resistance. Only once since last May has the patient had a fit, and while we do not exclude the possibility of a recurrence of the cerebral growth which the solitary convulsive seizure and a slight feeling of numbness on two occasions experienced in the left hand rather suggest, the man, generally speaking, is in excellent health, has perfect use in his arm and leg, is quite free from all subjective sensations such as giddiness, and is at present following his occupation, and has done so for the last few months.

Note by Dr. Oliver.—November 5th, 1898.—Since the above was written (February, 1898) this patient has on the whole remained pretty well. The swelling on the side of the head where he was trephined is if anything larger; certainly it is harder than it was. At times there has been return of slight paresis of the left arm. The patient's general condition still remains good, but there is apparently local recurrence of the growth.

CASE II (female). History of Headache, Vomiting, and of a Fit, followed by Paralysis of Right Arm and Paresis of Right Leg: Operation: Removal of an Angiomatous Growth, followed by Aphemia.—E. S., single, aged 23 years, a domestic servant, admitted August 29th, 1894, under Dr. Oliver's care, suffering from partial paralysis of right leg and complete paralysis of right arm. At the end of March, 1894, the patient began to suffer from headache and vomiting. The sickness was pronounced in the morning before breakfast, and gradually disappeared during the day, although the headache persisted, and was generally located in the forehead. Headache and vomiting continued until May 12th, when she left service on account of the work being too heavy. On this date she felt her right arm and hand numb, and on the following morning but one, when attempting to get out of bed, she found that she had lost all power of movement in her right arm, and that the fingers were firmly flexed into the palm of the hand. She did not feel ill enough to stay in bed. One evening, about a fortnight after this, she had a fit. The convulsion was slight; she was unconscious for nearly an hour. On recovering consciousness she found that her right leg was now also paralysed and numb. Beyond having had scarlet fever the girl had been healthy until this illness. She began to menstruate at the age of 11, and was regular until February, 1894, when the menses ceased until May 21st, when they reappeared for once only.

Condition on Admission.—The patient is a well-nourished woman. There is a partial paralysis of the right upper arm, but the loss of power in the muscles of the forearm and fingers is complete. There is no impairment of sensation. In walking it is noticed that the right arm is carried in front of her semiflexed, and that the fingers are bent and pressed towards the palm of the hand. There is well marked wrist-jerk, especially when the tendons of the extensor communis digitorum are struck. There is no wasting of muscles except the thenar and hypothenar; those of the forearm feel flabby. The skin of the palm is cracked, and there is considerable perspiration of the hand and arm. There is no wasting of the muscles of the right leg, but she complains of the calf feeling numb, and it, too, is bedewed with perspiration. There is slight analgesia in the right leg; the knee-jerk is increased. In walking she drags the right foot as it is lifted heavily from the floor, when it is observed to be extremely tremulous. There is slight paralysis of the lower half of the right side of the face, and the tongue deviates rather to the right. Pupils are equal. Her expression is dull and heavy. She complains of pain in front of and above the left ear when the skull is tapped. There is double optic neuritis in the first stage. There are no retinal hæmorrhages but the vessels are tortuous. Pulse 88; tongue moist and clean; heart, lungs, liver and spleen are healthy; the urine is normal. During the few weeks she remained under Dr. Oliver's observation patient never once vomited. She had one or two headaches but so slight as scarcely to call for comment. Her menses had not returned since May. As the physical signs suggested the probability of there being a tumour situated in the left motor areas of the brain low down, Mr. Williamson opened the cranium on November 14th, and the following is his note:

OPERATION.

The details of the operation were very nearly the same as those in the first case. A large flap of the scalp was raised, and the aperture made in the cranium was enlarged until the boundary of the tumour was seen. Although it reached to a considerable depth there was no difficulty in removing the growth, and with it a narrow margin of healthy-looking cerebrum was taken away. Chloroform was the anæsthetic, and gauze was lightly put into the cavity in the brain. It was removed on the second day, and healing proceeded perfectly.

AFTER-HISTORY.

