Choroidal detachment in aphakic uveitis

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The presence of choroidal detachment in an eye is a familiar finding most commonly seen after intraocular operation, when it occurs with a shallow or absent anterior chamber and ocular hypotony. Fuchs (1900) quoted an incidence of only 4.7 per cent. after cataract extraction, but a more accurate figure is the 59 per cent. given by Venco and Giardini (1947) relating to the immediate postoperative period. These detachments have usually subsided by the end of about 3 weeks and require no treatment, but they may also be found long after operation when re-opening of the wound incision is the factor responsible. However, other types of choroidal detachment exist, and Duke-Elder and Perkins (1966) have classified these as exudative, due to ocular inflammation or vascular congestion; spontaneous, with no obvious aetiology; traumatic, haemorrhagic, purulent, and tractional.

The case described here is rare, demonstrating choroidal detachments in an aphakic eye 20 years after operation, though it was considered that the detachments were unrelated to the previous surgery and were exudative in type.

Case report

A 62-year-old Anglo-Indian male attended hospital on January 20, 1968, with one month's history of blurring of vision of the left eye; he felt that the sight had probably been poor for a longer time. His past history was that in 1947 and 1948, cataract extractions had been performed in India on the right and left eyes respectively, the former operation being unsuccessful as the right eye had been blind since shortly after surgery while the vision in the left eye had remained good until the recent deterioration. His general health was very good and he had no other symptoms.

Examination

The right eye showed absolute glaucoma and was blind though painless.

The left eye had a best vision of 6/24, the correction being +10 D sph., +3 D cyl., 180°. The eye was moderately congested and irritable, with lacrimation, photophobia, and swelling of the upper and lower eyelids. A moderate number of fine white keratic precipitates was present, with an obvious flare and many inflammatory cells in the anterior chamber and some in the vitreous. Some white capsular remnants were adherent to the pupil margin but the pupil dilated to approximately 4.5 mm. transversely. Careful examination of the conjunctival wound area including a Seidel fluorescein test revealed no fistulous opening. Ophthalmoscopic examination of the fundus revealed two typical lobulated dark-brown choroidal detachments, one nasally from 7 to 10 o'clock and the other temporally from 2 to 5 o'clock (Fig. 1). The anterior chamber was deep but it was noted to be a little shallower at the site of the choroidal detachments. There was marked oedema and congestion of the optic nerve head and surrounding retina. Direct trans-scleral transillumination of the fundus showed no interference with the red reflex in any area. By applanation tonometry the intraocular pressure was 15 mm. Hg.

FIG. 1 Choroidal detachments, macular oedema, and papilloedema in aphakic uveitis

Investigations

Serum protein, total 7.1 g./100 ml., albumin 4.3 g./100 ml., globulin 2.8 g./100 ml.; protein electrophoresis suggested no abnormality; Wassermann reaction and Kahn test negative; x rays of chest, paranasal sinuses, lumbar spine, and sacroiliac joints showed no pathological changes; rheumatoid arthritis factor negative; blood urea 22 mg./100 ml.; haemoglobin 17 g./100 ml.; erythrocyte sedimentation rate 2 mm./1st hr; total white cell count 3,800 cu. mm., neutrophils 58 per cent., lymphocytes 40 per cent., eosinophils 2 per cent.; fasting blood sugar 97 mg./100 ml.; L.E.-cell test negative; no pus cells or albumen in the urine.

Systemic examination showed no evidence of other diseases and an E.N.T. check showed no nasal or sinus sepsis.

Dental examination revealed long-standing dental caries and the patient's seven remaining teeth were removed at the Royal Dental Hospital, London, on February 22, 1968.

Progress

The patient was admitted to hospital for investigation of the uveitis and was treated topically with gutt. Mydrilate and Betnesol N, four times a day to the left eye, and also had two subconjunctival injections each of 10 mg. hydrocortisone with mydracaine to the left eye. There was no improvement in the condition of the left eye and on March 7, 1968, systemic corticosteroids in the form of 60 mg. prednisolone daily were begun with a noticeable beneficial effect. After 10 days the choroidal detachments had gone, the media were clear, and ophthalmoscopically a macular fan had replaced the generalized posterior pole oedema. A setback, however, was the onset of paranoia due to a steroid-induced psychosis and this with the ocular improvement indicated a gradual reduction in dosage.

He was discharged from hospital on March 20, 1968, the treatment consisting of prednisolone 25 mg./day, and gutt. atropine 1 per cent. and Betnesol N three times a day to the left eye. Since this time, the treatment has been gradually reduced and prednisolone was finally withdrawn 9 months after its commencement.

Present therapy is oculentum Betnesol N at night.

Result

The corrected vision in the left eye is 6/6 partly, and this eye is white and quiet. The right eye has shown no alteration since the use of steroids.

Discussion

Exudative choroidal detachments are said to be present in most cases of uveitis but are small and rarely large enough to be seen ophthalmoscopically. They have been reported in several types of ocular and periocular inflammation, such as scleritis, chronic posterior cyclitis, chorio-retinitis, sympathetic ophthalmia, and acute sinusitis. The diagnosis may not be easy and the dark fundus swelling may be confused with choroidal melanoma. To emphasize this difficulty, Sears (1964) quoted his own case of choroidal detachment secondary to nodular scleritis and also three other reported cases of scleritis with detachment, in each of which the eye was removed for suspected tumour because of an abnormal transillumination test and a brown mass in the fundus posterior to the ora serrata. Sears stressed the importance of indirect ophthalmoscopy and the use of the Goldmann three-mirror contact lens to assist in distinguishing between choroidal and retinal detachments and malignant melanomata.

In the patient described in this report, a confident diagnosis of choroidal separation was made because of the presence of aphakia and the two typical swellings on opposite sides of the fundus. However, the aphakic state was an incidental finding though it was first assumed that a re-opening of the cataract wound had occurred, but the eye was not hypotonic and repeated examinations showed no site of leaking aqueous. Thus the subacute uveitis was considered to be the primary lesion and the rapid improvement with systemic steroids confirmed this. Fig. 2 shows that the papilloedema and macular oedema resolved satisfactorily, the end-result being some scattered fine pigmentary spots in the fovea centralis with a few white hard exudates.

FIG. 2 *Present appearance of posterior fundus with resolution of oedema after systemic prednisolone*

The cause of the uveitis was unknown despite several investigations. There was much concurrent dental sepsis and this may have been a relevant factor in the aetiology of the uveitis. Sympathetic ophthalmitis was also a possibility but the eyes did not follow a similar clinical pattern and the inflammation in the left eye was not typical of the disease.

With the disappearance of a choroidal detachment, areas of abnormal fundus pigmentation taking the form of permanent granular branching streaks may remain. These were first described by Schur (1913) and were found by Verhoeff (1931) to be due to ridge-like thickening of the retinal pigment epithelium. Fig. 3 shows these lines which mark the former position of the temporal choroidal detachment. Recently, Rosen and Lyne (1968) performed fluorescein retinography on a patient with recurrent choroidal detachments and found that the detachments did not fluoresce, but they confirmed the presence of widespread alterations in the retinal pigment epithelium in an area of the fundus involved by previous detachment.

FIG. 3 Pigmented lines marking former position of absorbed temporal choroidal detachment

Summary

A case of choroidal detachment secondary to subacute uveitis occurring in an aphakic eye is reported. The cause of the uveitis was unknown. There was an excellent response to the administration of systemic corticosteroids with rapid resolution of the detachment and of other signs of ocular inflammation.

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