubation of the lacrimal drainage apparatus combined with conventional external dacryocystorhinostomy. Jcraniomaxillofac surg. 2003;31(3):187-90. | 6. Rahman MZ, Hossain MJ, Hassan Z, Hayat ABMS, Karim M. Comparative study of Dacryocystorhinostomy with and without silicone tube intubation. JAFMC Bangladesh. 2012;8(2):70-4. | 7. Choung H K , Khwarg S. Selective non-intubation of a silicone tube in external dacryocystorhinostomy. Acta Ophthalmologica Scandinavica. 2007;85(3):329–32. | 8. Nawaz M, Hanif Q, Sultan M, Sadiq M. Dacryocystorhinostomy; A comparative study of the results with and without silicon intubation in Pakistani patients of chronic dacryocystitis. Professional Med J. 2008;15(1):81-86. | 9. Feng Y F, Cai J Q, Zhang J Y, Han X H. A meta-analysis of primary dacryocystorhinostomy with and without silicone tube intubation. Can J Ophthalmol. 2011;46(6):521-27. | 10. Kacaniku G, Spahler K. The success rate of external DCR. MED ARH. 2009;63(5): 292-94. | 11. Beige B, Westlake W, Chang B, Marsh C, Jacob J. Dacryocystorhinostomy in South West England. Eye. 1998;12:358-62. | 12. Vieira GS, Xavier ME. Results and complications of bicanalicular intubation in external Dacryocystorhinostomy. Arq Bras Oftalmol. 2008;71(4):529-93. | 13. Khan AF, Fazili SH. The infallible DCR: Intubate and manipulate. JK Practitioner. 2007;14(1):45-47. | 14. Dortzbach RK, France TD, Kushner BJ, Gonnering RS. Silicone intubation for obstruction of the nasolacrimal duct in children. Am J Ophthalmol. 1982;94(5):585-90. | 15. Zaman M, Babar TF, Abdullah A. Prospective randomized comparison of Dacryocystorhinostomy with and without intubation. Pak J Med Res. 2005;44(2):75-78. |