On the morning after the operation the patient seemed very well. She subsequently slept for several hours, when on waking she appeared to be drowsy, and to have lost interest in all around her. To questions she returned the answer "Yes," even when a negative was required. She was quite conscious of the fact that at times she was using the wrong word, and was rather distressed by the circumstance. There still remained considerable paralysis of the right arm.

On November 21st she could open her mouth, but she seemed unable to protrude her tongue. Next day she took some beef-tea, and remarked, "It is nice."

On November 23rd she was able to move her right leg, and she lifted the right arm to the face, and on the following day there was slight movement in the right face.

On November 26th she still answers questions with the answer "Yes," but at times, when she means "No," she moves her head from side to side. She appreciates all that is said, but still cannot put out her tongue. She can flex her arm and forearm quickly, and make vigorous movements with her shoulder muscles, although unable to move her fingers. She can lift the leg up from the bed, but in doing so it is noticed that she always raises the forearm at the same time. Once she has made the movements it is a great effort to repeat them. Knee-jerks are more exaggerated than they were, and ankle clonus is well marked.

November 28th. Tongue to-day is protruded, and as the patient smiles there is observed greater symmetry in the two sides of the face. She lifts her right arm and leg better, but speech remains unaltered. Everything is understood by the patient that is said to her. She can pick out printed letters on a card and can reproduce them. There is no agraphia. In other words, there is neither word-deafness nor word-blindness.

January 12th, 1895. There is nothing in the notes of this case from last

November until to-day worthy of being reported. Patient's condition remained pretty much the same as that detailed, particularly so as regards her inability to speak. To-day the Sister reported that when the other inmates of the ward were singing a hymn the patient joined in the singing, and that her voice was distinctly audible. Two of the verses of the hymn she subsequently hummed to herself.

January 31st. To-day she again sang, and later on, when the other patients were singing, she joined them. Her vocabulary is still limited.

On February 3rd she amused some of the patients near her by singing of her own accord a verse of "Maggie Murphy's Home." In conversing with her, Dr. Oliver at this stage could never get more than the word "Yes" from her, although she quite understood all that was said, and there were signs of improvement generally. All her writing had to be done with the left hand; this, however, was never in answer to questions, but simply in the reproduction of letters of the alphabet from memory or by copying.

The patient left the infirmary at this stage, and returned in the first week of May for examination. Unfortunately at this time Dr. Oliver had only the opportunity of seeing her in rather a casual manner, otherwise there would have been a more exhaustive and careful record of her condition at this period. He found her cheerful, and in excellent health and spirits. There was considerable range of movement in the right arm and leg, although still a degree of facial paralysis, yet it was less than when she left the infirmary. Her power of walking had considerably improved. There was still great loss of the power of speech, and a tendency for the word "Yes" to slip out when she meant "No," but her vocabulary had become enlarged, for she could now call her own sister Sally by name, and could also ask for the nurse of the ward when she wanted her. She could not repeat names, although she could print them on paper from memory or from copying. There was no loss of sensation in the limbs.

Note by Dr. Oliver.—November 8th, 1898.—To-day patient presented herself at the infirmary. She has now almost complete use of words, can name objects and people correctly, but her sister states that in course of conversation she has at times still a difficulty in finding the proper word. Eyesight is good; discs are paler than usual. There is slight flattening of the right side of face, with retraction of the left angle of the mouth. There is pretty complete power of the muscles of the right shoulder and upper arm, but the fingers are spasmodically flexed upon the palm, and do not relax readily. She can walk well, but in doing so the right foot is lifted heavily from the floor. The gait is that of an old hemiplegic. Knee-jerk is exaggerated. No ankle clonus. Over the left fronto-parietal region there is observed a deep depression in the calvarium, the posterior border of which is tender to the touch. At her menstrual periods she occasionally suffers from epileptiform seizures. The general health is good. There has been no return of the cerebral growth. The paralytic phenomena present are due to the motor fibres having been separated from the pyramidal cells in the Rolandic area and subsequent degeneration.

