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RESTORATION OF SEALED OFF FISTULAE AFTER OPERATIONS FOR GLAUCOMA SIMPLEX

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After operations for glaucoma simplex based on Lagrange's principles like Ellit's trephining, Holth's iridencleisis or Preziosi's cauther-perforation not always a lasting subconjunctival filtration is obtained. This is mostly due to the fact that the conjunctiva adheres strongly to the bulbus. This abnormal adhesion is caused by cicatrization of the subconjunctival connective tissue.

There are two categories of such failures:

A—There exists a fistula in the limbus as is shown by a cystlike bulging of the conjunctiva, imitating a filtration cushion, but this cyst is sealed off in all directions by the surrounding adherent conjunctiva.

B—No such bulging formation is developed and we may assume that the original perforation of the bulbus is also closed.

All of us will have experienced that simple repetition of the operation by trephining or by cautherisation after Preziosi ir rarely successful.

I found two methods of dealing with such cases, both based on the same principal that after diathermy coagulation cicatrices usually are weak and supple.

Here follows a description of those technics:

A—Cases with a cystlike prominence of the conjunctiva over the spot where anterior chamber has been opened by perforation of the cornea, but where the tension of the eye is nervertheless very high.

1. After anaesthesia of the conjunctiva by installation of drops of novocaine a subconjunctival injection is given of about ½ cc. of hyason (hyaluronidase of N. V. Organon - Oss). We use a fine needle, entering the conjunctiva at a spot where it does not adhere to the bulbus. During the injection the needle perforates further until the region around the cystlike formation is infiltrated. (Fig. 1).

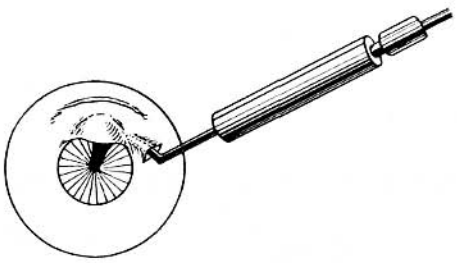

Fig. 1.

2. The follows an injection of 1% novocaine (without adrenaline!). As rule ½cc. is sufficiant.

3. A small incision in the conjunctiva is made at about the same spot, where the needle of the first injection entered in a normal mobile part of the conjunctiva. Through this small opening a special diathermy-electrode is introduced under the conjunctiva and is slowly forced subconjuntivally in the direction of the cyst with wriggling movements, whilst care is taken not to perforate the conjunctiva. The electrode has the shape of a Heine spatula as used in cyclodialysis. (*) Care should be taken that the diathermy current is relatively weak, just sufficiant to "assist" the wriggling spatula in undermining the conjunctiva and perforating the cyst, but without causing visible "white" coagulation of the conjunctiva. As soon as the cyst is opened fluid from the anterior chamber is drained off. The opening of the cyst should be made as wide as possible. It is not neccessary to close the little incision of the conjunctiva afterwards by a suture, but there is no objection against doing this.

In the next days subconjuctival injection of hyason may be repeated, but I have also seen good results without it.

In my opinion the lasting good results is due to the fact that the surface of the sclera as well as the subconjunctival tissue have been slightly coagulised by the high frequency current and this prevents a quick cicatrization and there by enabling the formation of a lasting subconjunctival fistula.

B—In case there is no cystlike formation another technique is followed. Now a flap of the conjunctiva is prepared from a large incision at about 6 mm distance from the cornea. After this the surface of the bulbus is very weakly coagulised in whole the area by gently rubbing over it a diathermy electrode under

(*) Eventually such a spatula can be used if a thick rubber tube is placed over its steel and an assistant contacts it with a diathermy electrode.

low current. (Fig. 2) Care should be taken to use a weak current as too strong coagulation might damage the eye as a whole by overheating of the vessels. On the other hand one needs not to fear a somewhat stronger coagulation in this area between cornea and ora serrata as it can only assist us in lowering the tension of the eye ("cyclodiathermia"). After this surface coagulation a new opening in the cornea is made either by trephining or by electrocautherisation. The conjunctiva is then closed in the usual manner.

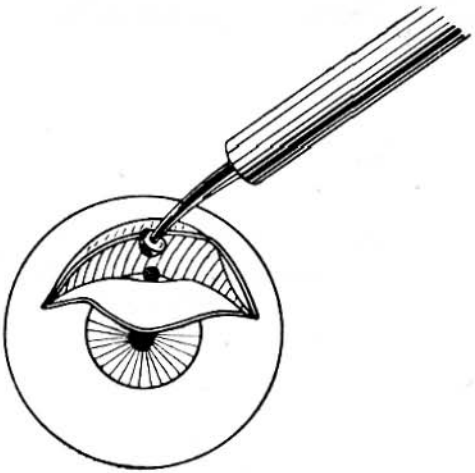

Fig. 2.

In all the cases where I have used this technique the result has been highly satisfactory even to such extent that I intend to use it as standard technique allready in the first operation of cases of glaucoma simplex.

Now and then I have observed a zone of "exudative" detachment (or was it a solutio chorioideae?) in the coagulised area, but this disappeared spontaneously within one or two weeks.

I will add a remark that may be useful. After perforating operations of the bulbus such as operations for glaucoma, cataract or detachment we usually inject subconjunctivally 25000 units of penicilline + novocaine. These injections cause strong adherance of the conjunctiva to the bulbus and therefore should never be given in the neighbourhood of filtering scars! In case of glaucoma-operations in the upper part of the bulbus we therefore give the injection of penicilline only in the lower part.

For the same reason we also avoid injection of adrenaline in the neighbourhood of filtering scars.

The number of cases treated successfully in the here described way in not large enough to give percentages, but the fact that until now we have mostly had good results seems to justify this preliminary communication of our modification of operations for glaucoma simplex.

I am well aware that this small communication, published to honour a surgeon as Prof. Ignacio Barraquer is not in proportion to his great merits, but as it seems to be of some practical value I dare nevelestheless to dedicate it to him as a small token of my great respect for his contributions to opthalmic surgery.

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