

Compare Outcome in DCR with and without Silicon Tube Implantation

Mohd Ayaz Bhat¹, Waseem Raja², Ambrine Ashraf³

ABSTRACT

Introduction: Dacryocystorhinostomy (DCR) is the most popular operation for treating nasolacrimal duct obstruction or chronic dacryostenosis. Study aimed to compare the success rate of external dacryocystorhinostomy with and without silicone intubation.

Material and Methods: A total 223 were operated for nasolacrimal duct obstruction, at district hospital level. 70 patients were operated with silicon tube intubation and 153 patients operated without silicon tube. The patency of lacrimal drainage system was evaluated with lacrimal syringing. Age, gender, laterality, and lacrimal irrigation in the third month visit were recorded. Surgical success was accepted as the patency of the formed ostium with lacrimal syringing/irrigation. Data was analysed using the average, standard deviation, variation coefficient, and the statistical significance was determined using t- test.

Results: Success rate was higher 94.24% in patients with silicone tube intubation, and 86.92% in without silicon tube intubation, with p-value ($p>0.05$).

Conclusion: Our findings suggest that success rate was higher in dacryocystorhinostomy with silicone intubation, although results were not statistically significant.

Keywords: Outcome in DCR, Silicon Tube Implantation

INTRODUCTION

Dacryocystorhinostomy (DCR) is a surgical procedure to create drainage between the lacrimal sac and the nasal cavity.^{1,2} External DCR is the gold standard surgical method in the treatment of NLDO. It is cheap, the learning period is short, the success rate is high and doesn't require high technology instruments.³ An inert and easily tolerable silicone material in DCR surgery was first described by Older.⁴ While some surgeons routinely use silicone tubes, the others prefer it for only complicated cases. It is believed that silicone tubes prevent the blockage of ostium.^{5,6} Although, it was reported as using silicone tube intubation was one of the most effective way to increase the surgical success rate⁷, it has been a controversial issue. Silicone intubation has been used to improve the success rate. Study aimed to compare the success rate of external dacryocystorhinostomy with and without silicone intubation.

MATERIAL AND METHODS

This study was conducted at district hospital Pulwama and sub district hospital Sopore, Kashmir, J&K in year 2016 and 2017. 223 patients were included in the study. Patients with acute dacryocystitis lacrimal abscess and stenosed canaliculi were excluded from the study. All patients were recruited from the outpatient department of district hospital Pulwama and SDH Sopore, Kashmir. All patients underwent

a thorough ophthalmic examination and systemic evaluation for diabetes mellitus and hypertension. Patients having problems like blockage of the upper and lower canaliculi or common canaliculus, previous lacrimal surgery, post-traumatic dacryocystitis, NLD blockage and bony deformity were excluded from the study. Standard external DCR was performed on all patients, with suturing of the anterior flaps of the lacrimal sac and nasal mucosa and trimming of the posterior flaps of the lacrimal sac. The first dressing was changed after 24 hours and irrigation of the lacrimal passage was done to ascertain the patency of the newly formed ostium and to wash out any blood clots and debris in the passage. 70 patients were operated with silicon tube intubation n 153 patients operated without silicon tube. Patients were then followed after 7 days, one month and 6 months. Successful outcome was defined as resolution of epiphora and discharge and patency of the passage on syringing.

RESULTS

In total, 223 DCR procedures were performed on 223 patients. The patients, 129 (64.2%) females and 72 (35.8%) males, ranged in age from 9 to 73 years (mean 51.3 ± 10.7). Age, sex, and side were found to have no statistical significance among groups ($p\geq 0.05$). The distribution of case characteristics among the 4 study groups are shown in Table 1. The mean follow-up period was 21 (range 6 to 36) months.

Success rate was more in DCR with sti than DCR alone, total success rate with silicon tube intubation was 94.24% as compared to DCR alone with success rate 86.92%, with p-value ($p>0.05$) (table-2).

DISCUSSION

The aim of the present study was to prospectively evaluate the clinical outcome of patients with nasolacrimal duct obstruction treated with bicanalicular silicone intubation stenting. The demographic characteristics of our patient population were similar to those described by others. Nasolacrimal outflow obstruction is much more common in women than in men and is associated with advanced

¹Consultant, Department of Ophthalmology, Health & Medical education, Kashmir, ²Consultant Department of Ophthalmology, Health & Medical education, Kashmir, ³Demonstrator, Department of SPM, Government Medical College, Srinagar

Corresponding author: Dr. Mohd Ayaz Bhat, C/O: Delhi Textiles, Court Road, Magam, Budgam.

How to cite this article: Mohd Ayaz Bhat, Waseem Raja, Ambrine Ashraf. Compare outcome in DCR with and without silicon tube implantation. International Journal of Contemporary Medical Research 2019;6(3):C20-C21.

