SYPHILITIC VISUAL FAILURE*

BY

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THERE are many indications that syphilitic infection is increasing (Catterall, 1963), and new cases of syphilitic involvement of the nervous system are still seen (Steel, 1960).

One of the more rare presentations of syphilitic disease of the nervous system is visual failure. Since such patients, like the two to be described below, may first attend an Ophthalmic Clinic, we feel that we should draw attention to the somewhat different clinical pictures that may present and emphasize the possible role of early and adequate therapy.

Case Reports

Case 1, a man aged 49 years was admitted to the National Hospital on May 17, 1961, under Dr. Denis Brinton.† He complained of progressive failure of vision over a period of 10 days, the left eye having been affected first, and the right eye 3 days later. He also complained of a persistent pain behind both eyes during this time, and of loss of appetite.

Examination.—The patient had bilateral anosmia, and visual acuity was reduced to counting fingers with the right eye and perceiving large passing objects with the left. The temporal edge of both discs was blurred. Both pupils were normal in size but reacted sluggishly to light and convergence. No other abnormality was found on further neurological and general medical examination.

Investigations.—A blood Wassermann reaction was strongly positive.

The cerebrospinal fluid (May 19, 1961) showed 5 polymorphs and 66 lymphocytes per c.mm. and protein 80 mg. per 100 ml. Wassermann reaction weakly positive. Lange 1123332110.

Erythrocyte sedimentation rate 27 mm./hour. Haemoglobin 14 g. per 100 ml.

X rays of skull and chest normal.

Lumbar air-encephalogram showed no definite abnormality, and no evidence of a defect at the anterior end of the third ventricle.

Progress.—On May 23 the patient could only see large moving objects at one foot with either eye. The next day he was put on procaine penicillin 1,200,000 units 6-hourly and 15 mg. prednisolone three times a day. The next day after that there was no perception of light by either eye.

The pupils were fixed to direct light and consensually. Both discs were abnormal and appeared swollen. The veins in the left fundus were fuller than normal. There was no sheathing of the veins in either fundus.

On May 27, however, there was perception of light by both eyes, and by June 6 the vision had improved to 6/60 and J16 in both eyes. There was a central scotoma to a 4/2000 white object in each eye.

A repeat cerebrospinal fluid examination on June 6 showed 10 lymphocytes per c.mm. and 20 mg. protein per 100 ml. The blood Wassermann reaction was now negative and the Lange showed no change.

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† He later gave a history of a primary syphilitic infection 15 years previously. He received treatment but we are uncertain of its nature.

The patient received a total of 42 million units of penicillin over the course of 12 days and was discharged on June 7 on prednisolone 5 mg. four times a day.

Result.—There was progressive improvement in his vision, and the prednisolone was gradually reduced and then omitted over the next few months.

By September 6 the visual acuity had recovered to 6/9 in both eyes and by February 21, 1962, to 6/6 in both eyes, both optic discs showing slight pallor.

Follow-up.—On August 8, 1962, the visual acuity was 6/5 in the right eye and 6/6 in the left.

Case 2, a man aged 68 years, was admitted to the National Hospital under the care of one of us (C.J.E.) on October 25, 1960, complaining of slowly progressive failure of vision in both eyes since July, 1960, and flitting prickly sensations under the skin over the lower limbs for 4 weeks.

Examination.—The sense of smell was impaired in both nostrils and he could detect only coffee. The visual acuity was less than 6/60 in each eye; he could count fingers readily although he could not distinguish colours on either side. There was a central scotoma to a 15/2000 white object. Both optic discs were pathologically pale. The pupils were slightly irregular and rather large and the reaction to light was small in range and ill-sustained, but brisk on convergence.

There was loss of deep pain sensation in the Achilles tendon and two-point discrimination was impaired at the finger tips. General medical examination revealed an aortic systolic murmur. The blood pressure was 145/80.

Laboratory Investigations.—The cerebrospinal fluid showed 29 lymphocytes and 1 polymorph per c.mm. and protein 70 mg. per 100 ml. Lange 4443321100.

The Wassermann reaction was negative in the cerebrospinal fluid but positive in the blood.

Erythrocyte sedimentation rate was 21 mm./hour. Haemoglobin 14.2 g. per 100 ml.

Electrocardiogram normal.

Progress.—October 31, 1960, the patient was put on prednisolone 10 mg. four times a day. He was given a course of 12 million units of penicillin over the next 12 days.

Result.—There was no improvement in the visual acuity. A repeat examination of the cerebrospinal fluid showed 12 lymphocytes per c.mm. and protein 100 mg. per 100 ml. in a blood-contaminated specimen.

Follow-up.—At a subsequent admission in February, 1962, he could only perceive light with either eye and both optic discs showed optic atrophy. The pupils were irregular in size, and reacted poorly to light but well on convergence. The cerebrospinal fluid showed 3 lymphocytes per c.mm. and protein 50 mg. per 100 ml. The Wassermann reaction was weakly positive in the blood and negative in the cerebrospinal fluid.

The patient was last seen on August 20, 1963, when there was no change in his condition.

Discussion

Both these patients showed failure of vision associated with late neurosyphilis, and both were treated with penicillin and prednisolone. However, Case 1 showed a degree of swelling of the optic discs and was an example of what has been described as syphilitic optic neuritis. The five cases of syphilitic optic neuritis described by Graveson (1950) improved after antisyphilitic treatment, but none of his patients had actually lost perception of light, as did our patient who became totally blind over a period of 18 days.

It is possible that in this case the recovery was due to the larger doses of penicillin and prednisolone used. However, recovery may certainly occur with penicillin alone (Graveson, 1950), and was recorded by Igersheimer (1918) in eleven out of

thirteen cases treated with mercury and arsenicals, although his patients had advanced disease elsewhere and many were to relapse later. In our case there followed recovery of normal vision, even though for a time there had been loss of perception of light, a state which had not been reached in the earlier cases referred to.

On the other hand syphilitic optic atrophy usually has a bad prognosis, and of this Case 2 is a typical example. Penicillin and prednisolone made no apparent difference when given 3 months after the onset and the rapidly progressive course continued to complete loss of vision. It is important to note that in this case treatment was started whilst vision was still failing, but was nevertheless unsuccessful in halting the downhill progress.

This would accord with the findings of Hahn (1961), who was unable to demonstrate any effect from the use of steroids in syphilitic optic atrophy, although it is not clear at what stage the cases were treated. This is in contrast to the improvement which has occurred in the nerve deafness due to congenital syphilis (Murphy, Hahn, and Haskins, 1958). It may be, of course, that larger doses of penicillin and prednisolone would have prevented the complete loss of vision. The stage at which treatment is given may also be of importance and earlier treatment of Case 2 might have been more effective.

We wish to thank Dr. Denis Brinton for permission to report Case 1.

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