A CASE OF ABSCESS OF THE OCCIPITAL LOBE WITH HEMIANOPSIA.*

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CASES of hemianopsia are of interest, if associated with an autopsy, to show the position of the lesion inducing the symptom. The paper published by Dr. E. C. Seguin on this subject¹ is of so recent a date, and so carefully prepared, that I have only fulfilled a promise made long ago to the chairman of this section, that I would present some matter before his term of office closed, and have, in its fulfilment, thought that a practical study of some features of the particular case which I will bring to your notice would prove of interest. I do not claim for this instance any possibility of deciding the location of the visual centre, owing to the secondary effects of the lesion and the gaps in the history. It has only in this regard a cumulative influence.

The patient, J. C., a machinist, was twenty-five years of age. His history, as I learned it at the clinic, Tuesday, January 19th, and as given to the physicians at Bellevue Hospital, was that on Nov. 4th he had been struck in the head by the butt end of a revolver, the injury being inflicted on the left side at the posterior part of the vertex. He was considerably stunned, but not rendered unconscious by the blow, which caused a scalp wound. He returned to his work on the following day, but after three days had severe headache. At this time he had an attack of inflammation of the scalp, perhaps erysipelas; pus also escaped

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from the opening in the scalp. Several weeks after the accident he noticed numbness, first of the arm, and then of of the leg, on the left side.

About six weeks after the accident, and three weeks before the time when I first saw him, weakness came on in the arm and leg of the left side. This gradually increased, until at the time of observation it constituted a well-marked paresis. He had been obliged to take to his bed after it had existed two weeks (a week before admission). He had complained of headache more or less from the time of the accident until observed.

When observed, the patient was found to have a cicatrix of the scalp, on the left side, about an inch in length, situated in the supero-parietal region of left side. He had anæsthesia of the left side of face, of left arm and leg, less in the face than in the other situations, and not complete in arm and leg. He had hemiparesis of left side, but not involving the face or tongue, though some difference was carefully looked for. He lay in a sort of doze most of the time, rousing up at times, and complaining of the pain in his head. Yet, when spoken to rather sharply, he would answer questions in a perfectly rational manner, and showed no indication of word-blindness. I found that he had well-marked hemianopsia of the left field of vision. The sight seemed at first to be intact for the right field of vision, but it was somewhat blurred. An ophthalmoscopic examination showed well-marked choked disc in both eyes. For the first five days after admission he showed no elevation of temperature; after this for five days there was an evening rise to $99\frac{1}{2}$. The pulse was at first slow and regular, but with the elevation of temperature became somewhat increased in frequency.

As the disease progressed he became more stupid, but still able to be aroused. Ten days after admission his pulse reached (forenoon) 106, temperature $100\frac{1}{2}$; (afternoon) pulse 156, temperature $101\frac{1}{4}$. From this time on his pulse was frequent, temperature elevated, though not exceeding 102, and varying somewhat. On the thirteenth day after admission Dr. J. D. Bryant trephined

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the skull on the right side, at a point nearly corresponding to the injury on the left side. Through this opening a hydopermic-syringe needle was introduced, at first directly downwards, then toward the occipital lobe. On one occasion a slight amount of slightly colored serum was withdrawn, but in subsequent exploration with an aspirator in this same direction no more fluid could be obtained. An opening was also made at the point of injury, where rarefying osteitis existed, with no result.

The pulse was over 140 at the time of the operation, which had been performed as a sort of *dernier ressort*, owing to his failing condition, in the hope of striking the abscess and relieving the symptoms. After the failure of the exploratory punctures, the question of trephining over the occipital lobe was raised, but from his increasing weakness of pulse, and the failure of the aspirator introduced on two occasions in that direction to obtain pus, it was given up. He died nine hours after the operation, though the pulse had fallen somewhat in the meantime. His temperature two hours before death was 102° F.

The autopsy showed two trephine openings on nearly opposite sides of the skull. That on the right side was situated in the postero-superior parietal region, and corresponded to the interspace between angular and superior parietal lobule. A clot of blood filled this portion, the size of half the thickness of end of little finger. There was no serous nor purulent exudation in the meshes of the pia mater. The dura was adherent to pia over the occipital lobe, both on its mesial and convex aspects. The white matter of the right hemisphere, as far forward as the fissure of Rolando, was softened and œdematous. The occipital lobe was the site of an abscess, round in shape, situated in its white matter and approaching the surface posteriorly, where but a thinned portion of gray matter and the wall of the sac intervened between it and the adherent dura and pia mater. The abscess was bounded by a capsule, and contained a thin yellowish-green sero-pus. The opposite hemisphere and the base showed nothing of note. Owing to the soft state of the affected portion, I had it immediately placed in

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Müller's fluid. Unfortunately, the hardening, as you see, has not been satisfactory, and in preparing it for exhibition so as to show the relationship of the abscess, the convolutions have fallen in, in a manner to disfigure the specimen. By a comparison with the opposite side it will be seen that the abscess occupies the greater part of the occipital lobe medullary matter, so as to affect the fibres coming from the cuneus, as well as the occipital convolutions and those from the basal surface. The abscess was about two inches in longest diameter.

This case well illustrates the difficulties which at times surround a localization of a cerebral lesion. The patient comes under observation at a late period of the disease; some symptoms of importance in diagnosis are then first observed; and it is impossible to learn from the patient when they made their appearance. In the history as given, slight numbness, followed by paresis, preceded the occurrence of the hemianopsia. The time, too, of occurrence of hemianæsthesia is uncertain, though probably it antedated the paresis.

The question as to the hemisphere of the brain could only be answered in one way, viz., the right. The paresis, the anæsthesia, hemianopsia, all existing on the left, together with the constant turning of the head to the left, demonstrated a right-sided lesion. The difficulty was to define the centre of the lesion from the effects of the peripheral encephalitis. If the order of occurrence of the symptoms were taken into account as he gave them to me, it would point to a lesion not directly involving the optic fibres or centre, but producing first numbness and paresis, followed by the hemianopsia, due to involvement of these subsequently. In attempting to decide the point I felt that this was an obstacle to a positive conclusion. An inquiry of his friends, and of a physician who saw him previous to his entry into hospital, have not proved of service in establishing the periods of the development of the hemianopsia. As regards this point, I made the following statement:

The occurrence of hemianopsia and hemianæsthesia point toward the occipital lobe as the site of the lesion, but

the hemiparesis possibly antedating the hemianopsia, leads one to be somewhat uncertain in this respect, as a lesion may be so placed as to involve the central portion of the optic tract by secondary and not by primary change. Moreover, in deciding this I had to take into account the situation of the injury and the succeeding inflammation and suppuration, which were considerably anterior to the occipital lobe, and would, if the facts were of the order mentioned, point to a centre anterior.

As regards the nature of the lesion, my diagnosis was an abscess with secondary encephalitis. The reasons for this were: First, there had been an injury to the scalp with suppuration; after this, for a period of from three to six weeks, saving headache, he had been fairly well; then he began to show evidences of an advancing cerebral lesion. It was unaccompanied by the irritation phenomena of meningitis, but was accompanied by events which pointed to an involvement of the brain tissue. The occurrence of optic neuritis is of interest in connection with this case.