tum to cure threadworms, nor was it justifiable to cut the cervix in order to reach the interior of the cavity of the fundus uteri, more especially when they had amply sufficient means for dilating the uterus to enable one to get at the disease.—Dr. HERMAN, in reply, said that the discussion had shown what great differences of opinion existed as to the frequency of corporeal endometritis. He thought the divergence of view depended on the amount of evidence which satisfied different persons as to the existence of corporeal endometritis. There were some who seemed to think that any patient with slightly increased menstrual flow and a little leucorrhœa, and in whom nothing could be found to account for it, had corporeal endometritis. If that were sufficient evidence, then endometritis was common. It was matter of opinion, and he did not say that this view was unreasonable; but he did not accept it, and was quite sure that cases requiring the curette and caustic were not common. Some other cases had been described, in which he should absolutely dissent from the diagnosis, namely, cases in which there was "intense agony." If he saw such a case, he should feel sure there was something else than endometritis. Again, if there was amenorrhœa and no discharge, he should think the diagnosis of endometritis was negatived. Dr. Murdoch Cameron's suggestion to use a rifle brush was a practical one. Dr. Doléris, of Paris, had introduced such an instrument, which he called an "*écouvillon*." He (Dr. Herman) had not yet used it. He could not follow Dr. Duke in advising the use of an intrauterine stem. He (Dr. Herman) should think it a most efficient means of exciting and keeping up endometritis. He was sorry that he could not follow so esteemed a leader as Dr. Graily Hewitt in his estimate of the effects of uterine displacement in causing endometritis, excepting as to backward displacements, a small minority of which he thought did do so. In such cases, all that was wanted was to support the uterus, and then the endometritis would spontaneously get well. He did not assert that febrile diseases in infancy led to uterine disease in the adult; but the occurrence of endometritis in the adult in the course of febrile disease he thought could not now be questioned. The discharges which had been referred to as occurring in children he thought due to vulvitis, not endometritis. He agreed with what had fallen from Dr. Walker as to the mischief of over-estimating the influence of uterine disease in the production of nervous symptoms. He agreed also with Dr. Horrocks as to the probable effect of alcohol in causing endometritis, but he had no evidence of it to bring forward.

CLINICAL REMARKS

ON A CASE OF

ABSCESS IN THE LEFT TEMPORO-SPHENOIDAL LOBE FOLLOWING SUPPURATION IN THE MIDDLE EAR.

By W. WATSON CHEYNE, M.B., F.R.C.S.,

Surgeon to King's College Hospital and to the Paddington Green Children's Hospital, etc.

ON the morning of September 11th, 1889, I was asked by Dr. Wood, of Enfield, to see a case of old-standing disease of the ear in which acute symptoms had developed a few days previously, and, as the symptoms seemed to point to abscess in the brain, we had the patient removed to King's College Hospital without delay.

The patient was a male, aged 26, a coal porter by trade, who had suffered from a chronic suppurative discharge from the left ear for seven or eight years. The patient had been a healthy man, temperate in his habits and in constant employment. There was no phthisical family history. No clear history could be obtained of the commencement of the ear trouble, but he attributed it to the fact that when at work he always wore a leather arrangement on his head the buckle of which pressed on and hurt his left ear. He had on two previous occasions had severe attacks of pain in the left temporal region which laid him up on each occasion for about a fortnight; one of these attacks occurred three and a half years ago and the other

last spring, but beyond the fact that he had very severe pain in the left ear and temporal region, and that on the last occasion there was some swelling in the neck, he could tell nothing definite. Both attacks passed off without any special local treatment and left him apparently quite well with the exception of the persistent and foul-smelling discharge from his ear.

On the evening of September 7th, 1889, that is, four days before his admission into the hospital, intense pain began in the left temporal region apparently without any definite cause. On the following day, September 8th, he had two rigors. On September 9th he vomited twice, and on September 10th his friends say that he had a fit, though it was impossible to extract from them any intelligible description of it, and the patient himself was not aware of having had one. There certainly were no convulsions. His bowels had been constipated.

