unloading of the sinuses, which occurred spontaneously in one case, and was obtained in the others by appropriate intra-nasal treatment.

The gradual widening of the fields as the sinuses are drained is a source of satisfaction and encouragement to the patient, who finds in it a visual record of his progress, and the gradual disappearance of his toxic symptoms makes him the more willing to persevere.

As the sinusitis in all these cases escaped detection for long periods, in some even for years, and only became evident through the unloading of its secretion, it is not unreasonable to surmise that the same may be true of many another unexplained case of retro-bulbar neuritis. The large percentage of obscure cases may thus be substantially reduced, if not altogether eliminated.

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RECONSTRUCTION OF THE LOWER LID BY HUGHES' METHOD*

BY

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LEEDS

LOCALLY malignant neoplasms of the lower lid, unless thoroughly treated in the early stages, may start a train of consequences ending in evisceration of the orbit. Such cases, though rare, are still occasionally seen.

In a day when operations on the lacrymal sac are delegated to rhinologists, those on the lids to plastic surgeons, and those in the orbit to the neuro-surgical fraternity, it is a pleasure to pay tribute to an operation on the ocular adnexa, which not only deals effectively with such a serious condition, but is both purely ophthalmic, and relatively simple.

It is relatively easy in principle if the lower lid is destroyed or removed, to find enough skin to restore the outer layer from the cheek, and enough bulbar conjunctiva to restore the inner layer from the eye. The intermediate layer of lashes and tarsal cartilage, however, are more difficult to replace. Hughes' procedure (an

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elaboration of those of Landolt and Dupuy-Dutemps) accomplishes this.

The inventor demonstrated the procedure by cinema film in New York in 1938 to the North of England Ophthalmological tour, of which I was a member. A full description is given in the *Amer. Arch. of Ophthal.*, 1937, p. 1008.

As, judging by conversation, this operation is still little employed in this country (probably because the account in the Archives makes it appear more difficult than it really is) I felt that it might be of interest to others to record two cases dealt with in this manner.

In both these cases the left lower lid had to be removed almost entirely, on account of a basal cell carcinoma, which the Radium Department felt was unsuitable for irradiation. In the man's case the right eye was amblyopic.

The first stage of the operation is removal of the growth, and the line taken by the incision through healthy tissue to do this is marked by a dotted line in the case of the male patient (Fig. 1).

The second stage (a complete tarsorrhaphy, covering a junction of lower bulbar conjunctiva and upper tarsal plate) is well shown in the second photograph of the male patient Fig. 2). Unfortunately, he was killed by a bus shortly after this photograph was taken, and the operation could not be completed.

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6.

FIG. 7.

In the female patient (Fig. 3), I was able to graft a line of lashes into the lower lid, and to conclude the transfer of tarsal cartilage by opening the tarsorrhaphy (Figs. 4 and 5). This final stage of the operation is a little more difficult than one would suspect, owing to the difficulty of anaesthetising the inner surface of the tarsal

FIG. 8.

cartilage and conjunctiva. In future, I would always employ an intravenous anaesthetic.

Unfortunately, the eyebrow from which the graft was taken, is not a strong growth, and the new lashes are only visible on close inspection.

The vision is 6/6 in spite of a small area of punctate keratitis in the lower half of the cornea only visible with the slit-lamp.

The general cosmetic and functional result is satisfactory, however, as shown by Fig. 6, with the eye looking up, Fig. 7 with the lower lid retracted to show the depth of the fornix, and Fig. 8 with the eye closed.