MODIFICATION IN INTRA-OCULAR ACRYLIC LENS SURGERY*

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HAVING read Mr. Harold Ridley's article on "Further Experiences of Intra-ocular Acrylic Lens Surgery" (Ridley, 1954), one cannot but feel on reflection that this great advance in cataract surgery is bound, in time, to become an accepted procedure within the capabilities of any ophthalmic surgeon. Any modification of it, therefore, which would tend to make it simpler or safer, should perhaps help toward this end, and it is with this object that I am tempted to present one case where the original form of operation was departed from in order to secure certain advantages.

It appeared firstly that the insertion of an intra-ocular acrylic lens would be easier if a complete iridectomy were performed, thus avoiding the manipulation of the lens through a round pupil, and, secondly, that an intracapsular extraction would be preferable if the dangers of prolapse into the vitreous at operation, or later, could be done away with.

In regard to this second point, Ridley mentions that intracapsular operation has been given up owing to this danger of prolapse of the acrylic lens into the vitreous. It would, I feel, be a matter for regret if, after having over the last 10 to 15 years perfected the technique of intracapsular extraction, we had to revert to the extracapsular method in order to take advantage of the great advance he has introduced.

To try to meet the two problems described, I fell back on previous experiments with tantalum drains in glaucoma.

My experience with these over some years had shown the exceptional tolerance of the eye towards this metal and I thought it might be worth while to make use of this. At my request Messrs. John Weiss supplied me with a modified form of the acrylic lens as shown in Fig. 1. Two small triangular pieces were cut from the rim of the lens (A and A₁), and the portion of the lens between these two areas was drilled through from side to side (B). A fine tantalum

FIG. 1.—Modified acrylic lens with tantalum wire *in situ*.

FIG. 2.—Side view of lens and tantalum wire.

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wire, diameter .015 in., was then threaded through the drill hole (this was quite a loose fit), and the ends were bent up as shown. In addition, the two wires were also bent backwards as shown in Fig. 2.

With regard to the operation itself: a fairly wide conjunctival flap was cut and dissected to the limbus and a mattress corneoscleral suture inserted. With keratome and scissors a section was made as far back as possible. Following a complete iridectomy and an intracapsular extraction, the acrylic lens was inserted. The handling of the two fine wires was rather difficult, but they were finally smoothed down on the sclera and secured under the corneoscleral suture when that was tied. The wires were cut as short as was consistent with safety and the conjunctival flap sutured down over them (Fig. 3). It was hoped that, in section, the lens and wires would assume the position shown in Fig. 4.

FIG. 3.—Lens in position in the eye, front view.

FIG. 4.—Lens in position in the eye, side view.

There was the usual reaction and, in spite of cortisone, etc., the pupil became occluded, but the reaction finally settled down and the eye became quiet—at least, intra-ocularly. Externally, there was some trouble with the ends of the wires which would persist in turning up through the conjunctiva and causing marked irritation. The ends had to be snipped off twice before the whole eye settled well with the wire firmly sealed in the healed wound.

An iridotomy was carried out later.

The patient was a man of 79 and when he was eventually supplied with lenses, vision reached 6/6 partly and J.1. An interesting feature was that he needed a $\frac{-6}{+3 \text{ Ca } 170^\circ}$ to give him 6/6 partly, whereas the correction with this eye in 1952 was $\frac{+3}{+0.5 \text{ Ca } 90^\circ}$.

There is probably some way in which a single wire might be used instead of having two ends to deal with and this would be simpler to handle. There

are also probably better methods of attachment, etc. However, in this particular case the acrylic lens is fulfilling its function as far as one can see and seems safely fixed in place against prolapse into the anterior chamber or into the vitreous.

I am fully aware that the operation described is somewhat more complicated and "messy" than the straightforward insertion of the lens, but it is published in the hope that it may perhaps open up an avenue for the further advance of this latest development in cataract extraction.

REFERENCES

- PARRY, T. G. WYNNE (1950). *British Journal of Ophthalmology*, **34**, 684.
RIDLEY, H. (1954). *Ibid.*, **38**, 156.