The patient's condition on September 11th, was as follows:—He complains of severe and constant pain of a dull aching character which he refers to a small area in the left temporal fossa a little above the zygoma; a circle about an inch and a half in diameter would cover the area of pain. He feels ill, has no desire to leave his bed, and if he gets up he feels giddy. He can see quite well and is perfectly rational; his speech is not slow. Pupils equal and react equally to light; no optic neuritis. No paralysis of ocular or other muscles. Tympanic membrane destroyed and polyp springing from its posterior attachment; sound conducted through the bone is referred to the left ear. With watch, on right side hearing distance considerable, on the left faintly on pressure. The painful area in the temporal region is also tender to pressure; there is no swelling or tenderness over the mastoid region or along the jugular vein. Temperature on admission 99°. Pulse 56. Tongue brown and somewhat dry; lungs, heart, and urine normal; bowels constipated; patient not emaciated.

I had a very strong suspicion that the condition of the patient was due to commencing abscess formation in the temporo-sphenoidal lobe, but as the actual symptoms which warranted such a diagnosis were very slight and as there was a profuse foetid discharge from the ear which would render it a difficult matter to keep the trephine wound aseptic, I determined, on carefully thinking over the case, to delay operation till we saw what course the case followed. Purgatives were ordered and the ear was to be frequently syringed out with boracic lotion.

September 12th. Patient has slept fairly well, but his symptoms remain on the whole unaltered. He thinks the pain is somewhat less and he feels brighter. Dr. Pritchard kindly saw the case with me to-day and removed a polypus, and ordered a blister behind the ear and leeches in front. Temperature, morning 99.6°, evening 98.2°. Pulse 56.

On September 13th and 14th, the patient remained in much the same general condition, but on the 14th he told us that the pain had shifted from the temporal to the occipital region and was more diffuse, but that on the whole he felt rather better. The pulse was still 56 and the temperature normal.

I had to go out of town till the 16th, and consequently did not see the patient again till that day when I received the following report from my house-surgeon. The patient passed a fairly good day on Saturday, the 14th, till the evening. On taking the temperature at 6 p.m. it was found to be 101° (the highest temperature previously was 99.6° on the 12th), and at 7.30 it was 101.8°. At 8.20 he suddenly commenced rolling about and moaning as if in intense pain; he said the pain was all over his head. At 8.30 he began to be delirious. Antipyrin was given and he was quieter till 11 p.m., when he became quite delirious, trying to get out of bed, saying he was going home, and moaning. He remained in this condition all night, dozing however, at short intervals. He vomited twelve ounces of fluid at 12.30 A.M. (the first time he had vomited since admission). During the night there was also twitching of the left eyebrow and left angle of the mouth. Pupils equal, not dilated and react to light; face flushed; tongue furred; mouth and lips dry. On September 15th, pulse was 56 and the temperature remained about 100.4° all day, falling however to 99° at midnight. Bowels emptied by enema and bromide of potassium given at intervals. Patient was more delirious but took two pints of milk, two eggs, and Brand's essence during the day, and in addition a zymised nutrient suppository was administered. During the early morning of September 16th, he continued in much the same condition, constantly trying to get out of bed and very noisy. Face twitched more than on the previous day. In the morning the pulse was 52, feeble and

irregular, and the temperature 100.6°. There was retention of urine. During the forenoon he became somewhat quieter.

When I saw the patient in the afternoon, I found him quiet, unconscious, and muttering. Pulse about 50, very feeble. Temperature 101.2°. About a quarter of an hour before I came into the ward, a severe rigor had begun and it was still going on when I saw him. The patient was at once taken into the theatre and chloroform administered. When the patient was fully under the influence of the anæsthetic, it was seen that while the right pupil became contracted the left remained in a state of medium dilatation. The scalp being shaved and thoroughly disinfected, I trephined the patient, using a one-inch trephine, at the point mentioned by Mr. Barker, viz. an inch and a quarter behind the centre of the auditory meatus, and the same distance above the base line. On removing the circle of bone, the dura mater at once bulged into the opening, and no cerebral pulsation could be felt. The bone and dura mater were healthy. On dividing the dura mater the brain bulged out, the surface being smooth though congested. There was no meningitis. I then passed a hollow needle into the brain, directing it inwards and slightly forwards, and I had not pushed it in more than half-an-inch when there was a spurt of thin, intensely foetid pus through it and by the side of it. The opening was then carefully enlarged by a sharp spoon, the contents of the abscess evacuated, and some degenerated brain substance scraped out. The cavity extended inwards and somewhat forwards. A piece of a silver catheter rather more than two inches in length and with a slight forward curve was inserted, the rest of the wound stitched and antiseptic dressings applied. The pus was not collected, but measured probably about half an ounce, was thin and of an intensely foetid or rather faecal odour; I have never, I think, smelt anything so foul.

