The antitoxic serum was found to neutralise the effect of 2.0 c.cm. of sterilised bouillon, when injected simultaneously into the peritoneal cavity in the dose of 0.2 c.cm.

Experiments for ascertaining the curative action of the serum were carried on in this wise: A number of guinea-pigs were inoculated with several times the fatal dose of the virus, so that the untreated animals died within twenty hours after such inoculation. At the expiration of each successive hour injections were made in some of the animals, and it was shown that those treated not later than seven hours after the inoculation of the virus were cured, while those in which the injections were made after the lapse of seven hours could not be saved by the serum. In other words, if injected during the first third of the entire course of the disease (thus experimentally produced) the serum can be considered curative.

II.—CASES OF CHOLERA TREATED WITH ANTICHOLOERA SERUM.

(A) 270 cases were admitted into the Hiroo Hospital, Tokio, from August 6th to November 10th, 1895. Of these cases 138 died. Rate of mortality 51.1 per cent.

Anticholera serum was employed in 193 cases only, owing to the fact that the supply of serum was inadequate to allow it to be used in all cases.

The rate of mortality among Japanese in nearly all the previous epidemics, as well as that of the last epidemic, has always been about 70 per cent. Without claiming to draw, from a number relatively so small, the final conclusion that the serum treatment was attended with the reduction of 20 per cent. in the mortality statistics, it is evident at least that the result of the new therapy was not an unfavourable one. Moreover, there is reason to believe that with a sufficient supply of very efficient serum the rate of mortality can still be lowered.

(B) Subsidiary results of serum injections are similar to those of diphtheria antitoxin: 1. Urticaria (very common). 2. Arthralgia (only observed in 18 cases). 3. Myalgia (only observed in 6 cases).

(C) Obviously there must be difference in the prognosis of each case according to the time which elapsed before the patient came under treatment. Such analysis is given in the following table:

Number of Hours from the Invasion till First Injection.	Cases.	Deaths.	Percentage.
Less than 8 hours...	12	0	0
8 to 12 hours	18	4	22.2
12 to 24 "	53	17	32.1
24 to 48 "	63	25	39.7
48 to 72 "	31	12	38.7
Over 72 "	16	5	31.1

(D) Three cases of cholera were observed in children under 2 years of age.

Bacteriological examination, microscopic as well as cultural, was made in every case.

A RAPID AND CONVENIENT METHOD OF PREPARING MALARIAL BLOOD FILMS.

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THE following method of preparing films of malarial blood will be appreciated by those who have practical experience of the ordinary methods of making cover-glass films. Besides ease and rapidity, the method has other and obvious advantages.

A nurse is instructed to cleanse with spirits of wine or ether as many microscope slips as are likely to be required, and to place them, arranged in one or more rows, on a table near the patient. Three or four oblong slips of very fine clean tissue paper, $1\frac{1}{2}$ by $\frac{1}{8}$ inch, are also prepared. The

patient's finger is cleansed, and pricked in the usual way. A droplet of blood, about $\frac{1}{16}$ inch in diameter, is then expressed from the puncture and taken up by touching it with one of the papers, the blood being applied about $\frac{1}{2}$ inch from the end of the paper. The charged surface of the paper is then placed upon a glass slip rather towards one end. In a second or two the blood will have run out in a thin film between paper and slip. When this has taken place—not before—the paper is drawn along the surface of the glass. The same paper, without recharging, is placed in a similar way on a second slip, on a third, on a fourth, and so on. When exhausted, the paper is recharged from the finger as many times as may be found necessary. In this way 50 or 100 exquisitely fine films may be prepared in five or six minutes. Labels are then attached, and the slides stored away to await convenience. Before proceeding to stain, the blood is fixed by dropping a little absolute alcohol on the films. The slides are then dried, and stained with the borax (5 per cent.), methylene blue ($\frac{1}{2}$ per cent.), a few drops of the solution being applied for about half a minute. After washing and drying, cover glasses with zylol balsam are applied. The result is excellent.

If one wishes to search for crescents, a good plan is to make the films fairly thick, to fix with alcohol, and then to wash out the hæmoglobin with very weak acetic acid—2 or 3 drops to the ounce of water. The now colourless film is again washed, stained with methylene blue, and mounted in zylol balsam in the usual way. The field not being obscured by blood corpuscles, the large amount of blood which this method of preparation enables us to pass rapidly in review greatly favours the quick finding of any crescents that may be present.