DOI: <http://dx.doi.org/10.21276/ijcmr.2019.6.3.55>

	Group 1 (n=55)	Group 2(n=27)	Group3(n=53)	Group4(n=88)
Age (mean±SD)	45.86±15.7	42.96±18.02	51.3±20.1	48.2±16.1
Gender(M/F)	25/30	15/12	29/24	40/48

Table-1:

	Group with intubation	Group without intubation	total
	70	153	223
Patent	94.24%(66)	86.92(133)	89.23%(199)
Recurrent watering	5.71%(4)	13%(20)	10.76%(24)

Table-2:

age. From the general data, the majority of treated patients (64.2%) were female, and 35.8% was male. Stenting of the nasolacrimal drainage system with a silicone tube has been used in conjunction with DCR in cases expected to carry a higher risk of failure. The purpose of the stent in the nasolacrimal system is to prevent adhesion of the mucosal lining of the channels during the healing process and to maintain long-term patency after removal.

Success rate in patients with silicon tube intubation was found better than patients with DCR without silicon tube, success rate in patients with DCR with silicon tube intubation was 94.24% and success rate in patients with DCR without silicon tube intubation was found 86.23%. with p-value ($p>0.05$). In 2009, Kaçaniku, performed external DCR with silicone tube implantation in 41 out of 166 patients, and reported that the success rate was higher in the group with intubation (95.1%) compared to in the group without intubation (87.5%), but the difference was statistically insignificant. He proposed further prospective studies to confirm the beneficial effect of silicone intubation.⁸ In 2014, the same author studied in 106 patients and he used silicone tube only in 11 eleven patients who had common canalicular obstruction.⁹ Silicone intubation is likely to improve outcomes in external dacryocystorhinostomy. We believe that the silicone intubation facilitate epithelialization of the DCR fistula. Baig et al.¹⁰ reported a success rate of 87.09% out of 62 procedures of external dacryocystorhinostomies with silicone tube intubation. Delaney and Khooshabeh.¹¹ reported a success rate of 90% out of 50 cases with acquired partial nasolacrimal obstruction in adults, treated by dacryocystorhinostomy with silicone intubation. McLachlan et al.¹² reported success rate of 94% out of 291 dacryocystorhinostomies. Talpur et al.¹³ reported success rate of 98.14% in 54 dacryocystorhinostomies. Advani et al.¹⁴ reported a success rate of 95% out of 40 dacryocystorhinostomies with silicone intubation.

CONCLUSION

Our findings suggest that success rate was higher in dacryocystorhinostomy with silicone tube intubation, although results were not statistically significant. So to get better results silicon tube intubation should be done as it has additive effect, and few conditions like cannalicular blocks, punctal problems have more positive results with silicon tube.

REFERENCES

1. Yakopson VS, Flanagan JC, Ahn D, Luo BP.

Dacryocystorhinostomy: History, evolution and future directions. Saudi J. Ophthalmol. 2011;25:37–49.

- Vazquez A, Blake DM, Langer P, Eloy JA. Transillumination-guided endoscopic endonasal dacryocystorhinostomy: approach to revision cases and challenging anatomy. Otolaryngol. Head Neck Surg. 2013;149:265–266.
- Li D, Ding J. Whether external dacryocystorhinostomy will be abandoned. Zhonghua Yan Ke Za Zhi. 2014;50:566-8.
- Older J J . Routine use of silicone stent in a dacryocystorhinostomy. Ophthalmic Surg 1982;13:911.
- Kaçaniku G, Spahiu K. The success rate of external dacryocystorhinostomy. Med Arh. 2009;63:288-90.
- Wu W, Yan W, MacCallum JK, Tu Y, Jiang AC, Yang Y, et al. Primary treatment of acute dacryocystitis by endoscopic dacryocystorhinostomy with silicone intubation guided by a soft probe. Ophthalmology. 2009;116:116-22.
- Karalezli A, Borozan M, Topal O, Erbek S, Akova YA. Endoscopic endonasal dacryocystorhinostomy and bicanalicular silicone tube intubation. Selcuk Tip Derg. 2009;25:82-6.
- Kaçaniku G, Spahiu K. The success rate of external dacryocystorhinostomy. Med Arh. 2009;63:288-90.
- Kaçaniku G, Begolli I. External dacryocystorhinostomy with and without suturing the posterior mucosal flaps. Med Arch. 2014;68:54-6.
- Baig MSA, Shaikh ZA, Aziz M. External dacryocystorhinostomy with silicone tube intubation. Pakistan J Ophthalmol, 2000; 16: 90-3.
- Delaney YM, Khooshabeh R. External dacryocystorhinostomy for the treatment of acquired partial nasolacrimal obstruction in adults. Br J Ophthalmol, 2002; 86: 533-5.
- McLachlan DL, Shannon GM, Flanagan JC. Results of dacryocystorhinostomy: analysis of the reoperations. Ophthalmic Surg, 1980; 11: 427-30.
- Talpur KI, Jatoti SM, Khan SA. Dacryocystorhinostomy – a clinical report of 54 cases. Pakistan J Ophthalmol, 1998; 14: 172-6.
- Advani RK, Halepota FM, Shah SIA, Kadri WM. Indications and results of DCR with silicon tube intubations. Pakistan J Ophthalmol, 2001; 17: 60-

Source of Support: Nil; Conflict of Interest: None

Submitted: 14-02-2019; Accepted: 05-03-2019; Published: 30-03-2019