DESCRIPTION OF COLOURED PLATE.

The drawing was made from memory (C.A.B.). It illustrates the plan of and the parts involved in the operation. The opening in the bone corresponds to the deficiency at present existing in the patient's skull. It is to be remembered that the curve of the head prevents the actual linear dimensions of the deficiency in the skull being reproduced on a flat surface. The drawing is a view at right angles to the mid point of the exposed cortex and was made in part from the normal brain and in part by the help of one of Professor Cunningham's casts. At the upper border of the opening in the skull is seen the sagittal suture, at the lower border the scalp flap and the flap of the dura mater. R = the sulcus of Rolando. + = the place where the cortex ruptured during palpation. With regard to the area of so-called "motor cortex" involved in the operation the reader is reminded that the ascending frontal and parietal convolutions are separated from each other for a distance of $3\frac{3}{4}$ inches by the sulcus of Rolando. The fine silk cortical ligatures which controlled the bleeding within the region of the operation are represented. The continuous line within the silk threads is the line of incision of the cortex. The darker blue tint of the dura below the sagittal suture marks the course of the superior longitudinal sinus.

THREE CASES OF INTRACRANIAL ABSCESS : RECOVERY IN EACH CASE.

By ROBERT W. MURRAY, F.R.C.S.,
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ONE of the following cases was operated upon three years and a-half ago, and an account of this case has been published in the BRITISH MEDICAL JOURNAL of February 13th, 1892. I again refer to it as the subsequent history of patients operated upon for cerebral abscess is always of interest, especially when the lesion occurs in childhood.

AFTER-HISTORY OF A CASE OF CEREBRAL ABSCESS.

The following is a brief history of this case. A. L., admitted into the Children's Infirmary on May 5th, 1891, on account of loss of power of the left hand, and epileptic seizures affecting the left upper extremity and the left side of the face. A fortnight previous to her admission her father threw a poker at his wife, missed her, the poker striking the child end on, on the right side of the head. There was free bleeding from the wound, which was cleansed and a plaster applied. The child appeared to be in her usual good health until two weeks after the accident, when she ran into the house crying, because her left arm and the left side of her face were twitching. This twitching continued without any loss of consciousness for half an hour. She had no further attacks until the day before admission. When I saw her there was paralysis of the left upper limb, chiefly involving the hand, which assumed a claw-like position. There was a small sloughing scalp wound in the right parietal region, corresponding to the junction of the upper with the middle third of the Rolandic area. The bone here was bare, and a probe could be passed through a small aperture in it into the cranial cavity. I trephined at this spot, and at a depth of two inches opened a cerebral abscess, a drachm of thick non-offensive pus escaping.

She had no more fits, and made an uninterrupted recovery, very soon regaining the power of the paralysed arm and hand. She was at the time of operation 5 years old, and is now $8\frac{1}{2}$ years of age. During these three years and a-half she has enjoyed good health, and shows no sign of mental impairment.

TEMPORO-SPHENOIDAL ABSCESS.

In the next case the abscess was the result of middle-ear disease. L. J. was admitted into the Children's Infirmary on November 17th, 1893, being then $9\frac{1}{2}$ years of age. She was quite well until four weeks previous to her admission, when she had great pain in her left ear. This was followed by an offensive discharge from the ear, which discharge continued for four or five days; it then ceased, and there had been no discharge from the ear since then. This ear trouble necessitated her being away from school for a week. She went back to school on October 23rd, but remained at home the next

day, as she felt tired, and her head ached. She, however, attended school the following day, and managed the morning lessons, but only had light work to do, as she looked poorly. She returned home at midday, and almost as soon as she arrived had a fit. In this fit she struggled slightly, then became semiconscious, and relapsed into another fit; this was followed by a third, the three fits lasting in all about one hour and a-half. The character of these fits could not be ascertained, as the friends were too much upset to observe details. These attacks occurred on October 28th. After that date she had no more fits, but was decidedly ill, remaining in bed with the exception of two days, until her admission, complaining of constant frontal headache. She vomited occasionally. She had no shivering and was not feverish. She was brought to the hospital on November 17th, it then being four weeks since the onset of the otorrhœa, and three weeks since her last fit. She was a well-grown child, conscious though drowsy, knew where she was, and answered questions. Constantly put her hand to her forehead, and said her head ached. There was a slight divergent squint of the left eye, and the left pupil was dilated. The right side of the face was slightly paralysed, but there was no apparent weakness of the right arm or leg and no aphasia. There was no discharge from either ear. Her temperature was 97° F. Mr. Stevenson, Surgeon to the Eye and Ear Infirmary, kindly examined the eyes for me, and said there was double optic neuritis, more marked in the left than in the right eye. As it was late in the evening when the child was admitted I decided to postpone operating until next day. But shortly after I arrived home I was telephoned for, as the child's condition had undergone a marked change for the worse, and she appeared to be dying. Her pulse and respiration, which on admission were both below normal, had fallen to 48 and 8 respectively.

Fig. 1.—Case II: temporo-sphenoidal abscess showing line of incision adopted.

