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GALVANOCAUTERY PUNCTURE IN ECTROPION AND ENTROPION *

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Ectropion and entropion, of mild degree, whether from interstitial shrinkage or from moderate cicatricial contracture, are so inefficiently remedied by our present operative measures that I have thought it desirable to present to the profession a simple procedure I have used for many years and from which I have never yet failed to secure the desired results.

There are many conditions which we can relieve by this procedure:

A. Spastic entropion or ectropion.
B. Senile or relaxed ectropion or entropion.
C. Paralytic ectropion.
D. Contraction from lachrymal irritation.
E. Contraction for old trachoma.
F. Moderate cicatricial contraction.
G. Small cicatricial distortions or dimplings.
H. Cases of trichiasis and distichiasis.

Many varieties of suture operations have been employed to relieve these conditions, but, while successful in some instances, they are quite inefficient in the larger proportion of cases.

The plastic operations often leave a scar, which is more disfiguring than the original lesion, and is, therefore, distasteful alike to both patient and surgeon.

The use of flexible collodion has proved of some value in spastic entropion following operations requiring the use of a compress bandage. A few galvanocautery punctures, however, will prove far more efficient in relieving this class of cases.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

INSTRUMENTS

The method I desire to propose requires but two instruments, a short galvanocautery point (Fig. 1), and a lid clamp (Fig. 2). The galvanocautery point should be short, rather thick and sharpened at the point so that it will puncture quickly. This avoids scarring. The lid clamp is a modification of my chalazion clamp, having a straight edge, which is a perfect guide for the

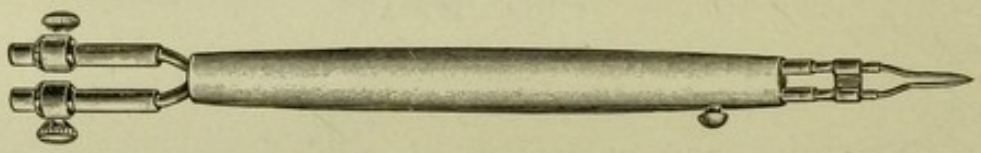

Fig. 1.—Galvanocautery handle and tip for galvanocautery puncture operation in ectropion and entropion (one-third reduction).

row of punctures. It is made with a sliding catch, instead of the Desmarres screw, which facilitates placing it in position. The clamp makes a bloodless operation, and, to a certain degree, benumbs the tissues and so lessens the pain. If no clamp is available, the ordinary Snellen lid spatula may be slipped under the lid and the margin of the lid held flat by the fixation forceps or by a double lid hook, in cases of entropion.

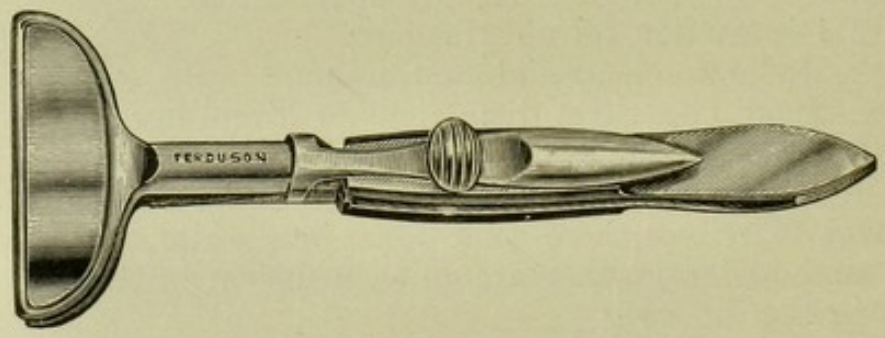

Fig. 2.—Ziegler's lid clamp for use in galvanocautery puncture of the eyelids either on conjunctival or skin surface.

The same method may be reversed in ectropion, the lid spatula being placed outside on the skin surface, and the margin drawn away from the eye by the forceps or lid hook, which is then turned back flat over the lid spatula.