After the operation the patient remained fairly quiet till 8.30, when he became restless and was sick. The dressing was changed at 10 P.M. (I thought it advisable to change the dressings twice daily on account of the close proximity of putrid ear discharge), and as I found the catheter blocked with brain debris, I substituted for it a medium-sized rubber tracheotomy tube, a small piece being cut off its length, and a couple of holes at two places to permit drainage. As the patient could not be fed by the mouth, zymised suppositories, alternating with nutrient enemata, were administered. Temperature 99.2°; pulse 65.

September 17th. Patient has passed a restless night and was very noisy in the early part, but quieted down after three-drachm doses of *succus conii*. In the morning he drank some milk himself, but he could not be said to be conscious. The temperature rose at 5 A.M. to 101°, but had fallen at 9 A.M. to normal; it rose again in the afternoon till it reached 102.2° at 7 P.M. when it began to fall again. The pulse averaged about 82 during the day. Bowels moved by enema. Nutrient suppositories and *succus conii* continued. Has still retention. There has been no twitching of the face since the operation.

September 18th. Patient has passed a very restless night and has been very noisy. Left side of face twitched a little, but not nearly so much as before the operation. He does not seem to understand what is said to him. Passed water in bed during the night. Not much discharge from the wound, but what there is has still a fœcal odour; wound looking well. Pulse in the morning 84. The temperature fell at 9 A.M. to 98.8°, but towards the evening it began to rise again, and at 7.30 was 101°. At 9 P.M. patient had a severe rigor lasting twenty minutes, and at 9.20 the temperature was 104°. At midnight he was raving wildly and was very restless. Twenty grains of quinine were given at 9.30. He passed urine himself during the day.

September 19th. About three o'clock in the morning patient became quieter and has passed a better night. He seemed more conscious this morning; he told the time by a watch after several attempts. The temperature steadily fell shortly after the rigor yesterday evening and was normal at 11.30 A.M. (pulse 80); but it soon began to rise again, and at 4.20 P.M. patient had another rigor lasting half an hour. At 5.40 P.M. the temperature was 103.4°. Bowels cleared out by a glycerine enema. Takes food readily. Quinine and bromide of potassium continued. Has had no twitching. The wound is looking well, but the house-surgeon in changing the dressing last evening applied a quantity of moist alembroth gauze next the skin, and the whole skin as far as the dressing extended is red and cedematous and painful to the touch, and at the most dependent part of the dressing (posteriorly) the skin is blistered.

September 20th. The temperature at 11.45 A.M. had fallen to

98.8°; pulse 80. Was restless and noisy in the early part of the night, but has been quieter since 4 A.M. There has been no twitching of the face. Much more conscious to-day. Takes notice of what is going on in the ward. Speaks very slowly and when asked a question replies correctly as regards the first two or three words and then apparently forgets what he was going to say and talks nonsense; asked to write his name, he puts down the first two or three letters correctly and then a number of letters at random. Skin very cedematous and painful under the dressings and several raw places towards the edges. Is now taking quinine and sulpho-carbolate of soda, also bromide of potassium. Feeds himself fairly well by the mouth, but the zymised suppositories are still continued every four hours. At 7.10 P.M. he had another rigor lasting seven minutes, and at 9 P.M. the temperature was 102.4°. Pulse averaged 88.

September 21st. Has had a much quieter night, and has slept very well. Temperature at 2.30 was 98.20. Pulse 80. There is apparent improvement in attention and consciousness as compared with the previous day. At 2.35 a rigor began, lasting twenty-five minutes and at 3 P.M. the temperature was 101.40. The eyes were examined for the first time since he became delirious. There was no optic neuritis and there has been none. The margin of the right disc is well defined; that of the left is not quite so clear.