The same method of preparing blood films is equally applicable for the demonstration of other blood parasites.

A CASE OF ARREST OF THE HEART'S ACTION AND OF RESPIRATION DURING CHLOROFORM ANÆSTHESIA: BLEEDING FROM INTERNAL JUGULAR VEIN: RECOVERY.

BY
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MR. S., aged 17, was sent to one of us (H. F. W.) by Dr. Denton, of Brixton, on December 4th, 1895, suffering from tuberculous disease of the glands of the right side of the neck. Several glands extending from above the angle of the jaw towards the sterno-clavicular articulation were felt to be much enlarged, and were described as having increased considerably in size during the past few weeks. On December 7th the patient consulted Dr. Douglas Powell, who examined the heart and lungs carefully, pronounced them normal, and recommended the immediate removal of the affected glands. In this opinion Dr. Denton entirely concurred.

The operation was therefore undertaken on December 15th, with the assistance of Dr. Denton. Chloroform was administered on a Skinner's mask by one of us (C. G.). Chloroform was selected for several reasons: (1) The patient was a youth 17 years of age, and we had it on the high authority of Dr. Douglas Powell that his heart was healthy; (2) the glands formed a projection near the angle of the jaw, and therefore an ether mask was considered undesirable on the chance of septic contamination of the wound; (3) there were present marked postnasal vegetations (adenoids), congestion of the pharyngeal mucosa, and thickening of the mucosa covering the turbinated bones. It was anticipated that the irritating vapour of ether would cause a further temporary increase in size of these swollen structures, and that this, aided by the necessarily increased secretion of mucus, would seriously embarrass respiration. Obvious objections to the administration of ether presented themselves, whilst, on the contrary, we saw no contra-indication to chloroform anæsthesia.

For the first forty minutes of the operation everything went well. Numerous enlarged glands full of caseous and puriform contents were enucleated, and a somewhat extensive dissection was made of the anterior triangle of the neck. It was found necessary for the complete removal of the glands to divide the anterior three-fourths of the sterno-mastoid muscle. The deep aspects of many of the glands were adherent to the carotid sheath, and their removal thus necessitated a full exposure of the internal jugular vein for a considerable segment of its course. A large tributary vein entering the jugular on its anterior aspect was divided near its point of entrance into the vein, and was clamped by pressure forceps. Just at the time when all the diseased glands seemed to have been enucleated, the patient, who up to this moment had been breathing quietly and evenly, and whose pulse had been very satisfactory, made three violent attempts at retching. The mask was then sprinkled with chloroform, and was reapplied to the face for certainly not more than thirty seconds when quite suddenly the patient became deadly pale, though blue about the lips; the pupils dilated widely, the pulse ceased, and respiration stopped after three shallow inspirations. There is no doubt that the heart's action ceased some seconds before respiration failed.

The patient's mouth was immediately opened by a Mason's gag, the tongue drawn well forwards with forceps, the foot of the operating table raised to an angle of 40 degrees, and artificial respiration was performed about 20 times per minute by compression of the lower chest, a hand being placed over the lower costal cartilages and ribs of each side. The primary object in view in this manœuvre was to compress the (as we judged) overdistended right side of the heart. The chest walls were fortunately supple and elastic. At the same time brandy was injected by the nurse.

Artificial respiration was continued for, as far as we can estimate, at least three minutes, though it seemed to us a very much longer time. To all appearance it had no effect, for on placing the ear on the chest no sound at all from heart or lungs was audible to any of us. The patient's condition now appeared hopeless, and everyone in the room considered him dead. In this extremity the operator determined to make a further attempt to relieve the distended right ventricle by opening the internal jugular vein and then compressing the lower chest. The forceps was therefore removed from the vein, which was cut at its point of entrance into the jugular, and the opening into the latter was roughly enlarged by tearing its margins with forceps. At once from the greatly distended internal jugular vein a stream of dark venous blood poured out. The chest was now forcibly compressed, and this produced a greater outflow of blood from the vein. Several ounces of blood rapidly escaped, and after the hole in the jugular had been clamped by two forceps artificial respiration was resumed. In less than half a minute the patient made a faint inspiration, which was a few seconds later followed by another, and the artificial respiration being continued energetically the heart was heard to beat at first feebly, but soon the pulse and respirations gained in strength and frequency.