NOTE: The galvanocautery is made by the Keystone Electric Co., Philadelphia, and the lid clamp by Joseph C. Ferguson, Jr., Philadelphia.

ANESTHESIA

I usually employ nothing but a 4 per cent. solution of cocain on the conjunctival surface, the pressure of the clamp causing some anesthesia. The patient may wince a little because of the glow of the cautery, the slight smoke and the momentary noise of sizzling or frying flesh, but ordinarily very little complaint is made.

In nervous, sensitive patients deeper anesthesia is required. Hypodermic injections of cocain under

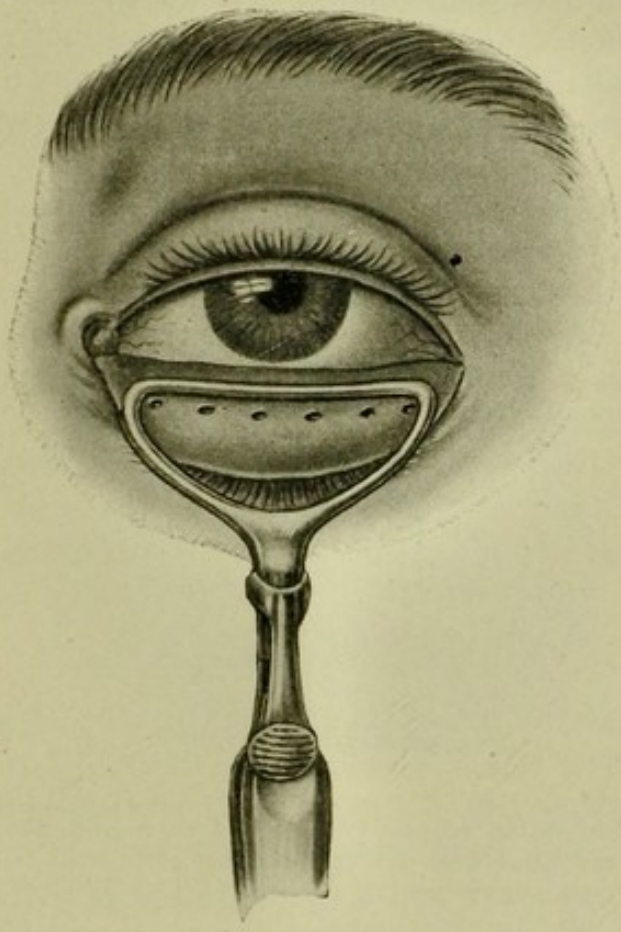

Fig. 3.—Lid clamp adjusted to case of ectropion, showing row of galvanocautery punctures on conjunctival surface.

the skin, or conjunctiva will usually cause complete local anesthesia. In entropion the skin of the lid may be slighty frozen by a spray of ethyl chlorid. In the majority of cases, however, it will be necessary to employ nitrous oxid, bromid of ethyl chloroform or ether. If ether is used it must be removed before the approach of the hot cautery point or an explosion will naturally occur.

DESCRIPTION OF OPERATION

The lid clamp is adjusted with its straight bar 6 mm. from the lid margin (Figs. 3 and 4). The galvanocautery point is applied to the surface with considerable pressure, the button on the handle is pressed down to turn on the current, while the point is quickly pushed through the cartilage and as quickly withdrawn. The punctures are made 4 mm. from the lid margin, and separated from each other by an equal interval of 4 mm. These should be made on the side on which we wish the contraction to take place, viz., the conjunctival surface in ectropion, and the skin surface in entropion. If necessary, we can repeat the procedure in a few weeks. From

