Mathematical treatment of fluid absorption by a vessel under combined osmotic and hydrostatic action shows that if the diluting effect of the absorbed fluid is not insignificant, a certain absolute as well as relative stability of fluid absorption will obtain, in spite of changes in the hydrostatic pressure relations.

5. The results indicate the existence of an aqueous drainage mechanism which tends to keep the rate of aqueous flow constant even at the expense of the stability of the intra-ocular pressure. Such a mechanism could be significant from the point of view of the lens.

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A CASE OF BILATERAL GENUINE IRIS-ATROPHY*†

BY

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A lady, aged 24 years, came to the clinic complaining of intolerable headache and bad vision of the right eye. The left eye was always blind. Clinical findings: sight of right eye finger counting 1 metre,—8·0 D =1/3: left, no light perception. Pressure on both sides 56 Hg mm. Right eye: eccentric pupil directed to 3 o'clock, roughly triangular in shape reaching almost to the iris-root. Pigment border nasally below and above is intact. Iris tissue very atrophic, the iris-frill can be seen only above and below. Temporally

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† Report from the Univ. Eye Clinic Debrecen. Leader: Prof. Kettesy.

there is a big defect from 8-11 o'clock extending to the angle of the anterior chamber. Between the hole and the pupil a 5 mm. iris strip is left with lack of iris-frill and pigment border. The defect is bridged over by two fibres of iris tissue. Some part of the posterior pigment layer of the iris is adherent to the lens-capsule. The lens is transparent, vitreous normal and so is the cornea. On the fundus there is a venous pulse and deep glaucomatous excavation. Visual field on the right side contracted, only a quadrant remains in the upper internal area (Fig. 1). Left eye: corneal surface slightly stippled. The pupil is continued to 12 o'clock in a congenital coloboma but there is no defect in the ciliary body nor in the choroid. Iris tissue atrophic, pigment border continuous with the angle of the anterior chamber but reduced, the iris-frill is well shown. Two

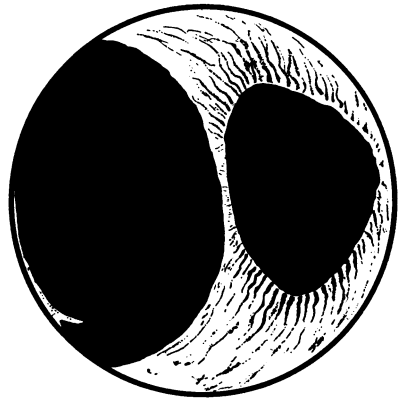

FIG. 1.

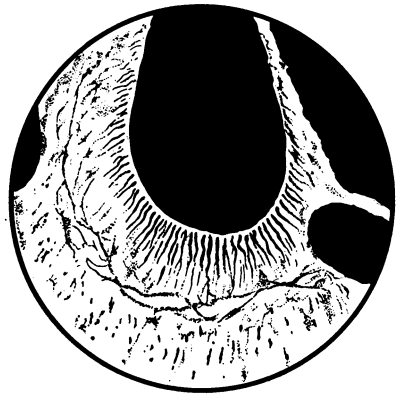

FIG. 2.

holes can be seen in the region of the iris-root one at 11 o'clock, the other from 1-4 o'clock that includes all the layers of the iris. The greater defect is divided in two by a stout bundle of trabeculae. There is a slight iridodonesis, the lens and the vitreous are normal and in the atrophic disc is a deep glaucomatous excavation (Fig. 2).

Regarding these findings, we could find neither macroscopic, nor slit-lamp evidence of previous inflammation in the left iris—an atypical coloboma is seen. We made the diagnosis of genuine iris-atrophy.

The genuine or essential iris atrophy is a well known but rare disease. In the University Eye Clinic, Debrecen, we have seen only two cases during the last 25 years. The first was published by Prof. Kettesy (Kreiker) in 1923. He observed the alteration in a lady aged 41 years, the other patient was a man aged 40 years, in whom there was a bilateral iris atrophy which progressed to total aniridia.

Regarding the genesis we were trying to find some solution. Clinical and laboratory examinations were made for tuberculosis, lues, endocrine aberrations without any positive result.

Reports in the literature show in some cases that hyper-sensibility of the thyroid and suprarenal glands could be proved, but this had no importance in the prognosis and absolute glaucoma.

As far as we can see, an explanation of this rare disease can be given only by the embryological dynamics, by that regressive power which is able to set in motion the pupillary evolution in the fourth month of foetal life. The process finishes soon enough, sometimes even before the pupil is completed. When this happens a persistent pupillary membrane is the result. Exceptionally a trauma or some other influence can regress the pupillary membrane during life also. Kreiker's published case is a nice example, and Wolfrum's experiments seem to be able to prove this assumption too.

We come to the conclusion that the regressive function of the iris is influenced by an inhibitory factor. One can imagine, if in these embryological mechanics, in the activity of action and reaction, the faintest disturbance arises, the balance overturns, and develops, what Riger called, the dysgenesis mesodermalis.

No doubt, the solution of the question will be given by getting more insight into the embryological and respectively biological happenings.

From the practical point of view, the treatment of the secondary glaucoma seems to be the most important. Ciotola, Licskó, de la Vega, Post, Barkan and others have done different anti-glaucomatous operations. Trephining and irido-sclerectomy are the most frequent operations. Csillag and I. Grósz do cyclodialysis with good results.

If we take the figures above, which show the huge defects in the iris the decision of cyclodialysis is obvious. There

is only one question, where to make the operation, which part of the ciliary body shall we detach? We decided, referring to the intact part of the iris, at the insertion of the inferior rectus muscles. Next day the pressure was subnormal (12 Hg mm.) and for half a year there has been no alteration in the pressure.

As far as we are concerned we would propose in cases of genuine iris-atrophy combined with high pressure a cyclodialysis a tergo (secundum Blaskovics) at the insertion of inferior rectus muscle.

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THE DEVELOPMENT OF MEDICAL STUDIES IN BRITAIN: OPHTHALMOLOGY*

BY

R. R. JAMES

Earliest Times

ENGLISH ophthalmological history may be said to start with the Roman occupation of Britain. From the large number of oculists' stamps which have been unearthed on Roman sites we know that a good deal of local treatment of eye conditions by way of collyria and ointments was practised at this early date. After the withdrawal of the legions there is a long gap in our knowledge; in fact nothing is known until we come to the Anglo-Saxon *Leech* [medical] books and Herbals. Here again, treatment was mainly by local applications of infusions of herbs and the secretions of animals, such as gall mixed with honey, and even of human urine. Charms also played a large part and we may say that Anglo-Saxon ophthalmology has every appearance of having been largely futile.

The Norman Conquest and after

The Norman Conquest did little to improve the practice of ophthalmology but the 13th century saw the beginnings of optics

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