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CLINICAL RESULTS OF ENDOSCOPIC ENDONASAL DACRYOCYSTORHINOSTOMY WITH CO-PATHOSIS OF THE NOSE CAVITY

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ABSTRACT

Purpose of the study. Modification of the technique of the combined operation of endonasal endoscopic dacryocystorhinostomy (EEDCR) with simultaneous correction of intranasal structures..

Material and methods. 13 patients (18 eyes) with chronic dacryocystitis in combination with various pathologies of the nasal cavity and paranasal sinuses were examined. The age of patients ranged from 31 to 65 years, mean age 48 ± 2.5 . Concomitant pathology of the nasal cavity and paranasal sinuses: deviated septum - 4, hypertrophy of the middle turbinates - 4, combination of deviated septum with hypertrophy of the middle turbinate - 5.

Results. All patients with deformity of the nasal septum and hypertrophy of the turbinates were started with their elimination in the form of septoplasty, conchotomy, or lateroposition of the middle turbinates. Intervention on the lacrimal ducts was started after preliminary anemization with 0.1% adrenaline under the control of a KarlStors 0 and 30° endoscope. The operation was performed according to the methodology proposed by the authors of the study. In order to prevent the development of synechia of the nasal septum from the lateral wall on both sides, silicone splints were introduced into the nasal cavity and fixed with through sutures on the septum for up to 10 days. In the area of the formed dacryocystorhinostomy, in combination with tubular plasty, a silicone tube was brought into the nasal cavity, into which loose ointment swabs were additionally inserted for 1-2 days.

In the postoperative period, systemic antibiotic therapy was prescribed for 5-7 days and corticosteroids with daily toilet of the nasal cavity for 7-10 days. Splints were removed after 10 days, silicone tubes after 3-6 months. In 2 patients, a granuloma was noted, which caused episodic epiphora.

Conclusion. Careful preoperative preparation, combined operations that prevent the development of synechia using modern technologies, and good postoperative care are the main factors in the effectiveness of the treatment of this pathology.

KEYWORDS

Chronic dacryocystitis, dacryocystorhinotomy, combined operations, synechia, intranasal structures

INTRODUCTION

The problem of chronic dacryocystitis seems to be relevant to the present time, which is due to a significant number of such patients and accounts for more than 7% of all eye pathology. The most constant symptom in this disease is persistent lacrimation, less often - purulent discharge. Excess tears and lacrimation worsen vision, often reduce working capacity, limit the choice of profession, which determines not only the medical, but also the social significance of dacryocystitis. Lacrimal duct diseases (SDS) are a polyetiological pathology, where diseases of the nose and paranasal sinuses, adverse environmental factors (professional and climatic), the consequences of infectious diseases, injuries, and congenital malformations are important [4, 7, 9, 10]. The close relationship between the lacrimal apparatus of the eye and the ENT organs expands the range of possible triggers for this pathology. An exceptionally high incidence of rhinological pathology in patients with dacryocystitis is known, the rates of which reach, according to different authors, 80–97% [3].

Moreover, some authors believe that, from an anatomical point of view, SOS can be considered an integral part of the nasal cavity and paranasal sinuses [6]

Until the last decade, the scope of the most frequently performed corrective operations in the nasal cavity in the treatment of recurrent dacryocystitis was limited to submucosal resection of the nasal septum, partial or complete conchotomy, partial or complete ethmoidotomy [1, 7, 9]. The previously used technique of surgical interventions did not take into account many aspects of functional rhinosurgery, which was one of the reasons for the recurrence of dacryocystitis [1-7, 10-12]. The advent of nasal endoscopes has made endonasal approaches more accessible. Several options for endonasal endoscopic dacryocystorhinostomy (EEDCR) using mucosal flaps, monotubular or bitubular tubes and the use of conservative therapy have been described. It is imperative to find a simple and effective combined surgery for the treatment of the comorbid disorder.



The aim of this study was to modify the technique of the combined operation of endonasal endoscopic dacryocystorhinostomy (EEDCR) with simultaneous correction of intranasal structures..

MATERIAL AND METHODS

The study was conducted from 20 to 20 in the ENT clinic of the Research Institute.

