Original article:

Study of complications of chronic dacryocystitis in Indian Population

[1]Dr Nitin Kulkarni* , [2]Dr C Anand Kumar , [3]Dr Aniket Lathi , [4]Dr Ashish Gupta , [5]Dr Shruti Rashinkar , [6]Dr Arka Roy ,[7]Dr Farha Maloo

[1,2] Associate Professor , ENT Department , Kaminee Academy of Medical Sciences & Research center , Hyderabad , India

[3]Associate Professor, ENT Department, Rural Medical College, PIMS (DU) , Loni , Maharashtra , India

[4-7] Resident, , ENT Department, Rural Medical College, PIMS (DU) , Loni , Maharashtra , India

Corresponding author*

Abstract:

Introduction: With the recent introduction of endoscopes and microscopes, the original procedure of external dacryocystorhinostomy with extensive dissection have been questioned by some surgeons which has led to interest in less invasive procedures like endonasal endoscopic dacryocystorhinostomy. With this background present study was planned to study complications of chronic dacryocystitis in Indian Population

Materials and methods: The study included 60 cases that were diagnosed as nasolacrimal duct obstruction or chronic dacryocystitis and who were fulfilling inclusion criteria during the study period.

Results: In our study, lid edema and tenderness was noted in 4 cases (13.34%) and epistaxis was noted in 3 cases (10%) on 1st post operative day. On follow up, 2 cases (6.66%) had obstruction at rhinostomy site on endoscopic examination and 1 case (3.33%) had discharge from the wound.

Conclusion: In our series, the most common intra operative complication was bleeding, which was moderate in 9 cases (30%) and was severe in 4 cases (13.33%).

Keywords: Nasolacrimal duct

INTRODUCTION

The dacryocystorhinostomy (DCR) is the gold standard procedure for treatment of chronic dacryocystitis till today by which all other newer methods of dacryocystorhinostomy procedures are assessed[1]. **Addeo Toti**[2] **(1904)** described a procedure in which a passage for tear flow could be created between the nose and the lacrimal sac by resecting portions of the lacrimal sac mucosa, bone, and nasal mucosa. A mucosal anastomosis with suturing of mucosal flaps was later described by **Dupuy-Dutemps** and **Bourguet**[1] **(1921)**. As the technique has developed, so the success rate for the external procedure improved until today in the hands of properly trained oculoplastic surgeons success rate of between 90 to 95% can be expected.

With the recent introduction of endoscopes and microscopes, the original procedure of external dacryocystorhinostomy with extensive dissection have been questioned by some surgeons which has led to interest in less invasive procedures like endonasal endoscopic dacryocystorhinostomy. With this background present study was planned to study complications of chronic dacryocystitis in Indian Population.

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

MATERIALS AND METHODS

The present study was conducted in Department of Ophthalmology, Rural Medical College, Loni, during August 2010 to July 2012.

Source of data:

Patients attending ophthalmology outpatient department at Rural Medical College, Loni, for the symptom of epiphora and diagnosed as primary acquired nasolacrimal duct obstruction or chronic dacryocystitis.

Inclusion criteria:

All symptomatic epiphora cases diagnosed for primary acquired nasolacrimal duct obstruction or chronic dacryocystitis.

Exclusion criteria:

Following patients were excluded from study

1) Canalicular and punctal obstruction
2) Failed cases of dacryocystorhinostomy
3) Ectropion/ entropion/ lower lid laxity
4) Post traumatic bone deformity of lacrimal region
5) History of radiation therapy of lacrimal region
6) History of sino nasal malignancy and granulomatous conditions
7) Atrophic rhinitis

Sample size:

The study included 60 cases that were diagnosed as nasolacrimal duct obstruction or chronic dacryocystitis and who were fulfilling inclusion criteria during the study period.

TECHNIQUE OF EXTERNAL DACRYOCYSTORHINOSTOMY

All external dacryocystorhinostomy operations were performed under local anaesthesia.

Nasal packing:

The nostril on affected side was packed with a roller pack soaked in a mixture of 4% lignocaine and 1 ampoule (2ml) of 1:1000 adrenaline. Packing was done half an hour before surgery.

Anaesthesia:

Under aseptic precautions, all patients were given local anaesthesia in the sac region consisting of 3-5 cc of 2% lignocaine with 1:2,00,000 adrenaline.

OBSERVATIONS AND RESULTS

Intra operative complications

In our series, the most common intra operative complication was bleeding, which was moderate in 9 cases (30%) and was severe in 4 cases (13.33%).

In 2 cases (6.66%) the sac was damaged accidently while making flaps.

In 2 cases (6.66%) damage to nasal mucosa occurred.

