

# The Treatment of Detachment of the Retina

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UNTIL recent years, detachment of the retina was a distressing eye lesion, which usually led on to blindness.

By careful and painstaking work, a Swiss surgeon, Gonin, proved that by means of operation a certain percentage of selected cases can be cured.

In this short paper I propose to discuss briefly the conditions of retinal detachment and give the results of my own efforts.

By detachment of the retina we mean really a separation of the two primitive retinal layers, so that the pigmented epithelium remains adherent to the choroid, and the inner retinal strata of cells and fibres are separated from it.

The simplest way to try to follow the mechanism of retinal detachment, is to assume that there are two main groups. The retina may be either :

- (a) Pushed in from without (tumours, cysts, hæmorrhages, inflammation).
- (b) "Floated in," when it has a hole or tear in it.

In the former group no operative interference is called for, except to remove the eye if a malignant tumour is present. The cases due to inflammatory exudates may clear up when the inflammatory lesion subsides, while hæmorrhages may become absorbed. These detachments have a solid appearance, and do not seem to float freely. If an accurate history can be obtained (often a difficult thing), it will be found that the visual loss is a gradually increasing area of blindness. In cases of neoplasm the intraocular tension may be raised. The differential diagnosis of the true pathology of the lesion may be extremely difficult, especially in the early stages.

In the second group (when the retina is "floated in") the detachments are, as a rule, spontaneous. It is in this group that operation should always be considered. A sudden or spontaneous onset was found in fifty-two per cent. of a series of cases reported by Stallard.

While in Stockholm some years ago, Professor Nordenson stated to us, that in a series of 1,100 patients with spontaneous detachment of the retina, eighty per cent. were myopic, and of these, fifty per cent. were over 50 years of age.

Now, about fifteen per cent. of all eyes are myopic, but it is usually only the highly myopic which are liable to suffer from detachment of the retina.

The above figures show how important it is to prevent myopia, or at least check its advance, especially in school children, and so prevent consequent ocular degeneration.

The old saying that a short-sighted eye is too long, sums up the pathology. The stretching of the eye causes a thinning of the retina, which becomes atropic, and the vitreous degenerates. As a result, both retina and vitreous are very susceptible to toxic or circulatory disturbances and minor degrees of trauma, which can cause rents or apertures in the degenerate retina.

Lister states that if we can substantiate a history of sudden loss of sight from

detachment of the retina, even though a hole cannot be seen, we know that a hole must be present, and we can with equal certainty exclude a growth. A hole, however, may be present without a detachment, especially in the macula area.

As a rule, a hole in the retina will appear as a red area, darker than the normal fundus, lying in the grey area of detached retina. Tears are gaping with edges everted. In the late stages, with retina degenerating, a tear may become difficult to detect.

Vogt distinguishes retinal holes from retinal tears. Holes, he states, are due to the tearing away of a disc-like area of the atropic retina by an adherent and degenerative vitreous framework.

Tears occur near the ora-serrata (the thinnest part of the retina), and result from bodily effort or contusion. As a rule they are situated at the upper pole of the eye, and so it is here that the detachment will first occur.

During the last war a committee appointed by the Ophthalmological Society of the United Kingdom to report on the results of treatment of detachment of the retina associated with a hole, recorded no case of cure by surgical treatment, and only in very rare instances by rest.

An article by Sir William Lister in *B.M.J.*, December, 1927, states that treatment, as at present devised, in cases of detachment with holes is practically valueless. In 1925, however, Gonin stated that as a result of thermo-cauterization he had had more cures in three or four years than in the previous twenty-five years. From this method his new operation developed.

The first essential is to be able to find the hole or tear in the retina. Most surgeons agree that this constitutes the greatest difficulty in many cases. Even with a widely dilated pupil and a most careful search one may be unable to find the hole at the first attempt. It is then advisable to put patient to bed and continue search on subsequent days.

The second essential is to localise the tear, that is, to be able to visualise the point on the sclera which will be opposite the tear when the retina is reattached (i.e., the point on the sclera at which to operate).

The third essential is to close the tear. Originally the thermo-cautery was used, but to-day diathermy is the method of choice, though some schools prefer electrolysis.

Under local anæsthesia the sclera is exposed over the area involved. It is frequently necessary to resect one of the recti muscles in order to do this, resuturing it at the end of the operation.

Larsson devised a small, blunt-ended terminal, by which he applies diathermy to the scleral area. He next removes a small  $1\frac{1}{2}$ -millimetre disc of sclera by means of a trephine. Through this scleral aperture the subretinal fluid is drained away by inserting a fine probe through the choroid.

Säfar in Vienna inserted small pins (like minute tacks) through the sclera by means of diathermy. Up to twenty pins may be inserted and then removed. Through these apertures the subretinal fluid drains away. I watched him working while in Vienna some years ago, and his results then appeared to be very good.

To-day a combination of the two methods is frequently tried, and while in America this summer I found that that was their method of choice.

Turning to my own results: The Belfast Ophthalmic Hospital was the first hospital in Ireland to have the necessary diathermy apparatus, and since 1936 I have operated on nine out of fourteen cases of retinal detachment which came under my care.

The five cases where no operation was undertaken included one new growth, one hæmorrhagic case from raised blood-pressure, one case of choroiditis, one large and longstanding detachment, and one case in which the patient refused operation.

In the nine cases where operation was performed, four of these got complete reattachment of the retina and very good vision; two got partial reattachment and retained some vision; while the remaining three were unsuccessful.

That is, about fifty per cent. success in unselected cases as regards duration of detachment, which is obviously an important factor.

When one considers Lister's remarks of twelve years ago, this is certainly a big step forwards in a previously hopeless lesion.

To quote one case as an example:—

A school teacher aged 43 years. First seen August, 1937. History of loss of sight in right eye for five days. On examination, I found a large retinal detachment in upper outer quadrant and a tear close to the periphery. Operation was performed the next day, diathermy being applied, after the superior rectus had been divided. Last seen in September, 1939, when patient's vision with suitable glasses was 6/9 part in the operated eye. The detached area has remained completely reattached, and one can see the scarring in retina and choroid around the area where the hole was situated. In this case there were four dioptries of myopia combined with two dioptries of myopic astigmatism.

## Hearing Aids and Social Problems of the Deaf

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THE deaf are very numerous; and for the most part are neglected both by the medical profession and the charitable, unless they happen to have been deaf and dumb as children. The "hard of hearing" include the old ladies who do not hear when they are addressed unexpectedly, but who can overhear things they are not meant to when they are paying attention, and the senior gentlemen who complain that the elocution of actors is not what it was in their young days; also the families and individuals who develop otosclerosis, first noticeable in their twenties, and inconvenient by the time the forties are reached. Further, there are the people whose middle ears have scarred after a period of inflammation, some of them children whose defective hearing may be too slight to detect easily in a rapid school medical examination, and occasionally mistaken for a mental defect.

### THE INSTRUMENTS.

Hearing aids are surgical appliances, but they have not yet been generally