I at once operated, making a curved incision practically corresponding to the line of the squamous suture on the left side, and removed a disc of bone with a half-inch trephine, about three-quarters of an inch directly above the external auditory meatus. The dura mater bulged into the opening and did not pulsate. When the dura was divided the brain protruded through the incision. I then passed a tenotomy

knife into the brain for about half an inch, when it entered an abscess cavity and pus at once escaped. On further dilating the opening with a pair of sinus forceps the pus was forcibly ejected. A drainage tube was inserted and the abscess cavity thoroughly cleansed by syringing with warm boracic lotion. The flap was sutured and the drainage tube brought to the surface through an opening made in the middle of the flap. Three ounces of pus were collected and fully half an ounce of pus was lost, so that the abscess contained three and a-half ounces.

The immediate effect of the operation was very marked. The pulse, which before operation was 48, rose to 72, and the respiration, which before operation was 8, rose to 28. Two weeks later I opened the mastoid antrum and removed from it some unhealthy granulation tissue. From the date of opening the temporo-sphenoidal abscess, now a year ago, the child made an uninterrupted recovery and has remained perfectly well ever since.

CEREBELLAR ABSCESS.

The third case was that of a boy aged 11, who was admitted into the infirmary on June 2nd, 1894. His previous history, so far as we could obtain it, was the following. There had been a discharge from his right ear for the last three weeks, but he had attended school regularly until within a few days, when he complained of headache, and frequently vomited. He had no fits or shivering attacks. On admission he was emaciated, very dirty, looked extremely ill, and complained of frontal headache. There was an offensive discharge from the right ear, and a painful swelling over the right mastoid region. His temperature was 100°. There was double optic neuritis. I made a vertical incision over the mastoid process, and opened a subperiosteal abscess. During the next few days his general condition was worse rather than better. The temperature varied from 98° to 100°; the pulse varied from 80 to 90, and was irregular.

Fig. 2.—Case III: Cerebellar abscess with extradural abscess over sigmoid sinus.

There was swelling and tenderness on the upper part of the neck corresponding to the line of the internal jugular vein. His frontal headache persisted. We again put him under chloroform, with the view of opening the mastoid antrum

and exposing the sigmoid portion of the lateral sinus. The mastoid antrum was full of offensive granulation tissue, and on further removing bone in order to expose the sigmoid sinus, I opened an extradural abscess on the sinus, about a drachm of thick non-offensive pus escaping. The sinus, covered with granulation tissue, was collapsed, and appeared to be thrombosed. I did not open it. The boy was not materially relieved by operation; in fact, two days afterwards was markedly worse, though the swelling in the neck was rapidly subsiding. He still had constant frontal headache, and vomited occasionally. His respirations were sighing, and the pulse varied from 40 to 60 a minute, and was irregular. He had no paralysis of the face or limbs, neither was there any ocular paralysis, and his pupils were equal. There was no aphasia, motor or sensory. The optic neuritis was more marked. The temperature was 97° F. It was obvious he was suffering from some grave cerebral affection consequent upon middle-ear disease, most probably an abscess either of the temporo-sphenoidal lobe or of the right lateral lobe of the cerebellum. As the evidence pointed strongly in favour of the latter, I decided to explore the cerebellum. Mr. Hugh E. Jones kindly saw the boy with me, and agreed as to the diagnosis. I exposed the cerebellum by nibbling away the bone from the seat of my former incision. The dura mater bulged, but did not pulsate. On incising the dura, the brain protruded, and by passing a director into the cerebellum in a direction forwards and inwards I opened an abscess, 4 to 6 drachms of sweet pus escaping. The abscess cavity was well washed out through a drainage tube, and the tube brought to the surface through an opening made in the middle of the flap, as in the previous case. His pulse, which previous to operation was 20 beats per minute, rose directly after operation to 100 per minute, and his temperature, which before operation was 97°, rose to 99.6°.

The operation was performed on June 25th, 1894, and since then he has steadily improved. He attends school regularly and enjoys excellent health.

The chief interest in the first case is the apparently complete and permanent recovery. In the second case the symptoms were typical of the lesion, though it is unusual for a cerebral abscess to follow an acute otorrhoea. It also shows the remarkable cerebral capacity in childhood, for the abscess was an unusually large one. The third case was a complicated one, as abscess of the cerebellum consequent upon middle-ear disease usually is. The diagnosis was arrived at chiefly on anatomical grounds, the sigmoid groove being diseased, and from the absence of definite symptoms of a lesion of the temporo-sphenoidal lobe. The sighing respiration is also noteworthy.

I am glad of this opportunity to express my indebtedness to Dr. Macewen for his very clear exposition of this branch of surgery, for what little I know of intracranial lesions consequent upon middle-ear disease has been derived from a study of his works.

A CASE OF RIGHT HEMIPLEGIA WITH EPILEPSY, TREATED BY TREPHINING.

USE OF HAND, ARM, AND LEG RESTORED, AND NO RETURN OF
FITS AFTER OPERATION.

BY

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DESCRIPTION OF THE CASE BY DR. OUTTERSON WOOD.

M. P., a girl, aged 3 years and 3 months, was admitted into the West End Hospital for Nervous Diseases, Epilepsy, and Paralysis, on January 1st, 1894, suffering from weakness and inability to use her right hand, arm, and leg. There was also a history of epileptic attacks. In other respects she was a well-nourished, healthy-looking child, bright, intelligent, and cheerful.

The previous history showed that when she was born the labour was easy, natural, and free from complication; that she had been perfectly well from birth until she was 1 year of age, and in every respect healthy and vigorous. She then