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ORIGINAL ARTICLE

Endoscopic dacryocystrhinostomy

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Key words: dacryocystrhinostomy, endoscopic, endonasal, dacryocystitis.

Summary

Endonasal endoscopic dacryocystorhinostomy (EN-DCR) is now a well-established procedure to relieve nasolacrimal duct obstruction, becoming its domain for the ENT surgeons indispensable. **Aim**: The aim of the present study is to report the experience of the Otorhinolaryngology Department of the University of São Paulo Medical School in the management of the obstruction of the drainage of the nasolacrimal system by EN-DCR, comparing with the results in literature. **Study design:** clinical retrospective. **Material and Method**: We reviewed the medical records of 17 patients (17 eyes) that were submitted to EN-DCR between april 2001 and july 2004. We analysed: sex, age at the time of diagnosis, etiology, clinical findings, surgical technique, use of silicone tubes, follow-up and complications. **Results**: Eight men and nine women, the age range was from 29 to 79 years (mean 42.6413.1 years), mean follow-up time: 15 months, presented a lacrimal clinic with epiphora. Powered DCR was performed in 06 cases and YAG LASER in 01 patient. Silicone tubes were used in all cases and left in place mean 7.9 weeks. The surgical success rate was 82,3%. **Conclusion**: EN-DCR showed one safe technique, with advantages in relation to the external technique. So ophthalmologists and ENT physicians must work in harmony to offer more benefits to its patients.

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INTRODUCTION

Infection of the lachrymal pathways has attracted the attention of physicians for some time, however, as a result of the development of antibiotics, acute forms do not represent a life-threatening condition as they used to in the past, and at the same time the chronic forms became more prevalent.

The history of lacrimal pathway surgery dates back from Hamurabi (2,200 B.C.)[1]. Since then, techniques for treatment of lacrimal pathways have been developed, fighting against infections and restoring the transit of tears through the lacrimal system. Thus, dacryocystorhinostomy (DCR) has been the treatment of choice for cases of distal obstruction of lacrimal system (below the common canaliculi) and consists in creating an anastomosis between the lacrimal sac and the basal cavity, enabling the tear to drain to the lower meatus, relieving the symptoms.

Technological innovations and surgeries of lacrimal system that are less invasive were developed to reduce morbidity and to improve the results. Traditionally, the treatment of nasolacrimal obstruction is external DCR, frequently performed by ophthalmologists. This technique was described by Toti in 1904 and modified by Dupuy-Dutemps and Bourguet[2], with the suture of mucous flaps.

The endonasal approach was described for the first time by Caldwell in 1893[3], but it was forgotten for decades by the limited vision and the assessment of nasosinusal anatomy. The introduction of microscope and later the endoscopic techniques, associated with the close relation of lacrimal systems and the nasal fossa, have made endonasal surgical treatment of low lacrimal affections very popular among Otorhinolaryngologists[4]. Currently, endoscopic DCR is a well-accepted and established technique in the treatment of obstruction of the lacrimal sac and nasolacrimal duct[1,3,5] and its proficiency by Otorhinolaryngologists has become indispensable.

The purpose of the present article is to present the experience in endoscopic DCR of the Division of Clinical Otorhinolaryngology, HCFMUSP, comparing and discussing our results with those found in the literature.

MATERIAL AND METHODS

This study was based on the retrospective analysis of 17 medical charts of patients submitted to endoscopic DCR, admitted to the Division of Clinical Otorhinolaryngology, Hospital das Clínicas, Medical School, University of Sao Paulo, in the period between April 2001 and July 2004. Out of 17 patients (17 eyes), 8 were men (47.1%) and 9 were women (52.9%). The age at diagnosis ranged from 29 to 79 years, with mean age of 42.64 years and standard deviation of 13.1 years.

Patients were assessed according to:

a. Gender
b. Age at time of surgery
c. Etiology
d. Clinical presentation
e. Surgical technique performed (cold or laser instrument)
f. Use of silicone tube and duration of insertion
g. Number of surgeries necessary to correct
h. Some aspects of postoperative follow-up, such as the use of antibiotics and the observed complications.

The results were statistically analyzed with Fischer exact test and significance level of $p<0.05$.

Surgical technique

Procedures were performed under general anesthesia, but in one case (LASER YAG) we used local anesthesia with sedation. We preferred general anesthesia owing to greater comfort of the patients and possible correction of septal deviations, bullous and paradoxical conchae, if necessary. After topical vasoconstriction of nasal cavity with lidocaine solution at 2% with adrenaline 1:2,000, we infiltrated lidocaine 2% with adrenaline at 1:80,000 in the anterior region to the medium concha. We used 0 degree and 4mm endoscopes (Hopkins-Karl Storz). Under endoscopic visualization, we made a mucous rectangular flap with the posterior base adjacent to the medium concha, 1 cm2 subperiosteal using Sickle Knife and detacher-aspirator or Cottle. We positioned the flap posteriorly during the procedure, protecting the anterior insertion of the medium concha against traumas. After exposure of lacrimal bone and frontal process of maxilla, we created a posterior window to access the sac and expanded the window anteriorly to expose the whole width of the lacrimal sac. In 6 patients we used power-driven instruments (motor and diamond bur) and in one case we used LASER YAG. We also used cold instruments (such as chisel and hammer) to prepare a rhinostome.

The lower limit of the bone window was the insertion of the lower concha on the nasal wall. The identification of the sac was made with a probe (Bowman) and through the canaliculi, it penetrated into the sac and was pushed medially, but it could also in some occasions be visualized by digital compression of the ocular medial cantus. It is advocated to remove the whole medial wall of nasolacrimal sac with clamping or Sickle Knife. Finally we cut a U-shaped mucous flap with anterior concavity to promote first intention healing, preventing bone exposure and less formation of granulomas.

A silicone tube was passed through the superior and inferior canaliculi up to nasal fossa and fixed in the vestibule, using nylon thread 3-0, maintaining the opening of the lacrimal pathways with the nasal fossa. We did not use any type of nasal packing. Frequent irrigation