LOCALIZATION OF THE RETINAL HOLE

THE LOCALIZATION OF THE RETINAL HOLE

BY

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UTRECHT

The accurate localization of a point seen ophthalmoscopically in the fundus and its projection on the outer surface of the sclera is difficult but of vital importance in the surgical treatment of retinal detachments.

Several methods have been elaborated to attain accuracy and the fact that different surgeons still use various methods shows that none of these supplies every want.

The different methods used are summed up in the third edition of Duke-Elder's Recent Advances as far as 1934. During the year 1935 some papers have been published about this problem, among which I want especially to mention that of Dr. Strampelli (Paris Congress, 1935).

As evidently the question is still unsettled, I want to describe a method which I have been using for some time.

In principle a small pencil of light is placed on the outer wall of the sclera and moved until the right spot is reached. This is made possible in a better way than before by means of a special shape of transilluminator.

A glass bar of a thickness of 3 mm. is pulled out and bent in three different dimensions (see photo). At one end there remains a thickening in the form of a flattened knob, the stem varies in thickness between 2 to 1.5 mm. This little bar is now first silvered and afterwards varnished with a lacquer which stands boiling. Furthermore, it has a very narrow lumen, through which a wire of platinum is drawn, which just projects out of the flattened knob. Over a small surface with a diameter of about 1 mm. round about the spot where the wire projects out of the glass bar the cover of silver and varnish is scratched off.
By means of a screw-tap the other end of the bar is made to fit exactly an electric ophthalmoscope after Simon, which is very commonly used on the continent. The wire of platinum which runs through the bar is led out of this separately and well insulated.

The light of the ophthalmoscope is now totally reflected by the silvered walls of the bar and finally is stored in the flattened knob out of which it is only allowed to come through the small opening where the cover is scratched off. Here it appears as a small but rather intensive pencil of light.

The fitting on the ophthalmoscope does not allow any light to come out. This particular shape of the glass bar makes it not only possible but even easy to reach on the outer wall of the globe any spot wanted, even if we want to localize a spot which is situated rather far from the limbus corneae or underneath one of the muscles of the globe. It is not even necessary to loosen the muscle. The only thing necessary is to loosen the conjunctiva, this done, any spot on the sclera is in reach of the end of our little bar.

Now the method of clinical use is as follows: After loosening the conjunctiva the globe is rotated in such a manner, as is most convenient for the surgeon who wants to control the hole in the retina by means of his ophthalmoscope.
GENERAL MEDICINE

Now the transilluminator is pressed against the wall of the globe somewhere about the right spot, which may be done by any assistant or nurse. Whilst ophthalmoscoping, the surgeon gets in view the light of the transilluminator which penetrates the sclera. He is then able to direct this light in such a way that it coincides with the spot of the retina which must be treated. If, finally, this is the case the surgeon allows a diathermic current to run through the wire of platinum by means of a foot-circuit-closer. By doing so a small burned spot on the sclera will mark the exact spot of the centre of his pencil of light. The apparatus is now taken away and the therapeutic diathermic current is applied, either surface coagulation alone or combined with perforation, depending on the case. After treatment the instrument is useful for control of the results.

Why not go one step further and make a sort of "Universal instrument," by which it would be possible to apply at once the necessary amount of diathermic current at the same time as marking the exact spot?

This question was asked by Professor Weve when I showed him the apparatus. Weve made such an instrument in which the wire of platinum was made movable so that it could also be used for perforation, but for this purpose it was necessary to change the particular shape of the glass bar and to make it much thicker and less curved. By doing so it becomes less practical. After some experiments we abandoned this idea. The apparatus should only be used for marking, not at the same time for therapeutic purposes.

I have been using this instrument in private work for over a year and have obtained satisfactory results.

ABSTRACTS

I.—GENERAL MEDICINE


(1) Kreibig holds that apart from orbital and retinal infiltration, leukaemia also gives characteristic conjunctival lesions. They are of particular significance as they may be the first manifestation of the disease. His article is based on isolated cases reported
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