The points of interest in Case II are: (1) The unusual pathological nature of the brain tumour. It was an angioma, rather a rare form of cerebral growth, apart from sarcoma. Careful and repeated examination of microscopical preparations taken from various parts of the tumour failed to reveal anything but simple angioma. It is probably owing to this pathological fact, and to the absence of a limiting membrane around the growth, and to the necessity of cutting fairly wide into surrounding brain tissue that the recovery has not been so complete as in Case No. I. The second point of interest is the post-operation aphemia or loss of speech. Immediately after the operation the speech defect was very apparent, but there never was word-deafness nor word-blindness. The patient could, within limits, read and write. She understood all that was said to her. Either a part of the cortical centre itself had been removed, or the paths for the transmission of motor impulses from the third left frontal convolution to the articulation centre in the bulb had been divided by the incision, or these became functionally interfered with owing to the presence of degenerating nerve tissue in their immediate neighbourhood. A certain part of the cortical centre must still be present, and in favour of the view that some functional or inhibitory influence was at work is the fact that under emotional excitement the patient could, particularly when others were similarly engaged, join in singing a hymn or song, and once the articulation mechanism was set going there was no difficulty, for the song was sung correctly verse by verse until the end.

AN OPERATION FOR HÆMORRHOIDS,*

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WHEN internal piles are large enough to be extruded during defæcation, it is distinct evidence of definite pathological change in the mucous and submucous tissues, and it becomes necessary to consider the merits of the different methods of operation.

* Read before the Lancashire and Cheshire Branch of the British Medical Association.

We have first to realise that in these cases the cause is generally local, chronic constipation being the chief factor. A glance at the arrangements of the circulation of the blood in the lower end of the rectum emphasises this, and it is readily seen that constipation acts by directly obstructing the venous return, where the veins perforate the muscular wall of the gut. It also demonstrates how necessary it is to examine the rectum in every case of piles, for any disease of the walls, syphilitic or malignant, can readily obstruct the same veins. It ought to be a rule, without exception, to introduce the finger into the rectum before undertaking the treatment of piles, and thus avoid the blunder—which has happened more than once—of endeavouring to treat hæmorrhoids when some more serious disease exists an inch higher up.

Textbooks are responsible for blaming the liver for causing piles and the terms, "sluggish liver," "biliousness," "congestion of the liver"—whatever they mean—have too often been mentioned as a causation. That serious organic disease of the liver may produce piles, goes without saying; but "derangement of the liver" is by no means a scientific deduction when a blue pill alleviates some of the symptoms of piles.

The following types of case always require operation:—

1. Where there is much thickening of the mucous membrane, with ulceration and occasional hæmorrhage.
2. Where extrusion takes place during defæcation, necessitating manipulation to return the mass.
3. Where there is a distinct prolapse of a ring of mucous membrane, bearing piles.

Modern pathology has enabled us to understand the conditions necessary for healing by first intention, and antiseptic and aseptic surgery have placed at our disposal the means to bring that about. The treatment of piles by (1) tying strings around them to separate by sloughing, leaving areas of mucous membrane to granulate or ulcerate; by (2) cauterising piles, with the subsequent separation of the eschar by ulceration (for this happens every time a red-hot iron is used), it does so elsewhere, when a cautery is applied to the same degree, and the mucous membrane of the rectum can be no exception, notwithstanding platitudes to the contrary by advocates of this method; by (3) injecting irritants; or (4) painting with caustics, always strike me as contrary to the spirit of modern surgery. In years to come we shall wonder how their use continued so far into the nineteenth century. Who is there among us who would resort to such methods for the encouragement of healing or the control of hæmorrhage in any other part of the body? For several years I have operated on piles by a method designed to bring about healing by first intention, and at the same time to prevent either reactionary or secondary hæmorrhage, and the results have been so satisfactory that I have no hesitation in strongly recommending it to your notice. Strange as it may seem, it requires no special clamp; and the only assistants necessary are a Clover's crutch and an anæsthetist.