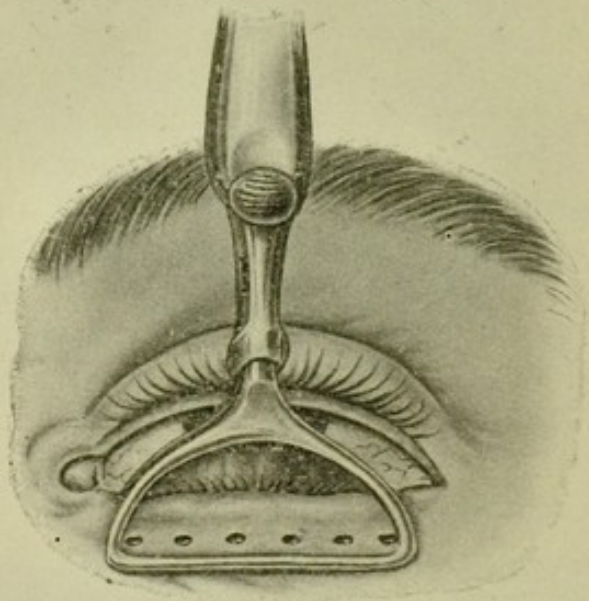

Fig. 4.—Lid clamp adjusted to case of entropion, showing row of galvanocautery punctures on skin surface.

one to three sittings will accomplish as much as a plastic operation would do.

This procedure possesses the double advantage of causing vertical contraction of the relaxed lid, and at the same time producing shrinkage and shortening of the redundant length of the lid, thus restoring the lid to its normal position.

POSTOPERATIVE REACTION

I have seldom seen any reaction. If, however, there should be cellulitis and puffing of the lid, the applica-

tion of continuous ice pads for a day or two will control this condition. I have seen one case (see Case 10) infected by the discharge of a purulent dacryocystitis. I controlled this by wrapping a small wisp of cotton on a wire applicator, dipping it into a 1 per cent. formalin solution, and twirling it around slowly in each puncture. This application was made for three successive days, in addition to the ice padding, when all signs of sloughing disappeared and healing occurred without a scar. Every case, of course, exhibits the charred eschar of the cautery but this causes no disturbance and usually clears off in about a week.

REPETITION OF THE PUNCTURE

If the result is not immediate it may be necessary to repeat the operation a second or third time at intervals of from two to four weeks, depending entirely on the amount of incurvation or of turning out to be overcome. As the procedure is under perfect control, the judgment of the operator can easily determine the number of punctures necessary to attain the desired result. In cases requiring repetition it will be better to make the punctures alternate, locating the second series between the first series.

REPORT OF CASES

I desire to relate briefly a sufficient number of cases properly to illustrate the lesions under consideration and to demonstrate the value of the galvanocautery procedure. The majority of these cases were treated at the Wills Eye Hospital, while a few were seen at the St. Joseph's Hospital or in private. I regret that more photographs of the patients were not taken in order to show more especially the results of the operation.

CASE 1. C. S. P., aged 75, suffered from senile or relaxed ectropion of lower lid, O. S., with lachrymal obstruction.

Oct. 9, 1898: Rapid dilatation, O. S.

Dec. 11, 1898: Galvanocautery puncture of conjunctival surface, lower lid, O. S.

Jan. 8, 1899: Galvanocautery puncture, O. S., repeated.

Feb. 1, 1899: Final galvanocautery puncture, O. S., which was followed by prompt and complete recovery.

CASE 2. W. T., aged 29, ectropion of lower lid from lachrymal irritation; obstruction of tear duct.

Nov. 1, 1905: Galvanocautery puncture of lower lid, O. D., and rapid dilatation of tear duct.

Dec. 9, 1905: Galvanocautery puncture, O. D., repeated.

Recovery was prompt and complete.

CASE 3. J. B., aged 66, developed senile or relaxed ectropion of the lower lid, O. S., after cataract operation. This was spastic in character.

Dec. 9, 1905: Galvanocautery puncture, O. S., followed by rapid recovery which has been permanent. The original condition is well shown in the cut, Figure 5.

