

CASE OF ALMOST COMPLETE DESTRUCTION OF THE RIGHT HEMISPHERE OF THE CEREBELLUM, WITHOUT DISTINCT SYMPTOMS OF CEREBELLAR DISEASE.

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Miss W., a young lady aged twenty-two, consulted me on March 4th, 1885, on account of blindness, deafness in the right ear, giddiness, and occasional attacks of vomiting, which were always preceded by severe pain in the back of the head.

The following facts relating to the family history were communicated to me by the patient and her sister:—The father is sixty years of age, and enjoys good health. The mother died at the age of forty-four of some abdominal disease. The family consisted of three boys and five girls. One girl died at five years of age of tubercular meningitis. One son died at twenty-eight of consumption. He had been ill for some years, and a few months before his death he had ulceration of the vocal cords, and became paralysed on the right side. Another boy, who is still living, suffers from epileptic fits. He had convulsions during infancy, attributed to teething, and no fits were again observed until the age of fifteen. Now he has occasional severe epileptic seizures and frequent attacks of the *petit mal*. The other members of the family enjoy good health.

The patient informed me that she had the usual ailments of childhood, and that her present illness began about three or four years ago with symptoms of indigestion. For two or three months at a time she was free from any such symptoms, and then for several days she would experience slight nausea after food, accompanied by variable degrees of pain. These symptoms recurred with greater frequency, and about twelve months ago she began to complain of giddiness, and noises in the head like rushing water, and occasional severe attacks of vomiting, always preceded by a dull heavy pain in the back of the head. After one of these seizures of severe headache, she lay in a more or less torpid condition, and was difficult to rouse. Her sister also informed me that on these occasions her breathing became gradually feebler, until

it was almost impossible to be certain whether she was breathing or not. The pulse also became weaker, and could hardly be felt. It was observed that as the pain in the occiput increased she moved her head slowly backwards and forwards, and finally it seemed to be drawn backwards. She remained in this state about half an hour, when, after copious perspiration, the breathing became apparent, and she gradually regained consciousness. These attacks were latterly more frequent, and towards the end they occurred every other day. Ten months ago her sight began to fail, and for nearly three months she was quite blind. The first symptom she noticed of defective sight was that of double vision; but this disappeared as the sight became weaker. About this time she observed that she was becoming deaf in the right ear, and when I saw her she said she was unable to hear at all with that ear. She never experienced any difficulty in hearing with the left ear. She also stated that when she was giddy, on attempting to walk, she occasionally staggered to the right, but never to the left side. Smell and taste were perverted in such a manner that the smell of the hyacinth and the taste of roast beef, which had previously given pleasure, became intensely disagreeable.

When I saw her on the 4th of March, her appearance and condition were as follows:—She was a tall, full-grown, well-developed, healthy-looking young woman. She walked into my consulting room, guided by her sister, with the gait of a blind person, without reeling or staggering in any way. Owing to her blindness, her expression was, perhaps, at times vacant, but she answered all my questions in a satisfactory and intelligent manner until the end of the interview, when she became somewhat fatigued. Her tongue gave no indication of gastric irritation, and she said her appetite was good. The temperature was normal, and I was unable to discover any evidence of disease of either the heart or lungs. She had no menstrual troubles. As regards the nervous system, I was able to note the following points:—At times she experienced a sensation of cold in the lower limbs, but sensibility to touch, heat, tickling, and pain was normal. Both pupils were widely dilated, and responded very feebly to light and accommodation. There was neither ptosis nor strabismus. On ophthalmoscopic examination, both discs were observed to be white, with well-defined margins, and the vessels were small and shrunken. At the inner margin of the disc of the left eye there had evidently been a choroiditis with resulting atrophy and absorption of pigment. She was scarcely able to distinguish the flash from the mirror in the left eye, but noticed a flash in that eye when the negative electrode of a galvanic

battery was placed over the temple. The ticking of a watch was not heard, even when placed against the right ear, but it could be heard distinctly at a distance of eight to ten inches from the left ear. When the watch was placed on the forehead, she heard it only in the left ear. The tympanum in both ears was apparently healthy. She had no difficulty in estimating the weights of various objects placed in her hands, or suspended from her limbs. The galvanic current produced a metallic taste in the mouth, and she could easily distinguish the taste of salt from that of sugar, and the smell of ether from that of eau-de-cologne. There was no ankle-clonus, and the knee-jerk was normal. She was able to stand firmly when both feet were placed close together, and no swaying motion or inco-ordination of any kind could be detected while walking. The form of the cranium was normal, and no pain was experienced during examination when firm pressure was made over the occiput. As further examination at this time was inadvisable, it was arranged that I should see her in bed next day, in order to confirm my observations.

She retired to bed in apparently good spirits, although somewhat fatigued by her long railway journey to London. In about an hour she awoke with the severe occipital headache, and the respiration and pulse becoming weaker, she gradually sank and died in a few hours, without regaining consciousness. The history and symptoms pointed to a tubercular growth in the right half of the posterior fossa, involving the vagus, the *portio mollis*, the medulla, and probably pressing on the cerebellum.

At the autopsy, twelve hours after death, I was assisted by Dr. Hughes Bennett. I had some difficulty in obtaining the consent of the friends, and was only allowed to examine the brain. The dura mater was in places adherent to the skull-cap. The superior longitudinal sinus was distended with blood, and on removing the dura mater, the veins of the pia mater were found to be engorged. The convolutions were flattened, and the sulci shallow. Considerable difficulty was experienced in raising the cerebellum, owing to adhesions in the right half of the posterior fossa. As the adhesions were extensive, the greater part of the medulla was unfortunately destroyed. During the removal of the brain a large quantity of sanguineous fluid escaped; and afterwards, on examination, both lateral ventricles were found dilated. The right hemisphere of the cerebellum had been almost completely destroyed by the pressure of a cartilaginous-like tumour, about the size of a hen's egg, which had grown from the dura mater lining the right half of the posterior fossa. Arising from the outer margin of the fossa, near the junction of the

lateral sinus with the petrosal sinuses, it had pressed on the occipital surface of the cerebellum, causing its absorption. It appeared to have passed upwards, inwards, and forwards, so as to destroy nearly the whole of its internal structure. In fact, there was merely a thin layer of nerve tissue covering the tumour. The amygdaloid lobe, the flocculus, and part of the biventral lobe were, however, intact. The vermiform, or central lobe, and the left hemisphere were untouched. The greater part of the medulla having been destroyed during the removal, the relation of the various nerves to the tumour could not be satisfactorily ascertained. The histological examination of the tumour was kindly undertaken by Dr. Hebb, Pathologist to Westminster Hospital, and he pronounced it to be a tubercular mass containing remarkably large giant cells.

Remarks.—The chief point of interest in this case is the destruction of a large amount of one hemisphere of the cerebellum, without the production of *direct* cerebellar symptoms, such as disorders of equilibrium, and co-ordination. This may be explained by supposing that the growth of the tumour was so slow that the other half of the cerebellum was enabled gradually to acquire the power of performing the functions of the whole organ.

The *indirect* symptoms, which pointed to cerebellar disease, were double optic neuritis, vomiting, pain in the back of the head, and occasional staggering to the right side.

It is of interest to note the evidences of pressure on the vagus, in the peculiarities of the respiration and the pulse.

The early symptoms of the disease were such as to lead one to attribute them to hysteria, rather than to serious organic disease, but the knowledge of the tubercular family history was of value in forming a diagnosis.