The study included 13 patients (18 eyes) with dacryocystitis and obstruction of the lower tubules in combination with various pathologies of the nasal cavity. There were 4 men (30.7%), women - 9 (69.3%) aged from 31 to 65 years, mean age 48±2.5 years. Epiphora and mucopurulent discharge are their main

complaints with an average duration of 7 years. Among thirteen patients with dacryocystitis, 5 were bilateral and the remaining eight were unilateral. Regarding inferior tubular obstruction, nine had left inferior tubule obstruction and three had right inferior tubular obstruction. Of the concomitant pathology of the nasal cavity, deviated nasal septum was diagnosed in 4 patients, hypertrophy of the middle turbinates - in 4, a combination of curvature of the nasal septum with hypertrophy of the middle turbinate - in 5.

General information on 13 patients, as well as the location of lacrimal duct obstruction in combination with nasal pathology, are summarized in Table 1.

№	Age (years)	Gender	Continue validity (years)	Dacryocystitis		Nose pathology		
				Place	Side	Dev. nasal septum	hypertrophy of tur. nose	Dev. nose with hypertrophy of mid. tur.nose
1	41	W	4	Unilateral	Left side	-	+	
2	60	W	2	Bilateral	Left side	-		+
3	54	M	3	Unilateral	Left side	+		
4	65	M	8	bilateral	Left side	-		+
5	49	W	1	Unilateral	Right side	+		
6	31	M	5	bilateral	Right side			+
7	52	W	5	Unilateral	Left side		+	
8	59	W	17	Unilateral	Left side	+		



9	49	W	2	Unilateral	Right side	-	+	
10	53	W	14	bilateral	Left side			+
11	39	W	10	Unilateral	Left side	+		
12	37	M	5	Unilateral	Left side	-	+	
13	32	W	4	bilateral	Left side			+

The analysis of complaints included the following: mucopurulent discharge, which refluxed from the point of the upper tubules during washing with saline; the probe could not pass through the lacrimal bone or touch it when probing the blocked lower tubule; swelling of the inner corner of the eye with a painful symptom, aggravated by palpation, difficulty in nasal breathing

All patients during their stay in the hospital underwent general clinical, otorhinolaryngological, ophthalmological and radiological methods of examination. Depending on the presence of concomitant pathology, both of the body as a whole and the state of the intranasal structures, a list of preoperative preparation, tactics for eliminating the concomitant pathology of the nasal cavity and paranasal sinuses was determined in order to restore the patency of the lacrimal ducts as sparingly as possible.

For diagnostic purposes, the West fluorescein test (tubular) and active lacrimal-nasal test were used. The canalicular test was positive in all patients, the lacrimal-nasal test was negative. A passive tear-nasal test was

also performed. When washing the lacrimal ducts, the fluid did not pass into the nose of the

patients and flowed out with the contents of the sac through the free upper lacrimal opening. In addition, all subjects underwent CT scan, nasal endoscopy, and imaging.

All surgical interventions were performed under general endotracheal anesthesia.

RESULTS AND DISCUSSION

All patients with deformity of the nasal septum and hypertrophy of the turbinates were started with their elimination in the form of septoplasty, conchotomy, or lateroposition of the middle turbinates. So, four out of 13 patients with concomitant pathology of the nasal cavity underwent surgical treatment with septoplasty, five patients underwent septoplasty with conchotomy of the middle turbinates, two patients underwent only conchotomy with lateroposition of the middle turbinate, one patient underwent conchotomy of the middle turbinate and radiofrequency ablation of the inferior turbinate. .

Elimination of nasal septal deformity was carried out depending on the type and degree of curvature using the methods proposed by V.I. Voyachek:

"mobilization", "circular resection", "redressation", "partial submucosal resection", which allow almost completely preserving the supporting function of the nasal septum and the physiological state of the intranasal structures. Conchotomy or its combination with lateroposition or the method of radiofrequency ablation of the middle turbinates was performed with pronounced hypertrophy of their anterior ends, when it was in contact with the nasal septum precisely in the projection of the lacrimal sac. With a slight hypertrophy of the middle turbinates, either the lateroposition of the nasal turbinates or a sparing conchotomy were performed. In all cases, it was taken into account that in the postoperative period there is no close contact of the nasal septum with the lateral wall of the nasal cavity at the location of the lacrimal sac, which is the main thing for preventing the development of postoperative synechia.

