

**Original article:**

## **Compare dacrocystorhinostomy without and with stent including complications**

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### **ABSTRACT:**

Introduction: Acute Dacrocystitis is acute inflammation of lacrimal sac sometimes with abscess due to nasolacrimal duct obstruction. The purpose of Endonasal Dacrocystorhinostomy is to drain pus/discharge and to study long term results and complications of using or without using stent. Follow up period is taken as 6 months and patency is checked by saline irrigation..

Aim: To grade the epiphora 5 point scale was used in which grade 1 to 3 was considered as success

Methodology: 80 patients were selected for study out of which overall success rate was 90% in without stent group and 95% was observed in with stent group.

Results: There was no statistically significant difference between surgical outcomes on the basis of subjective evaluation. EnDCR with stent(silicon) is preferred treatment of choice for chronic dacrocystitis with higher success rate and minimum pre operative and post operative complications.

Keywords: Chronic Dacrocystitis , endonasal DCR , Silicon Stent

### **INTRODUCTION:**

Dacrocystorhinostomy is the procedure of choice for chronic dacrocystitis .The external approach by ophthalmic surgeon was mainstay of treatment until development fibreoptic and rigid endoscopes for endonasal approach with good visualization .Caldwell was the first to attempt endonasal approach in 1893 . Endonasal approach have several advantages over external which kept it popularity increased .It is safe and more effective as external approach requires extensive dissection of lacrimal sac. It offers obviously no scar technique which gives cosmetic advantage as dacrocystitis is mainly seen in women population. It also maintain lacrimal pump action and no division of medial canthal ligament. It has become common practice for ENT Surgeons to use silicon stent at the time of DCR to overcome problem of stenosis or closure of rhinostomy.Silicon is stable and non antigenic material hence prevent stenosis.

The aim of our study to compare the long term results and complications of DCR with and without silicon stent.

#### MATERIALS AND METHODS:

The study of DCR with and without silicon stent including complications was conducted at our institutes between feb 2016 to august 2017 . Patients were referred from ophthalmology department of our institute after screening and confirmation of chronic dacryocystitis mostly secondary to nasolacrimal duct obstruction to ENT for further evaluation and management. Randomly 80 patients were selected for study with inclusion criteria of nasolacrimal duct obstruction confirmed with eye syringing by ophthalmologist. Resistance to syringing and regurgitation was observed from opposite punctum . Excluded patients : Obstruction site other than nasolacrimal duct, Lacrimal sac tumor , Post traumatic obstruction and bone deformity , After detailed history and thorough clinical examination, nasal endoscopy was done with rigid zero degree endoscope to rule out any nasal pathology and corrected wherever required .Surgery consent was taken after explaining operative procedures , its consequences and follow up schedule. Cases were investigated pre operatively for anaesthetic evaluation and fitness .Out of 80 patients, two random groups were made each of 40 .Group S was with and another group W without stent application.

Majority of patients were operated under local anaesthesia with sedation except some young patients. After achieving nasal decongestion , with help of rigid zero degree endoscope , 2% lignocaine with 1: 100000 adrenaline infiltration given over lacrimal sac area . Mucosal flap raised over lacrimal area and bone removed with Kerrison punch forcep to visualize lacrimal sac. Sac confirmed and opened with sickle knife . Anterior wall of sac opened like book flap . With sac syringing ,patency of rhinostomy confirmed. Silicon stent inserted through both punctums and 8 knots were given through nose near rhinostomy .Nasal packing done with merocel pack after achieving haemostasis. Patient was discharged next day with oral decongestants, antibiotics and antibiotic eye drop.

Follow up was explained weekly visits for first month and monthly visits for 6 months. Stent was removed endoscopically after 3 months and follow up continued. Success was evaluated in terms of grading of epiphora Grade 0 – no , 1- mild , 2 – moderate and 3 – severe and no improvement. Grade 0 and 1 are considered as a success . During final visit , sac syringing was done to confirm patency and nasal endoscopy for rhinostoma.

