Late results of cerclage operation for retinal detachment

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Developments in the surgery of retinal detachment since the time of Gonin have led from simple to more complicated methods which are not always more effective.

Among the simple methods is the cerclage operation, developed by Arruga, in which a string of Supramid thread is sewn around the eyeball on the sclera and a sharp buckle is created, thus diminishing the volume of the eye and separating the region of the holes from the healthy area of the retina.

In our department we have modified the Arruga method by using two parallel strings of Supramid sutures. They are applied after the holes have been treated with diathermy, thus achieving a more complete separation of the region of the holes from the central and peripheral areas. The holes lie between the two sutures which create a buckle which protrudes into the eye with the holes lying on the crest of the buckle.

The Figure shows the difference between the single-string and double-string methods. The single string separates the region of holes from the central part of the retina and our double strings separate the holes both from the central part of the retina and from the periphery.

FIGURE *Single cerclage (Arruga) on left. Double cerclage (Hauer) on right*

The Arruga operation is simple and does not take long to perform, and the results are as good as those of more complicated methods. Its chief disadvantage is that the suture may penetrate the sclera and enter the vitreous, thus causing a total nonoperable detachment. In the series described below this happened in only one case, that of a patient with blue sclera. Another disadvantage is the anterior segment necrosis that may follow all kinds of encircling procedures.

Present investigations

The late results of 34 cerclage operations performed in our department during the years 1962–1967 are reported in this paper. We performed the Arruga operation according to the original method in eleven cases, and used our modification in 23 complicated cases involving giant holes, multiple holes in many quadrants, or vitreous retraction. This series does not include cases without retinal tears or cases with a macular hole.

CLINICAL PARTICULARS

Most of our patients had been operated on during the first 3 years (1962 to 64) but as our enthusiasm for this type of operation waned, the number of operations diminished accordingly.

In nineteen cases this was performed as a first operation, in ten as a second, and in five as a third.

In twenty of our cases the holes were concentrated in only one quadrant, in eleven cases in two, and in three cases in three.

Most of the tears or holes were concentrated in the upper temporal quadrant (19 cases), and the smallest number was found in the lower nasal quadrant (7 cases). The two other quadrants were equally affected (13 cases).

Sixteen of our 34 were myopic and there were ten cases of aphakia.

Results

ANATOMICAL

In 28 out of 34 cases (82·3 per cent.) a permanent reattachment was achieved.

FUNCTIONAL

In five cases the visual acuity was between 6/6 and 6/10, in ten between 6/12 and 6/30, and in thirteen between 6/60 and 3/60.

In six cases the retina did not become reattached and blindness ensued.

In one case the string penetrated the eyeball, in three the operation was complicated by anterior segment necrosis, in one there was a massive vitreous retraction, and in the last there was a very old detachment with fixed folds.

Summary

The Arruga method of cerclage operation has been modified in our department by using two encircling Supramid sutures instead of a single one in order to isolate the region of holes from both the central and the peripheral parts of the retina.

Although many new methods of operation for retinal detachment have been developed, the postoperative results of the simple cerclage method are no worse than those of the newer methods from the functional and anatomical points of view.

In 34 cerclage operations carried out in our department from 1962 to 1967 in cases of severe retinal detachment, giant holes, multiple holes, and vitreous retraction, good results with full reattachment of the retina were obtained in 28 (82·3 per cent.)

Reference

HAUER, Y. (1965) *Brit. J. Ophthalm.*, **49**, 212