“DOUBLE” CERCLAGE OPERATION*

A MODIFIED CERCLAGE OPERATION

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ARRUGA (1957, 1960) (quoted by Jonkers, 1961) simplified the buckling operation devised by Schepens (Schepens, Okamura, and Brockhurst, 1957), which consisted of a lamellar scleral resection and an encircling buckle of the globe with a polyethylene tube.

Arruga's procedure involved the circular compression of the globe by a nylon, supramid, or silk thread anchored in the equator or behind it, and placed in relationship to the position of the retinal hole or holes. Arruga's method, like other encircling operations, is used particularly in cases where previous procedures have failed or where there have been multiple holes or much vitreous pull. It has the advantage of being a simple and speedy procedure, but has the disadvantage, in comparison with other encircling operations, of the area of compression being narrow. The resulting buckle of sclera, choroid, and retina may not be sufficiently broad to ensure apposition of retina and choroid in the neighbourhood of the holes in certain cases. To obviate this disadvantage of a most useful procedure the cerclage operation as devised by Arruga has been modified to include a second encircling string.

Method

The conjunctiva and capsule of Tenon are opened 7–8 mm. from the limbus. Scleral coagulation by high-frequency current is performed there over the area of the holes. As usual, the first encircling string is placed immediately behind the coagulated area parallel to the limbus, the distance from which may be modified according to the situation of retinal holes or changes. The thread constituting the first encircling string is tied provisionally with a single knot. The second thread is placed anterior to the coagulated area, anchored similarly, and provisionally tied. Following release of the sub-retinal fluid the first thread is now permanently tied. The second thread is tied only after ophthalmoscopic examination shows that the position of the retina is satisfactory and that circulation in the central retinal artery is not impeded. The sclera is flattened between the two tightened sutures and the diathermized retinal area is raised on a broad buckle.

The sutures need not be entirely parallel, the distance between them being modified according to the local demands of the retinal disorder, which may include cystic changes, etc., as well as holes. Accordingly, the possibilities of varying locally the width of the raised area are much greater than in other cerclage procedures. The threads may also be tied with different degrees of tension according to requirements. Muscle resection is rarely necessary

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and in some cases, where the amount of sub-retinal fluid permits, it may be unnecessary to remove it.

This operation has been performed on 19 cases, with only one case of anatomical failure. In this case the detachment had been present for many years and there was a massive retraction of the vitreous. In a second patient, although the procedure was anatomically successful, vision was lost because of a central retinopathy which developed a few weeks after the operation and which, in healing, left an extensive cicatrix. In the other cases the procedure gave anatomical and functional successes. These cases have been followed for three to twenty months.

Summary

A modification of Arruga's cerclage operation is described. It consists of adding a second thread anterior to the coagulated area and parallel to the first thread, thus creating a broad buckle. The distance between the two anchored threads can be locally modified, should the retinal changes make this necessary.

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