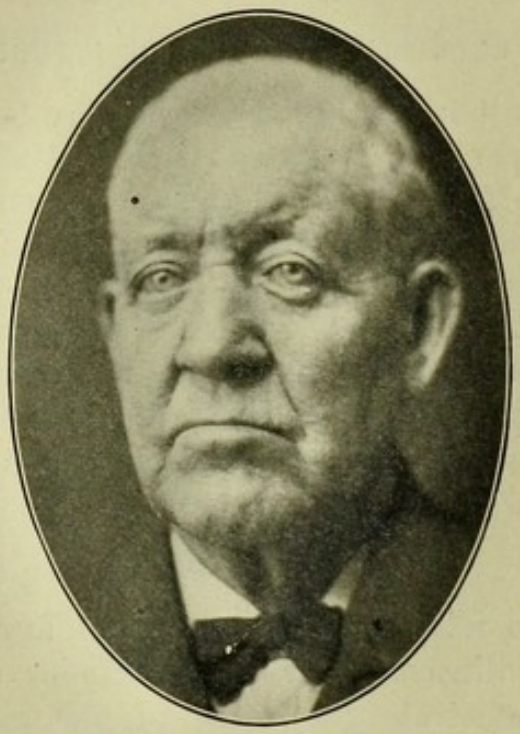

Fig. 5 (Case 3).—Spastic ectropion following cataract extraction.

CASE 4: T. R., aged 42, ectropion of lower lid with lachrymal obstruction, blepharitis and epiphora, O. S.

Jan. 3, 1906: Galvanocautery puncture, O. S., followed by Stilling's operation and insertion of lead style. The recovery was prompt and complete.

CASE 5. F. T., aged 46, cicatricial entropion of lower lid, O. S., following burn by acid, which also occluded the tear duct.

Jan. 11, 1906: Stilling's operation with lead style O. S.

Jan. 17, 1906: Galvanocautery, puncture, O. S., which drew the lid out to its normal position, the convalescence being very rapid.

CASE 6. W. H. B., aged 48, ectropion of lower lid, O. S., from lachrymal irritation, with occlusion of tear duct.

May 14, 1906: Galvanocautery puncture, O. S.

May 29, 1906: Puncture repeated.

June 25, 1906: Rapid dilatation of the tear duct, O. S. Figure 6 shows the condition before operation, May, 1906, while Figure 7 represents the condition two years later, showing that the result has been complete and permanent.

CASE 7. C. H. A., aged 35, O. D. was injured by molten metal and enucleated. The patient had relaxed ectropion of lower lid, O. D., with shallow socket.

May 27, 1907: Galvanocautery puncture, O. D., conjunctival surface.

Fig. 6 (Case 6).—Ectropion from lachrymal irritation.

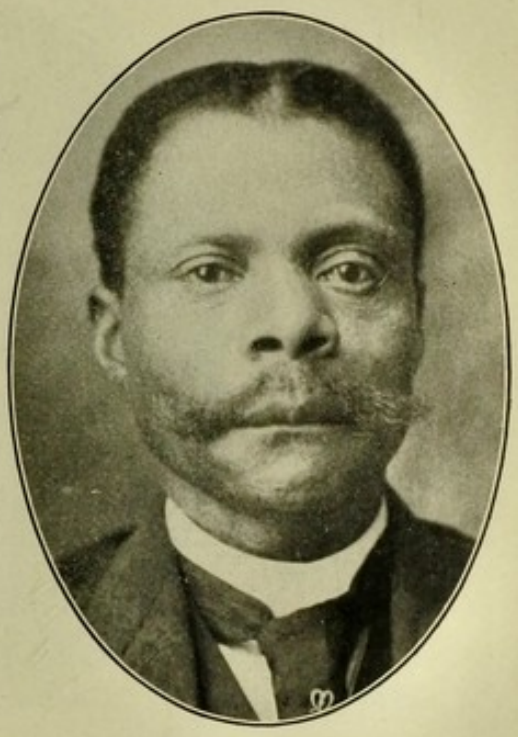

Fig. 7 (Case 6).—The same patient two years after operation.

