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A WATERTIGHT SUTURE IN TREPHINING

BY

R. FOSTER MOORE

LONDON

I BELIEVE it is the experience of most ophthalmic surgeons, that in a certain number of cases of trephining, a localized cyst-like bleb is formed over the trephine hole.

The development of this bleb seems to be disadvantageous in several ways.

1. The presence of a localized cystic swelling, having sharply defined limits, seems to imply that the drainage into the general subconjunctival space is not really free, and indeed I believe in many such cases it is very defective.

2. The conjunctiva forming the bleb is often thin and translucent looking, containing few vessels, and appears to offer a poor barrier between the interior of the eye and the exterior, and would seem to predispose to late infection, a rare complication in my experience.

3. The swelling itself sometimes attains sufficient size to show through the upper lid, and in cases where for special reasons it becomes desirable to trephine below the cornea, the disadvantages of such a swelling are greater.

In my last twenty-two cases of trephining I have used a method which seems to obviate these objections; a bleb is not formed, a good conjunctival covering is obtained, and a widespread area of

diffuse conjunctival infiltration results, as is shown by oedematous pitting on pressure with a glass rod.

The method consists in sewing together the edges of the original conjunctival incision with a continuous stitch: the suture should be of fine silk and preferably black. The important points are

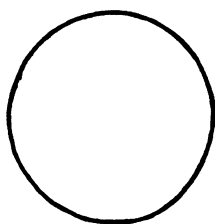
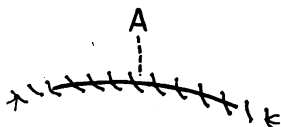


FIG. 1.

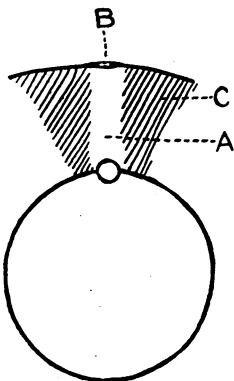


FIG. 2.

that it should be carefully and accurately applied, and that it should start and end well beyond the limits of the incision (A, Fig. 1), the whole idea being to make the wound water-tight against leakage of aqueous through it.

I suggest that the method of production of the cystic bleb is somewhat as follows:—

After the operation, the area of incision in the subconjunctival tissues is so extensive as compared with the trephine hole, that the conjunctiva is at once stuck down to the underlying sclerotic over almost the whole of the area, a very narrow track (A, Fig. 2)

being sufficient for the free escape of the aqueous into the conjunctival sac.

As healing proceeds, there comes a time when the gradually contracting hole of escape (B, Fig. 2) into the conjunctival sac becomes finally sealed; the surrounding area of the former conjunctival flap (C, Fig. 2) being by now firmly healed to the underlying coats, the track is limited by adhesions all round, becomes distended by aqueous, and so the cystic bleb is formed. If now the line of the original conjunctival incision is made water-tight at the time of operation, the flap from the very first becomes distended by the aqueous, as can be seen within a minute or two of the completion of the suture, and the surrounding subconjunctival tissues, outside the area of operation, become infiltrated so as to look as if a subconjunctival saline injection had been given.

The whole extent of the flap is thus prevented from becoming sealed down to the underlying tissues, and a wide flat area, extending wide of the area of operation, of filtration is produced, which pits on pressure with a glass rod, and which, I believe, is permanent.

I have carried out this manoeuvre on my last twenty-two cases; some of them have been done a short time only, but some of them have been watched for fifteen months, and although it is early to make a dogmatic statement, up to the present time there has been one case only in which there was the slightest indication of a bleb, and this was very slightly prominent.

There is, I believe, an additional advantage, and that is the early formation of the anterior chamber which results; it is sometimes formed in a few hours; I have seen it fully formed in eight hours. Sometimes it reforms and empties again on the fourth or fifth day, owing, I imagine, to the stitch having cut out, but it seems in these cases that the wide filtration into the tissues is established, and the tissue spaces having been opened up, continue to permit free filtration; in other cases the formation of the chamber does not appear to be hastened.

It is often a little difficult to say the precise day on which the anterior chamber is reformed, I therefore asked Mr. Baranov and Mr. Parker, House Surgeons at Moorfields, to try and form an estimate as to whether there was any shortening of the period requisite for the formation of the chamber in these cases, as compared with other cases in hospital done at about the same time by other surgeons. I can only say that their impressions confirm my belief that there is a gain in this respect.

My chief object in putting forward these incomplete observations is to induce others to give the method a trial, and so to determine its value.