Diathermo—trabeculotomy *ab externo* A new technique for opening the canal of Schlemm

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The experience of recent years has shown that trabeculotomy *ab externo* is a valid and safe technique for the surgical treatment of congenital and open-angle glaucoma; however, in some cases, after a variable period of time, the surgical opening closes with consequent loss in effectiveness of the operation.

Diathermo-trabeculotomy has been devised to avoid this complication. It is based on the concept that diathermy delays or prevents the normal process of scar tissue formation. A trabeculotome has been designed which acts as an electric scalpel on the inner wall of Schlemm's canal.

Material and methods

An electro-surgical unit of high frequency is used

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(modulation 500 KHz; frequency 1.7 MHz) with power varying from 5.2 to 35 watts and with voltage from V.50 to V.125, using ideally 7 watts and 60 volts.

This diathermy unit is connected by an electric cable to a trabeculotome, the shaft of which is covered by insulating material (Fig. 1).

The part of the trabeculotome which is introduced into Schlemm's canal is completely insulated and protected by a special varnish, leaving uncovered only that part which comes into contact with the canal wall on the trabecular meshwork side (Fig. 2). The varnish is silicone-based and has an anti-corona effect up to 15 000 volts for impulses of 0.1 s.

The surgeon may use whichever technique of trabeculotomy *ab externo* he prefers.

Schlemm's canal having been found, the trabeculotome is introduced and rotation attempted, until the point appears in the anterior chamber. The electric current is then turned on as the trabeculotome is forced into the anterior chamber (Fig. 3). The current is switched off and a trabeculotomy is fashioned in the other half of the canal in a similar way.

FIG. 1 A general view of the diathermy unit connected with the trabeculotome

FIG. 3 The trabeculotome is introduced into Schlemm's canal and rotation is started until its point (hatched) appears in the anterior chamber

FIG. 2 (left) The part of the trabeculotome which is uncovered (hatched) comes in contact with the inner wall of Schlemm's canal