Comment.—A case of eclipse blindness is described, which showed the typical features of this condition—diminished vision, coming on within a few hours of exposure to the sun, the presence of a scotoma and a macular hole. The macular damage and diminished visual acuity appear to be permanent.

A CASE OF SIDEROSIS BULBI*

BY

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THE following case illustrates the value of interference in an eye with siderosis bulbi even in an advanced state and is thought worthy of publication in view of the possible frequency of such cases after war injuries.

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Sgt. T.C., aged 35 years, attended the out-patient department of a British General Hospital in Italy, on February 13, 1945, complaining of pain in his right eye which he stated had been blind for over a year. Questioning elicited the facts that he had been injured by firing a rifle at a "dead" grenade 20-30 yards away. He had made no complaint of the eye at the time and no radiograph had been taken. Vision remained the same for some time but began to deteriorate rather less than a year after the incident. For the last two or three weeks the eye had been painful.

On general examination the most striking feature was the difference in colour between the two eyes. The normal left eye was a light blue while the right was a dull brown. Inspection of the right eye showed the cornea to be oedematous and infiltrated with spots of dark brown pigment. The anterior chamber was shallow, the pupil active, the iris a uniformly dirty brown colour, but with a visible pattern, and the lens was opaque. The tension was markedly raised, thus accounting for the pain. Vision was reduced to P.L. and the projection of light was noted as inaccurate.

The left eye was normal and had vision of 6/5.

On slit-lamp examination of the right eye a punctate infiltration of the sub-epithelial layer of the cornea with fine brown pigment granules was seen over the whole area; there were no cells on the posterior corneal surface. The anterior chamber was shallow and without "flare." The iris, diffusely discoloured with brown pigment, showed no sign of atrophy or inflammation. Subcapsular deposits of pigment were seen in the lens, but there was no discolouration of the opaque lens cortex.

The patient was admitted to hospital and treatment with miotics promptly reduced the tension and relieved the pain. X-ray of the right eye showed the presence of a radio-opaque I.O.F.B. and on March 19, posterior sclerotomy was performed.

Operation.—Under local anaesthesia and sub-Tenon infiltration with 2 per cent. novutox, a conjunctival flap was reflected in the infero-external quadrant. Cautery haemostasis was maintained. A 3 mm. linear stab incision was made in the sclera 10-12 mm. from the limbus, using a broad needle as the active pole of a diathermy apparatus with a current of 40 milliamps. By this means a reaction was obtained in the choroid and retina which reduced the risk of subsequent haemorrhage and detachment; at the same time there was little tendency for the edges of the scleral wound to gape. The tip of the giant magnet was applied to the wound and a metallic foreign body 2 mm. x 1 mm. in size was removed without difficulty. The wound edges were cleared. No scleral suture was required. The area was insufflated with penicillin in sulphathiazole (2,000 units Na. penicillin per gm.) and the conjunctiva closed.

After the operation, the patient stated that he was "beginning

to see better." This of course could only refer to the brightness of light and may have been purely subjective. His projection of light was tested on April 2 and was recorded as accurate above and temporally, and inaccurate below and nasally. On April 18, it was treated again and charted thus:—

Right eye			
<hr/>			
+ + —			
<hr/>			
Temporal	+ + —		Nasal
	<hr/>		
	+ + —		
	<hr/>		

This result was checked objectively by throwing a narrow beam of light into the eye when it was seen that while the beam entered from the temporal side the pupil contracted, but when it entered from the nasal side between "1 and 5 o'clock" there was no pupillary response.

On April 24 the case was reviewed by Lt.-Col. Rycroft, R.A.M.C. Adviser in Ophthalmology, who reported: "there is definite projection in the mid line and temporal field. Removal of the lens is justified." Accordingly the next day he carried out a simple extraction.

Operation.—Under local anaesthesia and a facial nerve block and a retro-bulbar injection of 2 per cent. novotox. No speculum was employed in view of the tendency to raised tension. Retraction was by lid sutures and a superior rectus stitch gave good exposure and firm control of the eye without global pressure. A No. 0 silk mattress suture was passed through the superficial layers of the cornea at "12 o'clock" within the limbus and through the conjunctiva outside the limbus but not tied (Stallard suture). The loop was drawn well away from the globe. A Graefe section was made extending from "10 o'clock to 2 o'clock," the point of the knife dividing the anterior capsule on its way across the anterior chamber. As the section was completed the knife emerged between the two arms of the mattress suture. The lens was delivered in the usual way, the iris replaced and the mattress suture tied. There was no vitreous loss. The superior rectus stitch was removed, the eye closed and the two lid sutures tied together. Examination of the lens cortex revealed no ferrous granules.

Recovery was uneventful and a month later, the corrected vision

was 6/12. Slit-lamp examination at this time showed punctate deposits of ferrous pigment on the posterior capsule. On May 15, dissection of the post. capsule was performed with a Ziegler knife and a good gap obtained. The patient was last seen on July 6. Vision was then correctable to 6/12. The visual field was contracted down to 45° on the temporal side and to 20° on the nasal side. Fundus details were seen but hazily. The patient returned to duty in Medical Category A.4.

THE EFFECT OF OPERATIVE ALTERATIONS IN THE HEIGHT OF THE EXTERNAL RECTUS INSERTION*

BY

JOHN FOSTER *and* E. C. PEMBERTON

LEEDS

It will be observed from the literature that operative correction of the vertical element of convergent concomitant squint is more readily undertaken in America than in England.

Such correction is usually obtained in America by operating on the superior or inferior recti and obliques, and may precede operation on the horizontal muscles.

We suspect that the wide use of the cover test of Duane which is more informative than the major amblyoscope in cardinal positions above and below the horizontal, may be responsible for this.

The writers venture to doubt if there is in Great Britain even a single set of the large (37 mm.) square prisms which facilitate quantitative application of Duane's test. These remarks in no way decry the accuracy of the synoptophore as an indicator of the degree of fusion or the horizontal or vertical angles near the horizontal plane and with which all measurements in this paper were made. Where marked alterations in the vertical angle take place during horizontal movement, an operation on a vertically acting rectus or an oblique muscle is unavoidable, but where this angle is small and constant, attempts have been made by certain European surgeons to correct this vertical element by raising or lowering the external rectus while advancing or resecting it.

Differing opinions have been expressed verbally to me by colleagues, on the effect of deliberately raising the insertion. Some believe it elevates the eye, others that it depresses it.

Ronne (*Acta Ophthalm.* 23. I.fasc.1, p. 48) has expressed the third

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