ONE-FLAP DACRYOCYSTORHINOSTOMY*

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DACRYOCYSTORHINOSTOMY, the operation of choice in chronic dacryocystitis, is performed in almost all cases in this clinic by a special technique.

Toti (1904) first described the drainage of the lacrimal sac by removal of the bony wall. Kuhnt (1914) stitched the nasal mucosa to the periosteum. Ohn (1920) first sutured the nasal mucosa to the sac. The operation was modified by Dupuy-Dutemps and Bourguet (1921). Morgan (1938), Lyle (1946), Hallum (1948), and Hogan (1948) also described various methods. The epiphora which leads to constant wiping of the eyes is most annoying to the patient, and although dacryocystectomy makes the conjunctiva sterile, the tiresome symptoms of epiphora persist. Since 1956 all cases of chronic dacryocystitis have had the operation of dacryocystorhinostomy, except where it was contraindicated, as for example in the very young and the very old, or where there was bony disease. In two patients with lacrimal fistulae, the operation was performed with success.

Operative Technique

Nasal examination is performed in all cases to exclude any pathological growth or bony abnormality. Nembutal 1.5 gr. is given at bed-time on the night before the operation and again before the patient goes to the operating theatre.

Patients above the age of 18 years are operated on under local anaesthesia, but children and nervous patients are given general anaesthesia. The nose is packed with 10 per cent. cocaine and adrenaline 1:1,000 dilution, and 2 per cent. Novocaine is given by local infiltration.

Operation

The eye-lids are closed with a single suture to avoid injury to the cornea. A straight 1-inch incision is used, more on the medial side, starting between the inner canthus and the root of the nose, to avoid injury to the lacrimal sac and facial disfigurement (Fig. 1).

FIG. 1.—The incision.

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Keeping the angular vein always in mind, the incision goes deep down to the bone. Briggs's self-retaining lacrimal retractor is applied. The periosteum is incised and retracted to the medial side. The lacrimal sac is cleaned along the border of the naso-lacimal crest and is retracted to the lateral side. If complete exposure of sac is difficult, the medial palpebral ligament is cut. The inner wall of the lacrimal fossa is well exposed, and the sac retracted to the lateral side by a small retractor or by a suture at the base of the sac. A sufficiently large piece of bone is removed from the inner wall of the lacrimal fossa, using a small gouge and hammer. Before the bone is removed, Novocaine is injected into the corresponding area of the nasal mucosa so that it is lifted from its bed. Injury to the nasal mucosa is thus avoided while the bone is being removed. It is better to remove a bigger piece of bone, extending just below the ethmoid air cells up to the opening of the naso-lacrimal duct.

The lid sutures are now removed. The lower punctum is dilated, and a probe is passed which is seen bulging on the medial side of the sac. An incision is made at the lowest part of the medial wall of the sac, extending from the lower part of the base to the opening of the naso-lacrimal duct, thus dividing the sac into two parts, a larger anterior flap and a very small posterior flap. At each end of the anterior flap a small incision is made, extending to the lateral side, so the anterior flap is attached on the lateral side only (Fig. 2), and can easily be pulled towards the nasal mucosa.

A similar flap is then fashioned out of the exposed nasal mucosa, and a vertical incision is made at the most posterior point of the bony opening, extending downwards from the upper part to the lower part; at each end of this, an incision is made which extends anteriorly (Fig. 2). The nasal mucosa is only attached anteriorly, so that a single flap is formed.

FIG. 2.—Fashioning the flaps.

FIG. 3.—Suturing the flaps.

The lacrimal and nasal flaps are stitched with 6-0 silk thread (Fig. 3), but before the flaps are sutured, a probe is passed through the canaliculus to dilate it and ensure that it is patent. If the flap is too big, it is excised and prepared so that the sutures are not under excessive tension, and the stitched flaps do not sag. It is wise to anchor the flaps to the soft tissue or to the periosteum. The wound is

then irrigated with penicillin 1:5,000. The drainage tube is left in the wound from the nasal side, and is removed after 24 hours, when the wound is stitched. The eye is bandaged after applying antibiotic ointment, and the patient is nursed sitting up. The sac is syringed on the 4th day, the stitches are removed on the 6th day, and the patient is discharged with instructions to attend weekly for 2 or 3 weeks for syringing.

Discussion

The procedure is simple even when the lacrimal sac is small as the sac can so readily be stitched to the nasal mucosa. Our success rate with this procedure is 94 per cent. and has been equally good in bilateral cases (Table). The

TABLE
SUMMARY OF RESULTS IN FIFTY CASES

No. of Cases	No. of Syringings	Patency	Epiphora	Remarks
3	1	Achieved	None	Cure
26	2		None	Cure
12	4		None	Cure
2	4		++	Syringing easy
1	4		++	External granulation tissue*
3	6		None	Cure
3	7	Not achieved	++	Failure

* Epiphora subsided when granulation tissue was excised.

ages of the fifty patients ranged from 10 to 50 years. Besides the cases of chronic dacryocystitis, two cases of lacrimal fistula were operated upon, and showed surprisingly good results. The operation is not only simple but time-saving, and the only necessary precaution is to avoid making the nasal-mucosal and lacrimal flaps so big that they sag and block the passage; if the flap is too big, it can be sutured to the surrounding soft tissues.

Summary

Fifty cases of dacryocystorhinostomy are described wherein the anastomosis was made in the upper flap only. Success was attained in 94 per cent.

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