Publisher

www.biomedicalreview.in

Biomedical Review-Journal of Basic and Applied Medical Science

2019 Volume 6 Number 1 Jan-Dec

E-ISSN:2349-3275

P-ISSN:2349-5502

Case Report

DCR

Combined surgical approach for failed primary external dacryocystorhinostomy

Prabhakar S.[1*], Prakash B.[2]

DOI:

[1*] S.K. Prabhakar, Professor, Department of Ophthalmology, JSS Medical College & Hospital, Mahatma Gandhi road, Mysore, Karnataka, India.

[2] B.G. Prakash, Professor, Department of Otorhinolaryngology, JSS Medical College & Hospital, Mahatma Gandhi road, Mysore, Karnataka, India.

A 30-year-old female patient presented with epiphora for the last 5 to 6 months, 10 years after successful treatment by external dacryocystorhinostomy. To study the morphology and histopathological features of closed ostium and to know the efficacy of the combined approach is the purpose of the present case study. Patient subjected for endoscopic dacryocystorhinostomy combined with silicone stent intubation. Silicone tube left intact and the patient followed up for six months. Successful patency of the lower lacrimal drainage system achieved with complete resolution of epiphora after six months of follow up. Patency tested by lacrimal sac syringing and the ostium morphology studied by transnasal endoscope. Endoscopic dacryocystorhinostomy with silicone intubation and lacrimal sac syringing on weekly basis was beneficial and successful in achieving and maintaining the patency of lower lacrimal drainage system in failed external dacryocystorhinostomy.

Keywords: Failed dacryocystorhinostomy (DCR), Endoscopic DCR, Silicone stent

Corresponding Author

S.K. Prabhakar, Professor, Department of Ophthalmology, JSS Medical College & Hospital, Mahatma Gandhi road, Mysore, Karnataka, India.

Email: svp_pbk1947@yahoo.co.in

How to Cite this Article

S.K. Prabhakar, B.G. Prakash, Combined surgical approach for failed primary external dacryocystorhinostomy. Biomed Rev J Basic Appl Med Sci. 2019;6(1):35-37.

Available From http://www.biomedicalreview.in/combined-surgical-approach-for-failed-primary-external-dacryocystorhinostomy-case-report

To Browse

Manuscript Received	Review Round 1	Review Round 2	Review Round 3	Accepted
2019-12-09	2019-12-10	2019-12-17	2019-12-24	2019-12-31

Conflict of Interest	Funding	Ethical Approval	Plagiarism X-checker	Note
Nil	Nil	Yes	17%	IJB Archive

Introduction

External dacryocystorhinostomy (DCR) and endoscopic DCR equally proved to be successful in treating lacrimonasal obstructions. Reported success rate following external and endonasal DCR at 1 year follow up was 91% and 75% respectively with 94% and 90% success rates observed at 9 months follow up [1]. Membranous scarring of the ostium noted in 74% of failed external DCR cases with functional success rate of 79% achieved by revision endonasal DCR [2]. Hypertrophic middle turbinate and severe nasal septal deviation observed in post external DCR while constricted ostium noted in patients who underwent previous endoscopic DCR [3]. Dacryoendoscopy of failed external DCR patients revealed an occluded space between lacrimal sac mucosa remnants and fibrous obstruction tissue [4].

The present case study describes the management of filed external DCR endonasally combined with silicone tube intubation and the importance of lacrimal sac syringing on weekly basis to maintain and achieve the patency of lacrimal drainage system.

Case Report

Thirty-year-old female patient presented with epiphora (left eye) for the last 5 to 6 months after undergoing successful treatment by external dacryocystorhinostomy (DCR) ten years earlier. History of recurrent conjunctivitis obtained with no symptoms relating to nasal obstruction. Hard stop and gritty sensation felt on passing a bowman's lacrimal probe implying fibro-osseous obliteration of the rhinostomy window. Lacrimal sac syringing revealed complete obstruction of the ostium with regurgitation of mucopurulent material from the punctum. Computed tomography of the nasal passages showed closed ostium at the middle meatus.

Patient subjected for endonasal DCR combined with successful silicone tube intubation under general anesthesia. Previous synechiae identified at the axilla of middle turbinate and released by bipolar cauterization. Unsenectomy performed to visualize the natural maxillary ostium. Fibrosis around the lacrimal sac area removed with Blakeslee forceps and true cut forceps. Mucopurulent material was negative on culture

And sensitivity. Histopathological examination of the released adhesions consisted of multiple grey white tissue fragments revealed clusters of glands arranged in lobules with interstitium displaying edema, lymphoplasmocytic infiltrate, and specules of lamellar bone consistent with fibro osseous proliferation.

