BURIED MATTRESS SUTURE FOR CATARACT INCISIONS*

BY

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JOSÉ I. BARRAQUER MONER (1957) has described in detail many possible variations of buried sutures in the section for cataract extractions, and another was mentioned by Joaquín Barraquer Moner (1956). These have numerous advantages, especially reduced post-operative discomfort. The modification to be described seems to produce better apposition of the edges of the wound, and places the knot behind the limbus so that there may be less tendency for it to work through the conjunctiva.

Technique

A very fine suture (Barraquer's Spanish blue virgin silk—5 strands. 15·0—C. W. Dixey and Co.), seven inches long, is armed at each end with a 5-mm. Jameson Evans corneal needle (C. W. Dixey and Co.), or a 5-mm. No. 82 Grieshaber needle (Theodore Hamblin). Probably 000 000 catgut could be substituted. With a von Graefe knife, a corneo-sclero-conjunctival section is made (Joaquín Barraquer, 1957). A narrow-bladed knife (Grieshaber) makes the last part of the section easier to perform: when the sharp edge of the knife has almost completed the section and cut through half the thickness of the limbus, or very slightly on the scleral side of the limbus, at 12 o'clock, it should be angulated posteriorly to leave a narrow fringe of sclera attached to the corneal side of the wound; the fringe extends from approximately 11.30 to 12.30 o'clock. The manoeuvre also facilitates the making of a good conjunctival flap with a base at least from 11 to 1 o'clock.

A pair of fine forceps is used to grasp the fringe of sclera at 12 o'clock, the conjunctival flap having been reflected forwards. One needle is inserted close to the forceps' end, just far enough beyond the edge of the fringe to obtain a firm hold. A new grip of the fringe is taken with the forceps so that the second needle can be inserted symmetrically at the other side of 12 o'clock. Then the two needles are passed through points on the scleral side of the section to correspond with those on the corneal side, loops being left out (Figure, opposite) to allow the cataract extraction to be done.

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FIGURE.—Diagram of a buried silk mattress suture inserted (2 is a magnified view of the region of the scleral fringe in 1) before extraction of the cataract: view is from above. A vertical section through the tied suture is shown in 3.

So that any risk of buckling may be minimized, the antero-posterior limbs of the suture are inserted less than 1 mm. apart; for the same reason they may be placed slightly radially, *i.e.* so that their lines of direction, if produced antero-inferiorly, would meet at the centre of the cornea.

After extraction of the cataract, the suture is tied and the flap replaced. There is no riding of the anterior lip of the wound over the posterior lip, which sometimes occurs with the more usual direct type of suture, because the forces exerted by the tied mattress suture tend to press together maximally a deeper part of this necessarily shelving section (Figure). The knot, sited well behind the limbus because the track of the sutures in the sclera is quite long, has not been found to work its way through the conjunctiva.

Additional direct buried or unburied sutures may be added. In practice, it has been found advisable to insert additional sutures of the "direct" buried type on two occasions only. The mattress suture has most value if the scleral fringe has a tongue-shaped extension at 3 o'clock.

REFERENCES

- BARRAQUER, JOAQUIN (1957). *Arch. Soc. ofal. hisp.-amer.*, **17**, 666.
 BARRAQUER MONER, JOAQUIN (1956). *Amer. J. Ophthalm.*, **41**, 856.
 BARRAQUER MONER, JOSÉ I. (1957). *A.M.A. Arch. Ophthalm.*, **57**, 815.