September 22nd. Told the time by the clock at 6 A.M. Became more restless at 10 A.M. and is not looking so well. Tongue dry. Twitching of left eyebrow and left angle of the mouth. Pulse 90 to 96, weak, dicrotic, and slightly irregular. Not much discharge; rubber drainage tube substituted for the tracheotomy tube. The rest of the wound had healed. Still a good deal of cedema and tenderness over the left side of the head. Dr. Dalton examined the patient to-day but found no evidence of pyæmia. The lung sounds are normal; no cough; no joint affections; heart sounds normal; no jaundice or tenderness over liver. No strabismus; no cranial nerve paralysis. Patient was less conscious throughout the day, and was a good deal excited after a visit from his wife. The temperature rose at 2 p.m. to 101.4°, but had fallen to 98° at 8 p.m. No rigor.

September 23rd. Patient has had a quieter night and has slept a good deal. There has been no twitching of the face. The temperature, which at midnight was 98.2°, steadily fell, till at 11.15 A.M. the mercury did not rise in the thermometer. The patient at that time was very collapsed and the pulse very feeble and irregular, 97. Brandy was given every half hour and the temperature soon rose, but remained subnormal (at 97° or a little over) all day. There was more discharge from the ear to-day but very little from the wound. Right hemiopia was found by Dr. Ferrier. Patient could not be said to be conscious. Tongue dry.

September 24th. Was restless during the night. No twitching. In the morning he answered less rationally and appeared more drowsy. As the day went on he became more unconscious and very restless, his chief action being kneeling in bed and burying his face in the pillow; he also always lay on the right side. Lungs and heart normal. Pulse very feeble, about 80. Temperature averaged 97.8° during the day. At 5 p.m., after consultation with Dr. Pritchard, I gave the patient chloroform and passed a hollow needle into the brain in various directions in search of pus, but failed to find any. I then opened up the mastoid cells, but there was no accumulation of pus in them. After the operation he remained in much the same condition. He could open both eyes widely. The temperature still remained at or below 98°.

September 25th. Very restless night, getting up in bed and pushing the clothes off but not noisy. Only slept two hours and three quarters during the night. When at rest always lay on the right side. Quite unconscious and irritable when touched. The left eyelid has only been half raised since 3 A.M. Pupils equal and react to light. No squinting. No facial paralysis. Pulse very feeble and compressible, 84 to 94. Temperature up till 2 P.M. was at or just below normal, but afterwards rose and was at 6 P.M. 101°. It soon fell and at 9 P.M. was 99°.

September 26th. Very restless during the night, tossing and turning, but he made no sound at all. Passed water in bed three times. No cough. Pulse about the same as yesterday. Quite unconscious. Tongue coated and dry. Partial ptosis on left side as yesterday. Pupils equal and react to light. No facial paralysis. Since early in the morning he has not moved the right arm or leg. Patellar and plantar reflexes very active on both sides. Wound seems all right, very little discharge. Cedema of scalp still present, but decreasing. Temperature rose at 5.30 P.M. to 101.2°. Pulse 84 to 96. No paralysis of sensation.

September 27th. Slept better and moved his right arm and leg frequently during the night. Seemed somewhat brighter to-day. After being washed in the morning sat up and looked round the ward. Passed a better day and took food better. Ptosis less marked. Pulse 92 to 96. In the early morning the temperature was normal but rose about noon to 101° and continued about that height till 9 P.M., when it began to fall and at midnight it was 99°.

September 28th. Very restless night. Moved right leg frequently during the night, and put right arm over his head once. Has slept better. Ptosis has disappeared. Has not spoken but has moaned a little. Very little discharge; drainage tube shortened. Temperature subnormal almost all day, being 97° in the morning and only once rising to normal. Pulse 70 to 92.

September 29th. Slept better and takes nourishment well, noisy during the night. Still not conscious. Moved right hand and arm frequently. Retention of urine. Not much discharge, but on moving the drainage tube which went into the brain several drops of pus escaped by the side of it but whence it came could not be ascertained. Eyes examined by the ophthalmoscope. Left disc very suspicious, looks like commencing neuritis, right also somewhat suspicious on the nasal side. Temperature averaged about 97.8°. Pulse 80 to 96. Bowels cleared out by glycerine enema.

September 30th. Passed a better night. Taking nourishment well. Passed water himself and asked when he wanted to. Mr. McHardy saw the patient and gave the following report: "There is definite effusion about edges of the left optic disc and a suspicion of the same on the right side, but of this disc the patient allows no steady view." Much more sensible; knew his wife. Right hemiopia marked. No alteration in sensation. Dr. Ferrier saw the patient to-day and advised cold to the head, and Leiter's tubes and afterwards an icebag were applied but they did not work well, as the patient pushed them off. Discharge from the wound still slight and no more pus. The highest temperature was 99.6°, the average about normal. Pulse 84 to 90.

