

A comparative study of external dacryocystorhinostomy with nasal endoscopic dacryocystorhinostomy

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Abstract

Comparative evaluation of external dacryocystorhinostomy with nasal endoscopic dacryocystorhinostomy was carried out at a tertiary Hospital. Total 100 cases of chronic dacryocystitis were included of which 50 were subjected to External dacryocystorhinostomy and the remaining 50 were treated by nasal endoscopic dacryocystorhinostomy. The success rate in case of endoscopic dacryocystorhinostomy was 90% (45 cases; 5 failure) whereas in intranasal external dacryocystorhinostomy was 82% (41 cases; 9 failure) The success rate was more in case of endonasal dacryocystorhinostomy as compared to external dacryocystorhinostomy. Endonasal dacryocystorhinostomy should take over in future

Key Word: external dacryocystorhinostomy, nasal endoscopic dacryocystorhinostomy.

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endonasal dacryocystorhinostomy is easy and hence widened the scope.

AIMS AND OBJECTIVES

To compare success rate of external dacryocystorhinostomy and endoscopic dacryocystorhinostomy

OBJECTIVES

1. To compare success rate of external dacryocystorhinostomy with endonasal dacryocystorhinostomy.
2. To compare incidence of complications between external dacryocystorhinostomy and endonasal dacryocystorhinostomy in form of scar formation, bleeding, epiphora, etc

100 cases were studied for surgery of which 50 cases were done by external dacryocystorhinostomy method and other 50 by endonasal dacryocystorhinostomy method.

External dacryocystorhinostomy

External DCR was the mainstay of treatment for the obstruction of lacrimal drainage system.

INTRODUCTION

Chronic dacryocystitis is because of imperfect drainage of tears through lacrimal passages and nasolacrimal duct. Medical treatment controls the infection but the definitive management of this problem consists of surgical procedure like dacryocystorhinostomy. The function of dacryocystorhinostomy is to divert lacrimal drainage into nose through an ostium into anterior part of inferior turbinate. Previously external dacryocystorhinostomy was well established as a standard surgical procedure for the treatment of complete nasolacrimal duct obstruction. The endonasal dacryocystorhinostomy surgery was described by Cadwel in 1983. Comparatively the procedure of

Applications:

1. Epiphora with complete nasolacrimal duct obstruction.
2. Acute or chronic dacryocystitis.
3. Dacryolith or lacrimal sac tumours and mucocele
4. Incomplete nasolacrimal duct obstruction or flaccid lacrimal passages.

External DCR can be carried with the use of either local or general anesthesia.

50 cases were done under local anesthesia using 1% methocaine and 2 drops of adrenaline (1:5000) or 2% xylocaine instilled into the conjunctival cul-de-sac at the medial canthus. Lignocaine 2% with adrenaline (1:200000) is injected at the following sites. At the junction of inferior orbital margin with the beginning of anterior lacrimal crest, 0.5 ml is injected subcutaneously above anterior lacrimal crest to a point 3mm above the medial palpebral tendon. Needle is withdrawn and passed up towards the lower punctum and canaliculus and 0.5 ml injected. Needle is again withdrawn and injected at right angles to the skin surface and directed posteriorly and slightly medial to a depth of 1 cm and 0.5 ml is injected around the lateral wall of the sac and lower half of lacrimal crest, then downward around the orbital opening of the lacrimal duct. Nasal Packing: The anterior nasal space is sprayed with 4% lignocaine and packed with 1.2 ml of 12.5 ribbon gauge thoroughly moistened with equal quantity of xylocaine 4% solution and adrenaline (1:1000) or 5cc of 4% xylocaine with 0.5 cc of adrenaline solution which produces vasoconstriction of surrounding mucosa and provides adequate field to visualize the sac. Straight vertical incision of 12 to 15 mm is made over nasal bridge. Curved incision along the anterior lacrimal crest exposes the sac. Bony osteum is created and then mucosal flaps are fashioned and sutured. Closure of incision follows.

Endonasal Dacrocystorhinostomy

It is a simple minimally invasive procedure well tolerated by patients and has very good results and avoids skin incision.

Advantages of endonasal dacrocystorhinostomy:

- Avoids scar and /or keloid formation.
- Can be done in case of acute dacryocystitis and tissue damage
- Tissue taken for surgery is less
- Minimum intraoperative bleeding
- Day care surgery but it requires specialized training
- It requires prolonged follow up.
- It can be done under local or general anesthesia.

In this the nasal cavity is packed with gauze strips soaked in 4% xylocaine with adrenaline, 2 amps of 1:100000 half an hour before operation which provides effective

anesthesia and bloodless field and then 1% or 2% Lidocaine with adrenaline is infiltrated on the medial portion of eyelid and medial can thus. Lateral wall of nose anterior and above the anterior attachments’ of middle turbinates is infiltrated with 2% lignocaine with 1:100000 adrenaline.

A 4 mm diameter nasal endoscope with 0 or 30 degree viewing angle provides excellent visualization. The lacrimal sac is localized .After incising the nasal mucosa, a bony osteum is created followed by closure.

MATERIALS AND METHOD

The study was done in Dr PDMMC in collaboration with ophthalmic department. Total 100 cases were operated - 50 by external approach and 50 by endonasal approach. Most of the cases were from ophthalmology department. The pre-op assessment was also done in the department of ophthalmology. ENT checkup of each and every patient was done to rule out any intranasal pathology like deviated septum, hypertrophic mucosa of inferior turbinate etc. the patency of lacrimal duct was tested by syringing using normal saline. Pre-operative fitness of all patients was done.

OBSERVATIONS AND RESULTS

Table 1: Age distribution of cases

Age	Group 1	Group 2	total
	Ext DCR	Endonasal DCR	
21-30	5	5	10
31-40	7	6	13
41-50	11	9	20
51-60	27	30	57
	50	50	100

Total number of cases in our study were 100. Maximum were in the age group of 51-60. The youngest case was of 20 year old and the oldest case was 60 year old.

Table 2: Sex distribution:

	21-30	31-40	41-50	51-60
Male	6	6	11	27
Female	4	7	09	30

Table 3: Comparison Of Success Rate

	Relief	Percentage	No relief
Ext dcr	41%	82%	9pts
Endo dcr	45%	90%	5 pts

DISCUSSION

The current study was carried out for a period of 3 yrs on 100 cases of chronic dacryocystitis. 50% cases were operated by external dacrocystorhinostomy method and 50 by endonasal dacrocystorhinostomy. The purpose of the study is to compare the success rates and complications of these two techniques. The success rate

in case of endoscopic dacryocystorhinostomy was 90% (45 cases; 5 failure) whereas in intranasal external dacryocystorhinostomy was 82% (41 cases; 9 failure)

SUMMARY AND CONCLUSION

1. Most of the patients were in the age group of 51-60 years.
2. The success rate was more in case of endonasal dacryocystorhinostomy as compared to external dacryocystorhinostomy.
3. The complications were less in endonasal dacryocystorhinostomy as compared to external dacryocystorhinostomy.
4. Endonasal dacryocystorhinostomy requires thorough training for the procedure as compared to external dacryocystorhinostomy.
5. Endonasal dacryocystorhinostomy should take over in future

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