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

Table No.1: Intra operative complications in Group A:

Intra operative complications	Group A (n=30)
	No. (%)
Damage to nasal mucosa	2(6.66%)
Damage to sac	2(6.66%)
Minimum bleeding	2(6.66%)
Moderate bleeding	9(30%)
Severe bleeding	4(13.33%)
Nil	11(36.66%)
Total	30

Post operative complications:

In our study, lid edema and tenderness was noted in 4 cases (13.34%) and epistaxis was noted in 3 cases (10%) on 1st post operative day. On follow up, 2 cases (6.66%) had obstruction at rhinostomy site on endoscopic examination and 1 case (3.33%) had discharge from the wound.

Causes of failure:

Table No.2: Diagnostic nasal endoscopy in failed cases

Causes of failure	(n=30)
	No. (%)
Blocked rhinostomy site by Granulation Tissue	3(10%)
Synechiae formation	0
Improper ostium placement	1 (3.33%)
Total	4 (13.33%)

DISCUSSION

In our study, it was minimum in 2 cases (6.66%), moderate in 9 cases (30%) and was severe in 4 cases (13.33%).Minimum and moderate bleeding was seen during the punching of the lacrimal bone as well as while making nasal mucosal flaps. The bleeding was stopped by packing the area with the ribbon gauze soaked in 4% lignocaine with adrenaline for some minutes.

4 patients had severe bleeding while making skin incision due to injury to angular vein, which may have been due to varied anatomical position. Haemostasis was achieved with clamping and ligating the vein and surgery was continued.

In external dacryocystorhinostomy, though majority of operative interventions go well, most of them are complicated by haemorrhage creating difficulties[4]. So it is clear from these words that the most common but major complication of external dacryocystorhinostomy surgery is bleeding.

Hartikainen et al[5] did not observe any intra-operative bleeding as troublesome in his study.

However, he observed that there was accidental entry to anterior ethmoidal air cells in 6 cases (9%) while doing osteotomy. In our study, there was no such complication seen in group A. Other minor complications were damage to the lacrimal sac while making flaps and damage to nasal mucosa, while trephining the lacrimal bone.In group A, 3 cases (10%) had epistaxis on 1st post operative day and 4 cases (13.34%) had lower lid edema and tenderness which were resolved by nasal packing and medical treatment.On follow up, 2 cases (6.66%) had obstruction at rhinostomy site on endoscopic examination by the blood clots. 1 case (3.33%) had developed suture abscess and discharge from the wound. Patient was given antibiotics and anti-inflammatory and the patient responded very well.

Tarbet et al[6] have reported a rate of 2.6% for excessive scarring post operatively and a rate of 3.9% for post operative haemorrhage. In our study, post operative haemorrhage was seen in 7 cases (11.66%) which is higher as compared to the study done by Tarbet et al.

Walland et al[7] have reported 1.6% incidence of infection after open lacrimal surgeries. Our study correlates well with the study done by Walland et al.

8) Success rate:

In our study the success rate for group A was in 26 cases (86.67%) and failure was seen in 4 cases (13.33%). In group B, the success rate was seen in 21 cases (70%) and failure was seen in 9 cases (30%).

Hartikainen et al[8] had primary success rate of 91% for external dacryocystorhinostomy and 75% for endonasal dacryocystorhinostomy.

Study done by **Cokkesser et al**[9] showed the success rate of 89.9% for external dacryocystorhinostomy and 88.2% for endonasal dacryocysto-rhinostomy.

CONCLUSION

In our series, the most common intra operative complication was bleeding, which was moderate in 9 cases (30%) and was severe in 4 cases (13.33%).

BIBLIOGRAPHY

1) Sir Stewart Duke Elder. System of Ophthalmology. Edited by S Duke Elder and Edward S Perkins, St. Louis C-V Company 1974; Vol XIII, Part II page 675-722.

2) G Adrien Shun-Shin, Geetha Thurairajan, External Dacryocysto-rhinostomy— An end of an era? British Journal of Ophthalmology 1997;81: 716-717.

3) McDonough M, Meiring JH. Endoscopic Transnasal Dacryocysto-rhinostomy. J Laryngol Otol 1989; 103 (6):585-587.

4) Welham R. A., Wulc A. E. Management of unsuccessful lacrimal surgery. British Journal of Ophthalmology 1987; 71:152-157.

5) Botek A A, Goldberg S. H. Margins of safety in Dacryocysto-rhinostomy. Ophthalmic surgery 1993 May; 24(5):320-2.

6) Woog JJ, Metson R, Puliafito CA. Holmium:YAG endonasal laser dacryocystorhinostomy. Am J Ophthalmol. 1993 Jul 15; 116(1):1-10.

7) Burger R, Fover M. Endonasal DCR primary and secondary. Australian and New Zealand Journal of Ophthalmology 1993; 21(3):157-9.

8) Whittet HB, Shun-Shin GA, Awdry P. Functional Endoscopic Transnasal Dacryocystorhinostomy. Eye (Lond). 1993; 7 (Pt 4):545-9.

9) Weidenbecher M, Hosemann W, Buhr W. Endoscopic Endonasal Dacryocystorhinostomy: results in 56 patients. Ann Otol Rhinol Laryngol 1994; 103:363-367.