October 1st. Fair night. Slept well. More sensible to-day. Wet bed once during the night. Temperature averaged normal. Pulse 80 to 90.

October 2nd. Slept very well. More sensible but still gets up on his hands and knees a good deal. Takes nourishment well. Bed wet once during the night; at other times he asked. Average temperature normal. On changing the dressings it was found that the drainage tube had been pushed out. Sinus forceps were passed into the brain inwards and slightly backwards for about one inch, and on expanding the blades from one to two drachms of thin pus came away; the pus had no foul smell. A drainage tube about two inches in length was introduced into the cavity.

October 3rd. Slept well; only once tried to get up on his hands and knees and only wet his bed once. Has had some cough. Seen by Dr. Ferrier. Word deafness. When told to put out his tongue he did so, but when asked to put his hand over his eye he either did not do anything or put out his tongue. Tactile sensibility unimpaired. Right hemiopia still persists. Left optic disc shows increased vascularity about the edges; this is less marked on the right side. Temperature normal. (I may say that from this date the temperature ranged between 97° and normal, and, therefore, I need not again refer to it).

October 4th. Fair night; cough very troublesome during the night; not so restless. More sensible to-day; said "Good morning," and when asked replied that he felt pretty well; when told to put his hand over his eyes he did so at once. No dulness over the lungs. Very little discharge.

October 5th. Fair night; cough still troublesome. More sensible. Read a few words from a newspaper. Speaks very slowly. Talkative, but talks a good deal of nonsense.

October 6th. Progressing favourably. More rational. Still some right hemiopia, but much less marked. Hand grasp on both sides good; right a little weaker. Limbs equally strong.

From this date patient made steady progress, gaining in intelligence daily. On October 12th, the tube which passed into the mastoid cells was left out. On October 14th, the drainage tube in the brain was shortened; the hemiopia was much less marked; he could now converse fairly intelligently, his speech being still slow; he sits up in bed most of the day. The tube was again shortened on the 17th, and on the 21st he was allowed to get up for the first time. His conversation was then much more coherent. The discharge from his ear was less. (I may say that

since the operation his left ear had been syringed out several times daily with 1 to 2000 sublimate solution, and a ten per cent. emulsion of iodoform in glycerine injected.)

On October 25th, the drainage tube leading into the brain was left out; there was no hemiopia and the optic discs were improving; his mental condition was steadily improving. On November 3rd, the wounds were nearly healed and were dressed with a small piece of carbolic gauze, fixed on with collodion. On November 18th, both wounds (brain and mastoid cells) were found healed.

On November 28th he was transferred to Dr. Pritchard's care for the treatment of his ear trouble. The note at that date is as follows: "The patient is now quite rational in his conversation and takes an interest in everything around him. His speech is still somewhat slow, and a moment or two elapses before he replies to a question. His memory is also improving; he says that ten days ago when he read the morning paper he forgot almost immediately what he had read, but he now finds that he remembers a good deal, and his memory improves every day. There is still a good deal of discharge from the ear, and polypi are still present."

Dr. Pritchard made the following note yesterday. "R fairly normal. L. not on P.

Tuning fork on nose referred to left side; $\frac{R}{L}$ T. F. (mastoid) $\frac{3'' +}{4'' +}$.

His appetite is good and he feels quite well. Four days ago Mr. McHardy examined his eyes and made the following note: "Disks clearly seen. No present optic neuritis. Some pigmentation around disc edges. Retinal vessels vary rather suddenly in focus at disc edges as if in consequence of former displacement by neuritic swelling."

I do not propose to-night to discuss the general subject of abscess of the brain after ear disease, but there are some points in this case to which I should like to refer shortly. The following seem to me to be the main stages in the case, which are of interest from a surgical point of view. The general absence of symptoms for three days after admission, the supervention of delirium and twitching of the face, the operation, the gradual improvement in the general condition of the patient for five days after the operation with the exception of the rigors, the occurrence of the rigors, the subsequent relapse of the patient and the marked depression of the temperature, the temporary paralysis of the levator palpebræ and of the arm and leg, the recognition of the word deafness and hemiopia and the neuritis, the escape of a little pus and the subsequent improvement and the discovery of the second collection with the steady convalescence afterwards.

