Short Notes and Clinical Cases.

A CASE OF BILATERAL CORTICAL BLINDNESS.

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THE following is a description of the clinical signs and post-mortem findings in a woman who developed cortical blindness while a patient in Severalls Mental Hospital, Colchester.

CLINICAL HISTORY.

She was a single woman of about fifty, who had been living alone. She had barricaded herself into her house and almost starved herself. Little history of her life or ailments could be obtained. She was admitted in June, 1922, emaciated, with bad pyorrhœa alveolaris and very thickened and tortuous arteries. On the right side of her chest was a large "cancer en cuirasse," involving the breast and extending to the axillary glands. The cardiac tone was poor.

Her teeth were extracted and she was kept in bed and dieted to improve her general condition. She improved only slowly, for her mental state of anger, disgust and agitation arising from her very marked delusions of persecution was against proper rest. She had an attack of herpes zoster on the left side during this time.

She was not considered fit for operation till November 8, when she was anæsthetized and the growth removed with the axillary glands and a wide area of skin. The wound healed well in spite of her great restlessness, for she tore at her dressings, and sat up and shouted at those around her, accusing them of attempts to murder her. She required morphia to keep her sufficiently quiet to give the wound any chance of healing.

On November 10, two days after the operation, she said she could not see well, and on December 16 she said that she could not see at all, and that she had been blind ever since her operation. This appeared to be true, but no real attempt was made to examine her eyes, for she was quite incapable of realizing what was being done for her. She thought she was being defrauded out of £2,000 and that any one who touched her, to dress her wound or to wash or help her in any way, was a thief. It was rare for her to make such rational remarks as those she made about her sight, and it was obvious that in order to make more than a superficial examination either an anæsthetic

or an unjustifiable physical struggle would have been necessary, with a good deal of risk to one so feeble.

Her pupils were seen to be widely dilated. She seemed to have a little peripheral vision, but could not answer relevantly when asked about this. She had an intense dislike of direct sunshine and would get out of bed and feel her way to where she thought she might find a screen if sunshine were allowed to fall on her face. She became reasonable enough for it to be possible to examine her eyes under homatropine in January, 1923, and again in February. There was a small opacity low down on the right cornea. The lens and disc appeared healthy on both sides.

The patient always remained thin and rather feeble. She complained of giddiness from time to time. She wore herself out with reviling her imaginary persecutors, and on February 15 she collapsed and died quite suddenly following an attack of noisy excitement.

PATHOLOGICAL EXAMINATION.

Brain.—Weight, 2 lb. $4\frac{1}{2}$ oz. The brain substance was firm except at the occipital poles, which showed atrophy and softening on both sides, chiefly on the lower and mesial surfaces, but extending a little on the external surface as well. The cortex was pulpy and showed a greenish-yellow discoloration. These changes were slightly more extensive on the left than on the right side, but the general symmetry of the lesions on the two sides was very striking.

All the cerebral vessels were thickened, hard, and tortuous, and the basilar artery was much narrowed between two old thick plaques. It was empty. Unfortunately search was not made for clot in other vessels.

There were no other changes of note.

COMMENT.

Bilateral cortical blindness of this type is rare. Supposing it to date from the time of operation, it might have been due to embolism or to thrombosis. A fat embolism from the incised breast tissues would be unlikely to escape arrest in the lungs. That an embolism might have arisen from the heart or vessels is suggested by the spleen infarction which was found. There was, however, no discoverable block in the narrowed basilar artery, and it does not seem likely that an elderly debilitated patient suffering from anæsthesia and operation would survive the shock of sudden blocking of the basilar artery. On the other hand, two emboli, one to each posterior cerebral artery, arriving simultaneously, seems even more unlikely.

Thrombosis of both posterior cerebral arteries seems the most reasonable explanation. Obviously, chloroform anæsthesia favours thrombosis by slowing of the blood current and reduction of pressure. Thrombosis would also be encouraged by arterial disease and by the smallness of the lumen of the basilar artery.

The distribution of the softening corresponds with the area of

supply of these arteries. This is shown in *Figs. 1 and 2*, which also indicate its relationship to the visual area of the cortex.

Since peripheral vision is represented towards the anterior end of the calcarine fissure and macular vision at the poles, it is possible that the patient had some peripheral vision left because of the escape from injury of the corresponding area.

The cortex suffered most. How much functioning power was left

Fig. 1.

LEFT HEMISPHERE, MESIAL VIEW.

Fig. 2.

RIGHT HEMISPHERE,
LATERAL VIEW.

Softened areas of cortex
are shown by shading.

Fig. 3.

by circle, narrowed BASILAR ARTERY.

to the lower visual centres it is impossible to say, but perhaps the patient's great hatred of sunshine may have been due to the "overloading of sensation with feeling tone due to the release of the inhibitory effect of the cortex" (Head).

But a simple explanation is that a patient who believed herself the victim of unceasing persecution would naturally be intensely angry and distressed by any reminder, such as that given by the sunshine, of her lost powers of sight.

Some recorded cases may be mentioned. Glynn quotes a case of sudden complete blindness in which a clot was found in the left posterior cerebral artery, and Jacobson and Jaffe describe loss of the left halves of fields in a patient who died later from aortic regurgitation, and who was found to have a

small cyst in the right occipital lobe. Mackay and Dunlop had a patient in whom hyaline degeneration of the vessels had caused atrophic softening in the temporo-occipital convolution on both sides, producing complete colour-blindness.

Pyle quotes Henschen as noting several clinical forms of occipital softening, such as:—

- (a) Complete persistent blindness—only 23 cases recorded.
- (b) Transitory macular with permanent peripheral blindness—12 cases.
- (c) Bilateral homonymous hemianopia with some remains of macular vision—23 cases.

(d) Other disturbances, including colour-blindness.

Our patient had so very little peripheral vision left to her (it is doubtful whether she had any at all), that her case may be considered to be a 24th in class (*a*) of Henschen's classification.

Whatever the explanation may be, she was unfortunate in adding to the distresses of her delusions those arising from such a rare and curious form of blindness.

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