IRIDOSCHISIS IN A CASE OF CHRONIC
PRIMARY GLAUCOMA*

BY

R. RAMSAY GARDEN *and* A. R. WEAR

BRISTOL

THE term *iridoschisis* was adopted by Loewenstein and Foster (*Brit. J. Ophthalm.*, 29, 277, 1945), for a rare type of iris atrophy of which ten previous cases have so far been recorded. With the exception of two cases aged 46 and 51 years, both regarded as traumatic, all the patients were between the ages of 65 and 94 years.

Shortly after the appearance of the article on a further case of this condition by Loewenstein, Foster and Sledge (*Brit. J. Ophthalm.*, 32, 129, 1948), a patient attended the Bristol Eye Hospital showing to an advanced degree the changes they described. In view of the comparative rarity of the clinical picture, the case, along with a drawing seems worth recording.

FIG. 1.

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History

The patient, a retired regular soldier, aged 75 years, first attended as an out-patient on March 15, 1944, complaining of failing right vision for some months. At that time he had glaucomatous cupping of the right disc, on which could be seen spontaneous asynchronous arterial and venous pulsation. Corrected vision was R. and L. 6/9; tension R. 100 mm. Hg, L. 36 mm. Hg (Schiötz). Right visual field was markedly contracted and of the glaucomatous type; left visual field was full.

After treatment with pilocarpine drops, the right eye was trephined in the usual way, with peripheral iridectomy, on March 30. The left eye was kept on eserine drops 1 per cent. b.d. and the tension in both eyes remained within normal limits from then onwards, the trephined eye having a rather lower tension for about 12 months.

Although showing no increased intra-ocular pressure, the right eye gradually deteriorated in vision—by July, 1945, to 6/18, and by November, 1946, to 6/60, and there was a gradual reduction of the field almost to the fixation point. Pilocarpine drops 1 per cent. b.d. have been used in this eye since November, 1946.

Clinical picture

On March 5, 1948, it was noted for the first time that the anterior layer of the right iris was atrophied in its lower half, with strands of stroma floating forward into the anterior chamber, having broken off just peripheral to the pupillary border. The ends curled forward and were in some cases adherent to the posterior surface of the cornea. No ectropion of the uvea or visible blood vessels in the strands could be seen; the broken strands and adjacent areas of the stroma were finely peppered with brown pigment. The upper half of the iris, including the peripheral iridectomy, appeared to be unaffected. Tension was normal in each eye, the lenses clear, and the left field full. Vision was R. 1/60, L. 6/9, Wassermann reaction and Kahn were negative.

The suggestion was made that the separation of the iris layers might be due to aqueous seeping down through the iridectomy, but, after the patient had lain on a couch for half-an-hour with the lower end well raised, no change in the iris was noted.

Since March there has been a gradual progression of the condition, and in July large sheets of stroma were found to be detached from the pigment layer, leaving it and the outline of the sphincter pupillae clearly visible; the latter was apparently unaffected by the atrophy. Opacities of the lens are now beginning to appear.

Discussion

The case described belongs to the older age-group in which there was no history of recent trauma to the eye, and would appear to

support Loewenstein and Foster's idea that "the basic change is senile but the process may be aggravated by proteolytic enzymes (lysins) in the aqueous, the product of glaucomatous metabolism." Long-standing glaucoma may lead to iris atrophy and shrinkage of anterior stromal fibres with consequent development of ectropion uveae in many cases. In the case under discussion, however, the pupil has been kept in a state of miosis for fifteen months, and theoretically the taut radial fibres of the iris might rupture as they gradually weakened, instead of producing ectropion uveae. Fixation of the pupil margin by posterior synechiae (as in the first case described by these authors) might conceivably have a similar effect.

The fact that the lower half of the iris is mostly involved in the reported cases of iridoschisis may, as Vogt suggested, be due to gravity, but another possibility is that convection currents in the anterior chamber play a part.

A NOTE ON THE EFFECT OF SLEEP ON GLAUCOMA*

BY

E. M. G. GALTON

LONDON

A DISCUSSION arose in out-patients concerning the effect of sleep on the symptoms associated with a rise in tension in cases under observation for suspected glaucoma. Such varied opinions were put forward and so many different authorities were quoted in support of them, that it was considered worth while to submit the subject to criticism.

A patient who has once had an attack of raised tension, discomfort or even pain in the eye accompanied by blurring of vision during the daytime, or by the appearance of haloes round lights at night, can always recognise a second one as being similar. An attack will often start in the evening when the patient is tired and has settled down to read or sew. She will often volunteer the statement that if she goes to sleep the attack is relieved and she awakes refreshed in the morning.

This clinical observation has been known for many years. Fuchs recorded it in his famous Handbook¹ thus: "When the attacks come on in the evening they always cease with sleep; during the day also, an attack can be interrupted by going to sleep." The point is ignored in most of the modern text-books and the apparent conflict between it and the diurnal variations in the intra-ocular pressure are not discussed.

It is well established that in a normal eye the tension is lowest

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