HAEMANGIOMA OF THE CILIARY BODY*

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THE literature includes descriptions of over ten cases of haemangioma of the iris and four of haemangioma of the ciliary body. In reporting the first case of haemangioma of the iris examined histologically, Rodin (1929) mentioned nine others that had been published and stated that the diagnosis was obviously correct in only three of them. A similar view of the cases in the literature was held by Reese (1963) who reported two cases of haemangioma of the iris personally observed. One had an angioma in both the upper lid and the iris of the same eye. Angiomatous dilatation of the blood vessels of the iris has been reported in cases of Sturge-Weber's syndrome. Reese suspected that the majority of cases of haemangioma of the iris described in the literature were either granulomata or malignant melanomata; he also suggested that the iris nodule reported by Knapp (1928) might be a naevus and not an angioma.

The first report of haemangioma in the ciliary body was that of Griffith (1892). Heine (1926) described two cases which he considered to be of different aetiology. The first occurred in a young patient who had congenital stenosis of the pulmonary artery and compensatory hyperglobulinaemia. Several racemose haemangiomata were established pathologically in this case. The other patient had interstitial keratitis, active inflammatory hyperaemia in the iris, and a small angioma of the giant capillary type (*Riesenkapillarangioma*) in the ciliary body.

A case was reported by Daily (1931) in which the eye of a young child was enucleated for suspected malignant tumour, and a capillary haemangioma was later found in the ciliary body. The patient had had recurrent haemorrhages into the anterior chamber, and the tumour caused iridodialysis and penetrated into the anterior chamber.

Haemangioma of the iris and the ciliary body must be regarded as relatively rare, and we therefore report a case which proved to be one of haemangioma of the ciliary body, but in which the blind eye was enucleated as it was impossible to rule out malignancy clinically. The ultrasonic examination performed for the first time in a case of this kind lends an added interest.

Case Report

The patient was a fisherman's daughter born in 1949, and according to her parents there was no history of eye disease in the family. The vision of the right eye had deteriorated in less than 2 years and showed divergent strabismus. An ophthalmologist was consulted for the first time in July, 1963, and the patient was immediately referred to our ophthalmic department.

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Examination.—The right eye was amblyopic with a divergent strabismus of 8–10°. There was no congestion. The cornea and aqueous humour were clear. The pupil was medium-sized and did not respond to light.

The lens was clear. Gonioscopy revealed no abnormality in the chamber angle. Slit-lamp examination showed immediately behind the lens on the vitreous a greyish, slightly folded membrane with a few very thin blood vessels. No red reflex was elicited from the fundus. The intra-ocular pressure was 30 mm. Hg (Schiötz). The left eye was symptomless, with a visual acuity of 1/4.

Ultrasonic Investigation.—As it was not possible to see behind the membrane with optical instruments, an ultrasonic examination was performed. The equipment used consisted of a model 7000 Kretztechnik, Austria. The frequency of the crystal was 12 Mc, diameter 4 × 5 mm. Normal echograms were obtained when the sound waves were directed to the inferior part of the eyeball, but pathological echoes were elicited axially and from the superior part of the eye.

Fig. 1A shows an echogram elicited in the axial direction.

Fig. 1B shows an echogram elicited when the sound waves were directed sagittally upwards towards the equator of the eye. The initial echo is followed by a succession of fairly low echo peaks.

When the ultrasonic wave was directed a little further back but still sagittally, the echogram shown in Fig. 1C was elicited.

FIG. 1A.—Echogram elicited by sound waves directed axially through the eye. On the left the initial echo; the high echo succeeding it represents the posterior surface of the lens. Immediately behind the lens echo is seen a lower one reflected from the membrane behind the lens. The long zero-line represents the vitreous space. The echoes on the right are reflected from the rear wall of the eye and from the retrobulbar tissues.

FIG. 1B.—The sound waves were directed sagittally upwards to the area between the iris and the equator. From the initial echo to those of the rear wall of the eye there is a row of low echo peaks which are pathological.

FIG. 1C.—The sound waves were directed sagittally but further back, and a row of low echoes is seen similar to those in B, the high echo on the right obviously illustrating the margin of the tumour, and the following short zero-line representing the vitreous space.

The ultrasonic examination thus showed that the pathological process extended further than could be established by optical means. As the eye was blind and there was the possibility of an intra-ocular tumour the eye was enucleated.

Histological Investigation.—A lentil-shaped tumour measuring 3 × 4 × 1 mm. was attached to the ciliary body. The tumour had lifted the retina so that the major part of it was immediately behind the lens, and it was also extensively detached in the posterior part of the eyeball. Fig. 2 (opposite) shows a section in which the tumour is indicated by an arrow.

The tumour was composed of dense cells (Fig. 3, opposite), containing profuse foam-like plasma and often forming round figures. There were also numerous blood-containing capillaries. No variation was observed in the size of the nuclei. Fontana's silver impregnation method gave a negative finding.

Diagnosis.—Capillary haemangioma of the ciliary body and partial detachment of the retina.

FIG. 2.—In the middle, below, a triangular piece of (arrowed) tumour tissue is connected by a thin vascular stria with the ciliary body. The separation between the tumour, the ciliary body, and the retina is an artefact. $\times 20$.

FIG. 3.—High-power view of part of the tumour seen in Fig. 2. The tumour consists of cells with profuse plasma which often form blood-containing capillaries. The nuclei are of regular size. $\times 350$.

Discussion

Haemangioma of the ciliary body is so rare that few ophthalmologists encounter it. The case reported here is, to the best of our knowledge, only the fifth of its kind to be published.

The disease progressed slowly, symptoms beginning about 2 years before the patient reported for treatment. A greyish vascularized membrane was visible behind the lens. Histological examination of the enucleated eye showed this to be the detached retina, but this was not apparent from the clinical examination which revealed only a few blood vessels and a membrane completely grey in colour.

Ultrasonic examination revealed that there was a space filled with fluid about 2 mm. deep between the posterior surface of the lens and the membrane, and that the pathological process was much more widespread than could be judged optically. All the tumour echoes were fairly low compared with that of, for example, the retina. The echoes were small because the changes in acoustic resistance in the tumour tissue were small. The tumour differed in this respect from other tissues such as those of melanomata of the choroid and retinoblastomata, which give much higher echoes. The histological picture was the same as that of a typical haemangioma such as might be encountered in any organ. The great vascularity of such a tumour gives it a loose consistency which answers to the ultrasonic graph.

Summary

One eye of a girl of 14 became slowly blind in the course of 2 years and a squint developed. Slit-lamp examination showed a greyish vascularized membrane behind the lens in the vitreous. Ultrasonic examinations showed that the pathological process covered a fairly extensive area from the iris to the equator sagittally and in the superior part of the eyeball.

The presence of an intra-ocular tumour was suspected and the eye was enucleated. Histological examination showed that the tumour was a haemangioma of the ciliary body (apparently only the fifth case of its kind to be reported), and that the greyish membrane was in fact the detached retina.

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