DISTENSION RETINAL DETACHMENT*

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IN the investigation of retinal detachment much time is devoted to the search for holes and, if this is unsuccessful or the site of detachment is unusual, the primary cause for the secondary separation is sought.

The following case was felt to be unusual and worthy of recording.

Case Report

A married woman aged 76 years gave a history of left visual loss for 2 days. There had been no pain, but streaks of light had been noted to cross the vision from left to right.

There had been no previous eye trouble and her general health was good, apart from phlebitis in the left leg 6 months previously, and "head pulsations" for 10 years which had been investigated by a neurologist, no abnormality being found except osteoporosis of the bones of the skull.

Examination.—The visual acuity in the right eye was 6/18 unaided and the left counting fingers at 1 metre. The ocular movements were full and the lids and lacrimal apparatus normal clinically. The corneae were clear and the pupils equal and active, with no evidence of anterior uveitis. The intra-ocular tension was not raised.

The right fundus showed moderate choroidal sclerosis and there were scattered colloid bodies but otherwise no abnormality and the optic disc had no pathology.

The left fundus showed an obvious lower-third retinal detachment, involving mainly the temporal side and extending up to an irregular peripheral area of gyrate-shaped atrophy which was not detached (Fig. 1, opposite).

Repeated examination of the fundus gave no clue to the site of a possible hole and the detached retina had, if anything, a somewhat cystic appearance, so that it was felt that this might be a case of cystic degeneration secondary to peripheral atrophy, and that the cyst had itself been followed by some secondary detachment.

A few days later the patient was seen in the Retinal Detachment Clinic at Moorfields Eye Hospital, High Holborn, and the interpretation from the fundus examination was that of an old area of choroiditis and of a separation secondary, either to the scar, or to a cystic change in the 2 o'clock area where a fixed fold was noted to be situated.

After 5 days of rest in bed and double-padding, the retina showed no signs of flattening at all and operation under general anaesthesia was undertaken.

Operation.—Having opened the conjunctiva and separated back to the belly of the lateral rectus (Fig. 2, opposite), it became apparent that the so-called area of atrophy or old choroiditis was in fact a large equatorial staphyloma, extending from 11.30 to 3 o'clock, and extending from about 11 to 16 mm. back from the limbus as marked by the pointer in the photograph.

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FIG. 1.—Schematic representation of retinal detachment when first seen.

FIG. 2.—Equatorial staphyloma about to be exposed above the hooked lateral rectus.

Having assessed the situation, it was decided to do a small scleral resection below to obtain chorio-retinal contact and adhesion, together with strengthening of the ectatic area, thus reducing the contour to as flat a state as possible (see Fig. 3). It was felt that failure to rectify the staphylomatous area would only precipitate a further detachment sooner or later.

FIG. 3.—External representation of operative procedure.

The thinned area of sclera was therefore overlaid with amniotic membrane which was to hand, and this in turn was covered with a thick strip of silicone rod. Indirect mattress sutures were then contrived across both the former, and tightened so that the underlying sclera was judged to be flat, or even slightly indented.

Result.—At the end of operation the retina appeared flat and the patient returned to the ward, but unfortunately she developed a fulminating pneumonitis and died precipitately.

Pathological Examination

The surgical specimen thus became available and was examined by Prof. Norman Ashton, who sent the following report:

“On microscopical examination a small area of corneal epithelium is denuded, and the angle is open. In the plane of the section the nasal pole of the lens is subluxated forward,*

* It must be admitted that the subluxated lens was not noted at the end of the operation (see Fig. 4, opposite).

FIG. 4.—Section of left eye.

over-riding the pupillary margin on that side, blocking the pupil, and resulting in the forward displacement of the temporal iris leaf. With the exception of the operative site the choroid and sclera are not remarkable, and the retina shows only anterior cystoid degeneration. The retina appeared to be *in situ*, with the exception of a few small folds, when the eye was opened.

Microscopically the retina is closely applied to the scleral buckle, but under the remainder a small quantity of eosinophilic sub-retinal material remains. The prominent scleral buckle has been produced at the operative site by a silicone implant over amniotic membrane. There, and at the opposite side where a scleral infolding was performed, the retina is closely applied to the choroid but there is only a very slight inflammatory response. At the buckle the sclera is only one-third of the normal thickness, but is otherwise not remarkable.

Retinal detachment.

Scleral buckling operation with silicone and amniotic membrane implant.

Subluxation of the lens."

Discussion

On consideration of the local pathology the history seems to be in keeping with a fresh detachment of recent origin. However, the fixed fold seen in the retina would indicate that some change, probably cystic, had occurred before this; and the thinning of the sclera with no reaction must have been a gradual process occupying a certain length of time.

Operation was the best and only form of positive treatment that could benefit the patient. The possibility of a chronic inflammatory condition of the sclera giving rise to ectasia (such as Wegener's granulomatosis, or scleromalacia) was considered, but there was no evidence of ocular inflammation at any time, nor any corroborative evidence in the systemic organs.

The most likely cause of the staphyloma would therefore appear to have been a senile degeneration of the sclera, possibly related to a vortex vein since it occurred in the equatorial region.

As regards therapy the method used appeared to have success over the 24-hour period of survival, but a more natural substance to cover the staphylomatous area would have been a homograft, such as fascia lata.

Summary

A case of retinal detachment associated with staphyloma is presented and the operative procedure and pathological examination are described.

My thanks are extended to the Hon. G. J. O. Bridgeman under whose care the patient was and to the Nursing Staff of St. George's Hospital; also to the Retinal Detachment Clinic at Moorfields Eye Hospital; and to Prof. Norman Ashton who reported on the pathological specimen.

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