A purgative is administered the evening before the operation, and in the morning, after a good evacuation, an enema of soap and water is used to wash out the rectum. Under anæsthesia the patient is placed in the lithotomy position, being kept there by means of the "crutch." The sphincter is forcibly dilated by introducing the thumbs into the anus and placing the fingers on the buttocks, and forcibly separating the thumbs slowly. The sphincter yields; this is continued until the anus remains widely dilated, with no tendency to contract. The pile area is now exposed, and the piles tumble out to look for the operator. A large pile is seized by artery forceps, and its base clamped, the clamp being always put on in the long axis of the bowel. I have most frequently used Smith's clamp, but a dressing forceps with a catch will do quite as well.¹ The bulk of the pile is cut away, leaving a small stump standing off the clamp. The treatment of this is the essential feature of the operation.

A piece of catgut, not too fine, about a foot in length, with a domestic needle at each end, is used for a suture. Commencing at the top end of the stump one needle is passed through, and the catgut follows until there is one half the length of the suture on each side, with its own needle attached. A reef knot is tied on the stump, and the needle, which is on the right side, is brought over to the left and passed through the stump lower down and back again to the right. The needle

which is on the left is taken over to the right and passed through the stump back to the left immediately adjoining the previous one. A reef knot is again made, and so on to the end of the stump (see diagram), making five or six crossings to the

inch. This method of suture brings the cut edges of the mucous membrane tightly together, and its advantage over a simple continuous suture is apparent, each cross and knot making each segment independent of the next. The clamp is slackened, and occasionally, though rarely, it may be necessary to tie a small vessel at the top end of the stump, particularly if a cross-acting clamp is used. All the internal piles are thus treated.

For the external piles, which are always covered by a rugose fold of altered skin, they are snipped off by scissors, without clamping, pointing up the bowel. If a small vessel bleeds, it is tied. The cut edges of skin are sutured by a continuous, or button-hole, stitch of catgut. Too much of the anal skin must not be removed, and the skin must never be sutured in any other direction but that of a continuation of the long axis of the bowel, else cicatrisation, leading to anal contraction, will follow. It will now be seen that there is no raw surface left to be irritated or to granulate, and no tissue to separate by sloughing.

Two suppositories—one of 3 grs. of iodoform and one of $\frac{1}{2}$ gr. morphine—are inserted, completing the proceeding. A firm pad of cyanide gauze under a square of wood wool tissue and a T-bandage is now applied.

The diet for four days is kept low—beef-tea, broth, and a little milk—during which time no action of the bowels as a rule happens, although the patient, can and does, freely pass flatus. Should any action occur, a suppository of 3 grs. iodoform is introduced afterwards.

On the fifth day a drachm of compound liquorice powder is given, which generally produces an evacuation of the bowel contents, without pain or blood. On no account must an enema be introduced, lest the nozzle of the instrument tears up young union.

Diet is now increased by addition of bread and milk and milk puddings, fish, chicken, and then ordinary diet by the seventh or eighth day. On the seventh day the patient is allowed up, although most cases clamour for more food, and beg to be allowed out of bed several days earlier. Many hospital patients have gone home on the seventh, eighth, or ninth day perfectly well in every respect. In only two cases was there retention of urine requiring the use of the catheter once.

None of the patients complained of pain, and not one had any more morphine after the initial suppository. None had any hæmorrhage or inflammation, in fact the treatment is so satisfactory that I generally tell the medical attendant that they cannot bleed even if they try. In none has there been any subsequent contraction of the anus or rectum, nor has a single bougie been used in any case. Subsequently it is wise to recommend the regular taking of a laxative every alternate night for some weeks, to overcome the tendency to constipation, which originally caused the piles. It suits some pa-

tient's arrangements better to order the aperients to be taken in the morning.

For the third class of case (where there is a large prolapse of mucous membrane bearing piles) it becomes necessary to perform Whitehead's operation, of dissecting the relaxed mucous membrane away. In my opinion this proceeding is not often called for, but when it is the result is very good. If this operation is carried out as described by its author, I cannot understand the adverse criticism it has received in some quarters. The common error is to remove the external sphincter, wholly or in part, and then blame the operation for incontinence of fæces, instead of the operator who attempted it.

Bad results of any operation depend sometimes on the lack of judiciousness and technique of the operator, and not on the demerits of the operation.