Postoperative period was uneventful with complete resolution of epiphora. Patient discharged and advised lacrimal sac syringing weekly and to instill tobramycin eye drops with xylometazolin nasal drops four times a day. Unfortunately patient was last to follow up for about one month. Later patient returned with recurrent epiphora and on lacrimal sac syringing complete obstruction of the nasal passages observed. Lacrimal sac syringing on weekly basis performed for one month with successful reopening of the nasal passages.

Discussion

The present case study deals with management of recurrent epiphora by successful endonasal approach combined with silicone tube intubation of the nasal passages for failed external DCR ten years earlier in a thirty-year-old young female patient. Ostium patency maintained for ten years following external DCR in our patient. In other words, the course of ostium closure was benign in nature. Epiphora appeared after complete occlusion of the ostium.

Causative factors implicated in failed DCR may be presence of ethmoidal air cells medial to the lacrimal sac, small size and inappropriate position of ostium, ethmoidal sinusitis, concha bullosa, nasal polyposis, mass in medial canthus and extensive granulation tissue around the rhinostomy as detected by spiral computed tomographic dacryocystography [5]. Interstitial proliferation with osteoblastic activity was the cause for ostium closure in the present case as revealed by histopathological examination.

In a retrospective study on 25 revised endoscopic DCRs, anterior ethmoid pneumatization with agger nasi cells present in 88% of failed external DCR patients. They suggested CT imaging and endoscopy performed prior to surgery to elucidate agger nasi pneumatization and to consider proper creation of DCR ostium [6]. Lacrimal silicone tube intubation was successful in resolving

Epiphora in all the 13 patients with failed external DCR comparable to the results of the present case study [7].

Advantages of endoscopic DCR are no skin incision required, allow for evaluation and concurrent correction of intranasal pathology, and can be performed under local anesthesia [8]. The success rate following transcanalicular multi diode laser (TC-MDL) DCR for failed primary DCR was 62% and 85.2% success rate for failed primary endoscope DCR. They recommended TC-MDL DCR for failed external/endoscope primary DCR [9]. Anterior single flap external DCR with silicone lacrimal intubation alone yielded a success rate of 91.3% and 85.2% respectively for traumatic and failed DCR patients reported from previous prospective study [10].

In conclusion failed primary external DCR successfully treated by endonasal approach with bicanalicular silicone intubation. The important message from current study is execution of lacrimal sac syringing to prevent the ostiu m closure which done on weekly basis for one month until the cessation of epiphora.

Reference

1. Woog JJ, Kennedy RH, Custer PL, Kaltreider SA, Meyer DR, Camara JG. Endonasal dacryocystorhinostomy: a report by the American Academy of Ophthalmology. Ophthalmology. 2001 Dec;108(12):2369-77.

2. Hull S1, Lalchan SA, Olver JM. Success rates in powered endonasal revision surgery for failed dacryocystorhinostomy in a tertiary referral center. Ophthal Plast Reconstr Surg. 2013 Jul-Aug;29(4):267-71.

3. Paik JS1, Cho WK, Yang SW. Comparison of endoscopic revision for failed primary external versus endoscopic dacryocystorhinostomy. Clin Experiment Ophthalmol. 2013 Mar;41(2):116-21.

4. Takahashi Y1, Nakamura Y, Kakizaki H. Dacryoendoscopic findings in the lacrimal passage in failed dacryocystorhinostomy. Ophthal Plast Reconstr Surg. 2013 Sep-Oct;29(5):373-5.

5. Gökçek A1, Argin MA, Altintas AK. Comparison of failed and successful dacryocystorhinostomy by using computed tomographic dacryocystography findings. Eur J Ophthalmol. 2005 Sep-Oct;15(5):523-9.

6. Liang J1, Hur K, Merbs SL, Lane AP. Surgical and anatomic considerations in endoscopic revision of failed external dacryocystorhinostomy. Otolaryngol Head Neck Surg. 2014 May;150(5):901-5.

7. Kim NJ1, Kim JH, Hwang SW, Choung HK, Lee YJ, Khwarg SI. Lacrimal silicone intubation for anatomically successful but functionally failed external dacryocystorhinostomy. Korean J Ophthalmol. 2007 Jun;21(2):70-3.

8. Orcutt JC1, Hillel A, Weymuller EA Jr. Endoscopic repair of failed dacryocystorhinostomy. Ophthal Plast Reconstr Surg. 1990;6(3):197-202.

9. Ozsutcu M1, Yenigun A, Meric A, Ozucer B, Dogan R, Gulkilik G, Kocabora MS. Transcanalicular revision surgery for failed dacryocystorhinostomy. Clin Ter. 2013;164(6):e485-8.

10. Rizvi SA1, Sharma SC, Tripathy S, Sharma S. Management of traumatic dacryocystitis and failed dacryocystorhinostomy using silicone lacrimal intubation set. Indian J Otolaryngol Head Neck Surg. 2011 Jul;63(3):264-8.