#### RESULTS:

In our study , 80 patients were operated endonasally for chronic dacryocystitis out of which group S with and group W without stent . Age distribution was from 11 to 62 yrs old and mean age was 36.5 for group S and 32 for group W. Out of 80 , 55 {68.75%} were female and 25 {31.25} were male . Both eyes were almost equally affected .left eye in 38 and right eye in 42 patients. 5 patients were with bilateral symptoms operated with time gap.

SYMPTOMOLOGY

SYMPTOMS	DCR -S	DCR -W	Total
Epiphora	20	22	42
Epiphora	50%	55%	52.5%
Epiphora with discharge	20	18	38
Epiphora without discharge	50%	45%	47.5%
Total	40	40	80

Pts with epiphora were 42 and epiphora with discharge were 38 that was almost equal

OUTCOME:

	DCR – S	DCR - W	TOTAL
SUCCESS	38	36	74
SUCCESS	95%	90%	92.5
FAILURE	2	4	6
FAILURE	5%	1%	7.5%
TOTAL	40	40	80

Out of 80 patients , group S patients have 95% success rate in terms of epiphora grade {complete recovery in terms of epiphora grade o-1 } i.e. 38 out of 40 .Group W have 90% success rate i.e.

36 out of 40. Patency assesment done with syringing and stoma with nasal endoscopy .Thus , patients with stents had slightly higher rate of success than without stent .

INTRA- AND POST- OPERATIVE COMPLICATIONS

Strict follow up of all patients were done to understand and evaluate the post op complications with and without stent .

No orbital fat exposure was seen in any patients. 2 patients were with stent granuloma with infection in 1 patient but no stent removal was observed.

COMPLICATIONS	GROUP - S	GROUP - W
	n – 40	n – 40
INTRAOP BLEEDING	5 {12.5%}	4 {10%}
RBITAL FAT EXPOSURE	0	0
GRANULOMA	2 {05%}	0
DISCOMFORT	6 {15%}	0
SYNECHIE	2 {05%}	2 {05%}

6 patients i.e. 15 % with stent had discomfort, treated symptomatically and relieved with stent removal .Intraop bleeding in 5 pts with stent and 4 pts without stent observed and haemostasis achieved introperatively. Synechie were observed in 2 pts in both groups and removed endoscopically with local anaesthesia. Failure was mainly due to synechie formation and stoma closure. No evidences of eye infection or canalicular trauma were observed .

#### DISCUSSION:

DCR is performed in chronic dacryocystitis mostly due to nasolacrimal obstruction . It creates rhinostomy opening between lacrimal sac and nasal cavity and ensures tear flow to avoid infection and inflammation .In our study age distribution was from 11 to 62 yrs with elderly female preponderance .out of 80, 68.75% were female probably due to anatomical narrowing of NLD . Both eyes have almost equal presentation but right slightly more may be due to greater angle between lacrimal fossa and NLD .Epiphora and epiphora with mucoid discharge have nearly equal presence i.e. 42 with epiphora and 38 with epiphora and mucoid discharge.

95% of the pts have lacrimal sac in normal position , only 5% were found difficult to locate , found mostly superior to normal position.

While discussing complications , no orbital exposure or eye infection were found . 9 pts had intraoperative bleeding which was controlled , not disturbed the results .5% pts had granulations and 15% discomfort due to stent .They were not present in W group .5% pts were presented with synechie ,found during endoscopically and removed under local anaesthesia . Finally , 95% ie 38 of S group were successful and 90% ie 36 of W group were successful in terms of grade O- 1 epiphora .Clinically S group have more success rate but statistically not . Probably stent helped to maintain rhinostoma.

#### CONCLUSION:

Chronic dacryocystitis secondary due to nasolacrimal obstruction mosly affects elderly female . Preferred treatment is endonasal DCR with stent have more success rate than without stent with minimal failure causing complications .

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