In looking up the literature of piles I find that Folker of Hanley several years ago devised a special clamp, figured in *Arnold's Catalogue*, for suturing piles with a special needle and catgut.

There is a casual reference to suture of external piles in Bell's *Manual of Surgical Operations*, sixth edition, 1888. In describing the treatment of external piles he says, p. 317: "If the surgeon after excising a pile or piles will take the trouble to stitch up the wound with catgut, he will find the cure much more rapid and less painful than when this is omitted." In the treatment of internal piles, however, he advocates ligation.

Mr. Robert Jones of this city, in the *Provincial Medical Journal*, August 1st, 1893, advocates a method of clamp and suture on the same lines as I have described. These are the only references I have been able to find.

I have [April, 1898] performed the operation 33 times,² and the average length of time during which the patient was confined to house or hospital has been 10.3, reckoning two cases that were in bed for other reasons, for twenty-two days.

NOTES.

¹ Since writing the above I have found Doyen's broad ligament clamp (small size) infinitely superior to any pile forceps. ² Forty-five times, September, 1898, with average in hospital or bed of 8.3 days.

ANTISTREPTOCOCCUS SERUM IN THE TREATMENT OF PRIMARY VENEREAL SORES AND THEIR COMPLICATIONS.

By JAMES MOORE, F.R.C.S. EDIN.,
Belfast.

WHETHER the chancroid is an entity caused by the streptobacillus described by Ducrey, or an ordinary septic abrasion—the anatomical and physiological peculiarities of the genital organs accounting for the subsequent ulceration and complications—it certainly bears a very close relation to infection of a small wound by the streptococcus in any other region of the body. This analogy suggested to me that antistreptococcus serum might possibly have a curative effect on the chancroid, and prevent suppuration (or liquefaction) of the acute inflammatory bubo so often accompanying it.

CASE I.—S. Y. consulted me on March 7th about pains in both sides over Poupert's ligament. He had had connection on February 28th, and on March 3rd noticed a sore in the coronal sulcus to the left of the frenum. On examination, I found four typical chancroids, three having been produced by auto-inoculation, two glands in the left groin and one in the right considerably swollen and very painful: the outline of each gland could be easily felt, there being very little periaidenitis. The patient informed me that the pain in the glands commenced about twenty-four hours before consulting me. I washed the glans penis in hot boric solution, dried with pledgets of cotton wool, and sprayed the sores for ten minutes with peroxide of hydrogen. I then injected 1 drop of pure liquid carbolic acid into the base of each ulcer by means of a fine hypodermic needle and ordinary hypodermic syringe, passing the needle about one-eighth of an inch into the tissues. The ulcers were then dressed with a powder, containing ioretin and zinc oxide, equal parts. The skin over the lower part of the abdomen was disinfected in the usual manner, and 5 c.cm. of antistreptococcus serum injected about an inch above and an inch to the outer side of each bubo, after allowing the patient to rest for about twenty minutes. A pad of sterile wool was applied over each point of injection, and kept firmly in place by a double spica bandage. I ordered the patient to bathe the penis for half an hour in as hot water as could be borne, and subsequently dress the ulcers with the above powder twice daily.

On March 9th the ulcers had a healthy appearance, the pain and swell-

ing in the bubos had diminished. The patient said that for twelve hours after injection the region around the point of injection was painful. A scarlatiniform eruption was present on the lower part of the abdomen and inner part of the thighs. I injected 5 c.cm. into each side as before, and continued the local treatment of the ulcers.

On March 12th three of the ulcers had healed, and only the parent ulcer remained, and healthy granulations covered the entire base. There was no pain in the bubos, and swelling was scarcely evident.

On March 16th the ulcer had healed, and there was no trace of bubo. I have seen the patient twice since, and he continues in health.

During the past eight months I have used this method of treatment in 48 cases of acute inflammatory bubo, and in only 7 cases did suppuration occur. In 3 of these the inflammation had been in existence at least four days. I have also used this serum in the following case of phagedenic chancre.