Nov. 4, 1907: Galvanocautery puncture repeated, which brought lid into good position for wearing an artificial eye.

CASE 8. A. L., aged 33, entropion with trichiasis and lachrymal obstruction.

Nov. 1, 1907: Rapid dilatation, O^2.

Nov. 11, 1907: External canthotomy, O^2.

Nov. 22, 1907: Galvanocautery puncture of skin surface, which relieved the entropion and trichiasis.

CASE 9. D. S., aged 75, entropion with trichiasis of both lids, O^2, the sequela of trachoma; lachrymal discharge with pannus, xerosis of conjunctiva.

Nov. 11, 1907: Galvanocautery puncture of skin surface, O^2.

Dec. 18, 1907: Galvanocautery puncture, O^2, which so completely corrected the entropion and trichiasis that I was able to do a combined cataract extraction in O. S. two months later.

Case 10. T. T., aged 55, had both eyes burned by an explosion thirty years before the time of operation; had entropion, trichiasis, dacryocystitis and pannus in both eyes; also had traumatic pterygium, O^2, with cicatricial bands in O. D., which held the eye in a divergent position.

April 1, 1908: Pterygium excised; Stilling's operation with lead style in both eyes.

April 6, 1908: Galvanocautery of skin surface for entropion of upper lid, O^2.

Fig. 8 (Case 13).—Entropion and trichiasis, the sequela of trachoma, before operation.

April 22, 1908: Division of cicatricial bands of upper lid by galvanocautery incision, O. D., which freed the eye from its divergent strabismus.

April 24, 1908: Galvanocautery puncture repeated in both eyes.

May 8, 1908: Galvanocautery puncture repeated, followed by infection from dacryocystitis, which was controlled by applications of 1 per cent. formalin solution, and ice padding. This is the only case of infection I have noted.

The ultimate result of these various procedures was excellent, and the patient was discharged greatly improved in

appearance, with better vision and greater comfort than he had enjoyed for many years.

CASE 11. S. M., aged 67, has marked senile ectropion of lower lid with blepharospasm, O. D., dating back one year.

April 24, 1908: Galvanocautery puncture, O. D., conjunctival surface.

May 1, 1908: Galvanocautery puncture, O. D., repeated.

May 13, 1908: Galvanocautery puncture, O. D., the final result being a restoration of the lid to its normal position with relief of the blepharospasm.

CASE 12. W. W. G., aged 49, spastic entropion of lower lid, O. S., with lachrymal obstruction and ulcerative keratitis.

Fig. 9 (Case 14).—Congenital entropion of both lids, before operation.

May 28, 1908: Galvanocautery puncture of lower lid, O. S., with rapid dilatation of the tear duct. The convalescence was prompt and complete.

CASE 13. Miss E. G., aged 34, suffering from entropion and trichiasis of upper lid, O. S., for many years, the sequela of trachomatous contraction.

June 10, 1908: Galvanocautery puncture for entropion of upper lid, O. S.

June 24, 1908: Operation repeated.

Figure 8 shows the condition prior to operation. The result was excellent but, unfortunately, the patient was discharged from the hospital without securing a photograph showing the final condition.

CASE 14. Miss R. G., aged 9, congenital entropion of both lids of each eye, with complete inversion of eyelashes; lachrymal obstruction. Has marked habit chorea.

Feb. 17, 1908: Rapid dilatation of both tear ducts.

May 25, 1908: Galvanocautery puncture of both lids, O^2.

June 29, 1908: Operation repeated on both eyes. Marked improvement.

July 8, 1908: Final puncture, which was followed by complete relief. Examination of the patient on March 8, 1909, showed that the result was permanent.

Figure 9 represents the condition before operation.

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