Intervention on the lacrimal ducts was started after preliminary anemization with 0.1% adrenaline under the control of a Karl Storz 0 and 30° endoscope. a square mucosal flap above 8-10 mm to the gill cover of the middle turbinate was dissected with a blade. Below, the maxilla and anterior process of the maxilla were thinned with a powerful burr and then removed with Kerrison forceps to expose the entire medial wall of the lacrimal sac. The introduction of the probe from the top point into the protrusion of the medial sac allows the curved scleral knife to completely open the sac. After checking patency with saline irrigation through the superior and inferior canalicular points, the nasal mucosal flap was trimmed and repositioned to cover the open maxilla. Then, the tubular obstruction was repaired as follows: the site of the

tubular obstruction was found with a probe under a microscope, and a vertical incision of about 5 mm was made in accordance with the site of the blockage. The scar tissue over the canalicular duct was carefully removed with scissors until the probe could slide freely into the newly opened distal canalicular duct, which was identified along a vertical line to the probe inserted from the superior point. The silicone tube was inserted from the upper and lower points through the newly opened tubule into the nasal cavity and the knot was left free in the nasal cavity [8, 9]. 2-3 pairs of 8-0 absorbable sutures were placed proximal to distal around the tubule lumen and tied together. In order to prevent the development of synechia of the nasal septum, silicone splints were introduced from the lateral wall on both sides of the nasal cavity and fixed with through sutures on the nasal septum for up to 1-2 months. In the area of the formed dacryocystorhinostomy, loose ointment swabs were inserted into the nasal cavity, which were removed after 1-2 days.

All 13 patients underwent successful surgery in approximately 2 hours of surgical time. Complications associated with EE-DCR and tubular plasty included a small granuloma around the nasal mouth in 2 cases, but these complications did not lead to lacrimal drainage system re-obstruction. After more than 6 months of postoperative follow-up, the mucopurulent discharge completely disappeared in all patients, and all had a normal fluorescein dye disappearance test and an open intranasal orifice. The symptom of epiphora completely disappeared in 11 patients, and in the remaining two patients, epiphora was episodic or intermittent. Based on the results above, there was an 83% (11 out of 13) functional success rate for combined surgery.

In the postoperative period, during the first 3 postoperative days, tears were douched with dexamethasone and tobramycin once a day. The skin sutures were removed 7 days after the operation. Clots and crusts in the nasal cavity were cleaned under a nasal endoscope 2 weeks after surgery. The follow-up period was set at 10-14 days, 1, 3 and 6 months after the operation, and then once a year. Splints were removed after 10 days. The silicone tube was removed approximately 3–6 months after surgery. Slit lamp, fluorescent dye disappearance test, lacrimal douching, lacrimal endoscopy, and nasal endoscopy are the main observations for each of the follow-up periods. Success rates were calculated according to the results of EEDRT and tubular plasty at the end of the follow-up period.

judeniya. The functional success of the combined operation was mainly determined by the absence of epiphora and mucopurulent discharge and a normal test for the disappearance of the fluorescein dye. Anatomical success was mainly defined as open irrigation or probing.

Based on the foregoing, we can conclude that the issues of complex treatment (combined operations and conservative therapy) of this pathology are currently assessed as more effective, but for further improvement they require close cooperation between otorhinolaryngologists and ophthalmologists..

CONCLUSION

A modified version of endoscopic dacryocystorhinostomy improves the functional results of surgical treatment.

A comprehensive examination of patients with dacryocystitis by an ophthalmologist and an ENT doctor makes it possible to minimize the likelihood of

an error in making a diagnosis and reduce complications during surgery and in the postoperative period. Combined operation technique - correction of intranasal structures and dacryocystorhinostomy - improves visualization of the surgical field and reduces the risk of recurrence, reduces the anesthetic burden on the patient, and minimizes the stress factor for the patient.

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