CASE II.—On July 6th I was called to see R., who had been leading a very irregular life, in which alcohol played a very prominent part, for the past five years. He had a suspicious connection on June 4th, and on June 14th an ulcer appeared on the under surface of the glans penis implicating the frenum. From that time until my seeing him the ulcer had been practically neglected. I found the patient in a semi-comatose state, the skin dry and hot, the pulse 130, the temperature 104.3° F. On examination of the under surface of the glans penis was entirely destroyed, and the urethra exposed. The discharge from the sore was offensive and sanious. The base was studded over with little patches of false membrane of a yellowish-green colour. On removing one of these a raw bleeding surface was exposed. The entire penis was swollen, of a dark-bluish colour, and presented numerous bullæ. The glands in the region of Poupert's ligament were not swollen. There was no rash on body or limbs. The fauces were congested. I ordered the penis to be immersed in a hot solution of mercury perchloride (1 in 5,000) for two hours, and twice daily; in the intervals iodoform was to be dusted on the ulcer, and the penis wrapped in gauze wet with the hot solution, and changed every twenty minutes. Into the right leg I injected with the usual precautions 10 c.cm. of antistreptococcus serum, and ordered him small doses of strychnine with tr. strophanthus, *mv*, every four hours.

On July 7th the temperature was 102°, and the pulse 120. The patient was brighter and answered questions more readily. There was no change in the ulcer. Some of the bullæ had disappeared from the penis. The right leg was red and swollen for about six inches above the point of injection. The inner side of the thigh showed a scarlatiniform eruption. The glands in Scarpa's triangle of the same side were enlarged. I ordered lead and opium lotion to be applied to the swollen part around the point of injection, and continued the baths, etc., and general treatment.

On July 8th the patient was much brighter, the pulse was 105, and the temperature 101.5° F. The swelling in the right leg and glands had diminished. The ulcer showed much less false membrane, and the discharge was less sanious. I continued the general treatment, and injected 10 c.cm. of serum into the left arm.

On July 10th the pulse was 98, the temperature 100° F., and the general condition was much improved. The discharge was purulent, with streaks of blood. The false membrane had almost entirely disappeared, and the bullæ entirely. The penis was less swollen, and had a healthy appearance.

I was now at a loss to know whether the hot antiseptic baths to the penis, with iodoform to the ulcer in the intervals, combined with the general tonic treatment, or the use of the antistreptococcus serum was responsible for this happy result. I saw the patient daily for six days; did not inject any serum, but continued local and general treatment as formerly.

On July 16th the pulse was 115, the temperature 103° F. The penis was swollen and painful. The discharge from the ulcer was sanious. The base of the ulcer on clearing away the discharge showed numerous cup-shaped depressions. There was no extension of false membrane. I injected 10 c.cm. of serum into the right arm.

On July 18th the pulse was 98, the temperature 100°. The swelling and pain in the penis had abated, and the ulcer looked healthier.

On July 19th 10 c.cm. of serum were injected, and I gave 10 c.cm. of serum every third day up to July 28th. On that date I noticed two undoubted mucous patches on the left tonsil, and a few small papular syphilides on the abdomen, chest, and face. The temperature was 99° F., the pulse 82. The ulcer was one-third of its original size, and healthy granulations covered the entire base.

On August 1st the patient was convalescent, and taking small doses of mercury and iron.

I have to thank Dr. Calwell for kindly advising me in reference to the condition of the patient's heart and lungs.

From my experience with antistreptococcus serum in venereal sores and their complications, I have arrived at the following conclusions:

1. While recognising the great importance of early local antiseptic treatment of the chancroid, I believe that if 5 c.cm. of the serum is injected subcutaneously into each inguinal region in cases in which inflammatory bubo is likely to develop, it will prove a good prophylactic measure, and assist in healing the chancroid.

2. If inflammatory bubo has already developed, and the acute inflammatory symptoms have not been present more than forty-eight hours, 10 c.cm. injected into the inguinal region corresponding to the inflamed gland will cause resolution in the majority of cases.

3. If there is evidence of pus formation the serum may possibly limit the extension of the suppuration, but in this class of case my results have been anything but satisfactory.

4. The serum should always be injected into the area