A CASE OF RECURRENT OCULAR PARALYSIS.

By

R. EAGER, THE DEVON MENTAL HOSPITAL, EXMINSTER.

A CASE of recurrent paralysis affecting alternately the sixth and the third cranial nerves on the left side seems sufficiently uncommon to warrant publication.

I therefore give an account of the following case which has been under my care in The Devon Mental Hospital for a number of years.

FIG. 1.

PERSONAL CASE.

W. M., a naval pensioner, aged 64, was admitted to hospital for a (third) mental breakdown in March, 1926. His first admission was in 1898 and his mental state since then had been one of manic-depressive psychosis. The reason given on his first admission was 'sunstroke' in India whilst serving in the navy.

No neurological signs or indications of any organic disease were found on the repeated examinations to which he has been subjected during his residence in hospital until August, 1929, when he developed a strabismus in the left eye. This had been preceded for some days by frontal headache which seemed worse over the left eye. There was no increased ocular tension; his blood was negative to the Wassermann test, and his urine was free of sugar.

Dr. G. P. D. Hawker, the visiting ophthalmic surgeon to the hospital, who examined him on this occasion, reported that he had a paralysis of the left external rectus; the eye did not move beyond the middle line, and when he fixed

FIG. 2.

with the left eye it converged inwards. No obvious cause could be ascertained, and the condition cleared up in a few weeks without any active treatment.

The patient remained free of symptoms till July, 1931, when he again developed a strabismus together with a left-sided ptosis (fig. 1). This was again preceded by headaches and occasional nausea and vomiting for a few days. He again described the pain as in the forehead, but worse over the left eye, and the nausea as being mostly experienced when rising first thing in the morning.

On being examined again by Dr. Hawker he was found to have a paralysis of the left internal rectus, superior rectus and inferior rectus. The pupil was not dilated but reacted sluggishly on accommodation. Tested with the flutter test, no reaction in the visual fields could be demonstrated. There was no

proptosis and the discs were normal; a crossed diplopia was present, and the patient described the left image as being thrown over and across the other.

The eye movements, when tested, were as follows. When the left eye turned outwards the right eye turned upwards and inwards. When the right eye turned outward the left eye remained stationary in the mid-position. When the right eye turned up the left eye also remained in the mid-position, and when the right eye turned downwards there was only a slight attempt at a similar movement in the left eye.

There were no other signs of disturbance in the central nervous system. Tests for incoordination were negative and the deep and superficial reflexes were normal.

His blood pressure was not raised; the blood and spinal fluid were both negative to the Wassermann test; there were no symptoms of diabetes and the urine was free of sugar and albumen.

The patient was put on potassium iodide and mercury (pot. iod. grs. v, liq. hydrarg. perchlor. m. xxx, t. d. s.) which he took daily till the early part of October last. By that time the condition had cleared up except for some diplopia when directing the eyes upward, which subsequently also disappeared. His photograph after recovery from this second attack is reproduced in fig. 2, which is his present state.

DISCUSSION.

The interest in this case centres on causation. Here is a patient with a negative Wassermann reaction in blood and fluid in whom both the sixth and third cranial nerves have been involved consecutively, and yet both have become normal and left him unaffected.

What are the possible causes of this recurrent paralysis of the eye muscles? They seem to be: (1) a gumma at the base of the brain; (2) an orbital periostitis; (3) a cerebral tumour; (4) hæmorrhage into the nerve sheath or a degeneration or inflammation of the nerve fibres from some other cause; (5) rheumatism.

With regard to the first of these we have the Wassermann reaction giving a negative answer both in blood and fluid. I believe that syphilitic lesions do sometimes occur in which the Wassermann reaction may be negative, but when such is the case it must be wise to search for other possibilities.

Hence we come to the question of orbital periostitis. This again is usually regarded as of specific origin and is generally associated with considerable constitutional disturbances, of which there was no evidence in this case. Further, exostosis would almost certainly produce an exophthalmos, which was similarly absent. The nearest proximity of the sixth to the third nerve is in its passage through the sphenoidal fissure; an exostosis or periostitis here might therefore involve both nerves,

The third possibility I have suggested is cerebral tumour; but although there was a history of vomiting in the second attack this was preceded very definitely by nausea and was not of the type usually associated with cerebral tumour. There was no giddiness; no papilloedema has developed and the discs are normal.

With regard to the possibility of any local disturbance in the nerve sheaths, I find that Oppenheim in his *Text Book of Nervous Disease* (Vol. 1, p. 472) makes reference to cases of recurrent nerve paralysis which have been previously observed. He states that children are usually affected; that the paralysis is almost always preceded by frontal headaches and pain in the brow on the corresponding side, and often also by nausea and vomiting. The paralysis usually affects the whole nerve, although it may be occasionally restricted to some of its branches; it may completely disappear, again to become complete in subsequent attacks. On the other hand it may only partially disappear.

The causation seems to be a matter of dispute. Some regard it as a nuclear condition, while the majority regard it as a basal affection. Cases so far examined post-mortem appear to be limited to three. One of these showed a plastic exudate on the nerve trunk, and the others a new growth of the nature of a fibroma or fibrochondroma.

Swanzy in his *Handbook of Diseases of the Eye* refers to the same three cases as Oppenheim. Norris and Oliver, in Vol. IV of their *System of Diseases of the Eye*, also referring to them, aptly remark that whereas the post-mortem findings may have demonstrated the cause, it does not explain the intermissions.

Others have suggested that there may be a compression of the nerve due to a vasomotor disturbance. It might also be argued that this vasomotor disturbance, causing a distension of the vessels within the nerve itself, would favour an exudative process and new-formation in the nerve, especially fibrous tissue. Frankl-Hochwart (Obersteiner's *Textbook*, 1907) found post-mortem a 'neuritis' of the third nerve which he attributed to arteriosclerosis of the basal arteries, but his presumably was not a recurrent case. All the above suggestions appear to be possibilities in this case.

Others (Lasanberger) have suggested a periodic swelling of the cavernous sinus as the cause. Thrombosis of the cavernous sinus has also been found, but this usually spreads to the other side and affects both nerves.

A nuclear lesion usually produces bilateral paralysis of the sphincter muscles of the pupil and of the ciliary muscles, which was absent from my case.

Oculomotor paralysis is said to occur as an initial symptom in general paralysis. In my 25 years' experience I have never seen this.

Lastly, rheumatism is looked upon as a cause of these recurrent cranial nerve palsies and might conceivably be so in this case. One is rather driven to this conclusion by the fact that no other cause can be ascertained; yet 'rheumatism' to most neurologists must appear much as neurasthenia or hysteria does to most of the rest of the profession—a 'dumping-ground' for any state that is not properly understood. I do not think that the history of 'sun-stroke' in India can have any connection with this case after so many years' interval, while the negative Wassermann reaction in both blood and fluid speaks against a syphilitic cause. While it is difficult to believe that the condition may not be syphilitic in nature it is equally difficult to accredit the cure to the iodide and mercury, seeing that on the first occasion the condition cleared up spontaneously without these drugs.