A few minutes later it was noticed that there was some obstruction in the upper air passages. This caused for only a few seconds a little trouble, as on attempting to reintroduce the gag, which had slipped, the masseters were found to be spasmodically contracted. Some blood from the tongue, which had been somewhat lacerated near its tip by the forceps, and mucus having been sponged away from the pharynx, the breathing immediately improved. During this time the heart was beating satisfactorily. The operation was now rapidly concluded without the further administration of an anæsthetic. Considerable trouble was experienced in closing the hole (which was an oblique tear) in the jugular vein, and during the suturing of the divided sterno-mastoid and skin the now nearly conscious patient struggled sufficiently to necessitate restraint.

The wound was freely irrigated with a solution (1 to 40) of carbolic acid preliminary to suture, as the fingers of the operator had during the time of cessation of the cardiac and respiratory action passed direct from the mouth of the patient into the wound. The patient during the whole of the after-treatment has been entirely under the care of

Dr. Denton, except that one of us (H. F. W.) saw him with Dr. Denton on December 25th. The wound healed by first intention except in its middle inch, where some localised suppuration occurred. A considerable slough separated from near the tip of the tongue, due to the rough usage this organ received from the tongue forceps, otherwise there is nothing but good to report concerning the progress of the case.

REMARKS.

We have deemed this case well worthy of publication because we feel convinced, and Dr. Denton shares our opinion, that the bleeding from the internal jugular vein, by relieving the distension of the right heart was the main factor in bringing about the recovery of the patient from an apparently hopeless condition, and we consider that the treatment adopted with such a satisfactory result in the present instance should be tried by surgeons in similar cases where artificial respiration alone has proved insufficient to revive the patient.

The question as to which vein the surgeon should open depends much upon the site of the operation, but the essential point seems to be that the vessel selected be as large and as near to the heart as possible, in order that the issuing stream of blood may be of considerable volume, and the relief to the distended heart rapid and thorough. During the anæsthesia, we may state that the administrator paid special attention to the respiration, and also kept his finger on the temporal pulse. The pupil was moderately dilated, never contracted, nor very widely dilated, except during the period of cardiac and respiratory failure. The conjunctival reflex was lost early. The stage of excitement was short, and unaccompanied by struggling. The vagus nerve was not exposed during the operation. Immediately before the three attempts at retching which preceded the alarming symptoms, the pulse and breathing were good, and during the few seconds which elapsed between the retching and the cardiac arrest, only a small amount of chloroform vapour could have been inhaled, as the mask was only sprinkled (not saturated) with the anæsthetic. During the whole period of the administration of the anæsthetic (forty minutes), rather less than 2 ounces of chloroform (Duncan and Flockhart's) were employed.

We desire, in conclusion, to express our thanks to Dr. Denton both for the helpful assistance he rendered to us and for the frequent and full notes he was good enough to send to us during the days immediately succeeding the operation.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

THE COCAINE HABIT.

IN the BRITISH MEDICAL JOURNAL of April 25th is recorded a case of acute cocaine poisoning. This recalls to my mind a case of chronic cocaine poisoning which was under my care in 1894. The patient, an English lady, had for eight years been in the habit of taking chloral-hydrate, in doses of 25 to 30 grains every night, to procure sleep. Owing to some trouble connected with sensitive gums, a physician gave her a lotion of cocaine for external use, 48 grs. to 2 ounces, which so effectually soothed the patient that for two years she continued to apply the lotion to her gums, and probably, also, to swallow small quantities at a time, as when I saw her the bottle used to last her thirty-six hours. This makes a daily dose of 30 grains. There was no reason for any such application, nor had there probably been for at least a year and a-half. The patient was in a state of extreme nervous prostration, and morally and mentally affected; fits of depression varied with times of unusual brightness and activity; now and then hysterical paralysis, generally lasting only one or two days, supervened.

There being no possibility of placing the patient under restraint in a properly conducted sanatorium, I took the medical treatment in hand, and without the patient's knowledge slowly and systematically reduced the amount of cocaine used. This I succeeded in partially, though from time to