The first question is: Ought I to have trephined the patient at once when he was admitted? When I first saw him my suspicion of abscess in the temporo-sphenoidal lobe was so strong that my first impulse was to trephine at once, and, as the sequel showed, I should thereby have probably saved the patient from his subsequent severe illness and his imminent risk; it does not, however, necessarily follow that because this was the sequel the symptoms were, therefore, sufficient to justify immediate operation. The symptoms which pointed to abscess were negative rather than positive; the history of the attack indicating some acute process, the entire absence of tenderness about the mastoid or any apparent external cause for the symptoms, the normal temperature and possibly rather slower pulse, and the positive sign of pain in a region previously remarked in several cases as being the seat of pain in temporo-sphenoidal abscess, led to the suspicion. I doubted if these symptoms were sufficient to warrant trephining without allowing a reasonable time to elapse to watch the progress of the case; it is pretty certain that had there been no discharge from the ear temporo-sphenoidal abscess would hardly have been suspected. The patient also stated that on the two previous occasions the symptoms had been somewhat similar. What mainly deterred me, however, from immediate operation was the presence of the profuse septic discharge from the ear which had soaked into the scalp on that side, and the consequent fear that I might not be able to keep the wound I made aseptic, and I felt that I ought to have pretty definite grounds for my diagnosis before subjecting the patient to that risk. I thought it wiser, therefore, to wait, making up my mind to operate as soon as any further sign appeared indicating intracranial disease. As a matter of fact, the subsequent elevation of temperature, delirium, and twitching of the face did not materially add to the signs of temporo-sphenoidal abscess; on the contrary they rather indicated meningitis, but they furnished the evidence of intracranial disease for which I was waiting, and therefore, the

first place where I looked for the pus was in the temporo-sphenoidal lobe. The subsequent progress of the wound showed that I had over-estimated the danger of sepsis from contamination from the ear. It has been a constant source of regret to me that I was out of town on the Saturday evening when the symptoms supervened and therefore could not operate at once. It is also a source of regret to me that the case occurred during the holiday season, when all the physicians, except one, were away, and the message which I sent asking him to see the case never reached him; I was, therefore, left to my own unaided resources. The question which is of chief importance in these cases, and that on which I hope we shall have the opinion of some of the Fellows present is, What is the minimum of symptoms which justifies exploratory trephining?

One word also as to the position of the trephine opening, a point about which there has been a good deal of controversy. It seems to me that it is not possible to indicate one point which will suit all cases. In this particular instance I selected the position indicated by Mr. Barker, because, from the entire absence of symptoms localising the abscess, I concluded that it was most probably situated about the middle of the temporo-sphenoidal lobe.

The cause of the rigors is not by any means clear. I naturally at first concluded that pyæmia had set in, but the further progress of the case negated this view. There was no evidence at any time of thrombosis of the lateral sinus. The diagnosis was made still more perplexing by the swelling of the scalp which followed the application of the alembroth gauze, and to some who saw the case this swelling seemed to indicate a suppurative periostitis or osteomyelitis extending from the trephine hole. This was a view which I could not, however, accept, for the swelling of the scalp was coextensive with the dressing from the first, that is, occupied about half the scalp, while I should have expected an osteomyelitis to be limited to the temporal bone; and further the dermatitis which was evidently present exactly resembled what one had previously seen from the action of sal alembroth on the skin in other parts of the body.

The meaning of the temporary paralysis is also obscure. At first it seemed to point to a purulent leptomeningitis, but the ultimate recovery of the patient seems to preclude that view, and I presume it must have been due to some temporary congestion of the cortex of the brain, probably in connection with the formation of the second collection of pus, or possibly the result of probing the brain with the view of finding pus.

Lastly we have to note the formation of a second collection of pus, which might either have been reaccumulation in some diverticulum of the original abscess, which was not perfectly drained, or an entirely fresh formation in the neighbourhood of the original collection. I am inclined to take the latter view, because the second abscess was situated distinctly further back and higher up than the first, and it seems to me that the rigors, relapse, and other symptoms which afterwards developed were mainly connected with the formation of this second abscess. In connection with the opening of this second abscess there is one practical point to which I think it is worth while to call attention. I searched the situation of the abscess a few days before it was opened with a hollow needle and failed to find pus; a few days later I introduced sinus forceps and on expanding the blades, pus at once welled out. Now I have found on several occasions, and also in this case, that when a hollow needle is passed through healthy brain tissue it at once becomes filled with a plug of brain material, and even though it enters a collection of fluid, unless that fluid is under high tension, this plug is not forced out, and the fluid may remain undetected. On the other hand by using fine sinus forceps much less injury is done to the brain and, by expanding the blades from time to time, if fluid is reached it will certainly appear at the surface. I venture therefore to recommend the use of long sinus forceps in place of hollow needles when one wishes to search for collections of fluid in the brain.

DR. ALEXANDER MACGREGOR, Assistant Physician to the Aberdeen Hospital for Sick Children, has commenced the publication of a series of demonstrations in clinical medicine. They are intended for students attending his *clinique*, and are given to them gratis. Their issue is promised at regular intervals. The first is a demonstration of a case of hemiplegia, with illustrated diagrams and clinical commentary. There appears to be a general desire among students that teachers might publish more fully in this form.

REPORT OF AN EPIDEMIC OF INFLUENZA (140 CASES) OCCURRING AT THE ROYAL ASYLUM, MORNINGSIDE, EDINBURGH.

By GEORGE M. ROBERTSON, M.D.,

AND

FRANK A. ELKINS, M.B.,
Assistant Physicians.

WE here record, with the permission of Dr. Clouston, our experiences of a severe outbreak of influenza, occurring in this asylum. As assistant-physicians in an asylum we have had the advantage of seeing our cases from the very commencement of the attacks, and of following them to the end. Our observations have also been made on a population of both sexes, and of known numbers.

	Male.	Female.	Total.
Patients	407	410	817
Officials	71	104	175
Total	478	514	992

Commencement of Outbreak.—During the second and third weeks of December, scattered cases of illness, which we did not at the time differentiate from ordinary colds, occurred; but during the fourth week of the month we became certain that the epidemic was amongst us, by the daily invasion, by the numbers attacked, and the nature of the symptoms. By the end of the first week of January there had been about fifty cases, and during the second week about sixty more were added to the list. Since then the cases have been fewer in number, and at the present time (January 24th) we have only two or three cases, excluding those still suffering from sequelæ.

General Summary of Symptoms.—The symptoms have been extremely various and numerous, but we have noted the following as the principal ones. The symptoms which almost always occurred were frontal headache and bodily pains. The headache was sometimes very severe, and was accompanied by giddiness. It almost invariably passed away in twenty-four hours. The pain most complained of was in the lumbar region, resembling lumbago, but this was usually accompanied by neuralgic or muscular pains in many other parts, especially in the legs. These pains were much more persistent than the headache, and occasionally remained during convalescence. A slight respiratory catarrh usually accompanied these symptoms. There was a dry cough, with a tough scanty sputum, and there was coryza with suffusion of the eyes. The "running" from the eyes and nose, though often present, was not very prominent in our cases, nor was sneezing a marked symptom. The temperature was an important guide, and at the beginning of well marked cases was almost always above 100°. The attack was marked by suddenness of onset and a few hours before the headache and rise of temperature occurred the patient appeared and felt in his usual health. A slight rigor or a feeling of chilliness usually ushered in the attack. After a duration of about three days, during which time the symptoms gradually disappeared, the temperature fell to the normal. The convalescence was slow, and was marked in almost all cases by extreme weakness.

Having given an outline of the disease, we will now describe in detail the various symptoms.

ANALYSIS OF PARTICULAR SYMPTOMS.

Cerebral Symptoms.—The frontal headache has already been mentioned as being the most constant, and it was also the symptom most complained of. Along with this there was always a disagreeable feeling described as giddiness, lightheadedness, or swimming in the head. The highest nervous functions were affected. There was generally considerable mental depression, and a complete "giving in" to the disease without desire or ability to resist, the patient at once taking to his bed. There was also amongst the sane a want of attention and concentration of thought, so that reading and discharge of business was rendered impossible. This often persisted for a day or two after recovery. The sleep, especially during the first night of the disorder, was disturbed by disagreeable dreams, and in four of our cases delirium occurred. Most cases complained of sleeplessness, and in four cases there was persistent insomnia neces-