his admission the temperature was normal. On October 3rd, at 7.30 P.M., the patient had a strong rigor; shivering lasted about thirty minutes. The temperature at 4 P.M. was 102° F.; at 8 P.M. it was 107.2°. The pulse was only 68, soft and easily compressible. Profuse sweating followed, the bed-linen being saturated. The patient was drowsy afterwards. At 8.30 the temperature was 99.2°, and at 9 P.M. was normal. He appeared weak. The blood examined at the time showed two granule masses containing black pigment. On October 4th the temperature at 4 P.M. was 101.6°. At 7.30 P.M. he became very hot and the temperature was taken. The thermometer registered 110.8°. At 8 P.M., the thermometer being held in the axilla, the patient remaining quiet and carefully watched by the house-physician, the temperature registered was 112.8°. Sweating commenced and soaked the blankets. At 8.30 the temperature was 98°. Throughout this time the pulse was 88.

On October 5th the same temperature was registered at 8 P.M. No shivering occurred on this occasion. The temperature fell to normal within twenty minutes. On October 9th a similar reading of the thermometer was made. On October 10th two thermometers were tried in the same axilla, and at 5.45 P.M. both registered 109°. Five grains of quinine were given every four hours. On October 11th a reading of 112.8° was taken, and on October 14th, 113.8°. The time occupied in the return to the normal line in some instances barely exceeded five minutes. Shivering was not always present; the pulse never exceeded 100 per minute. The spleen was never found enlarged at the time of the fits. On the

night of October 16th the patient seemed in a semi-conscious condition. The respirations were shallow, and 80 per minute, the pulse being only 84. He did not flinch on being pricked with a pin, and there was no reflex on touching the cornea. The knee-jerks were present, and there was speedy recovery of consciousness and a normal rhythm of respiration on the application of the faradic current to the lower extremities. The temperature was normal till October 30th, when a thermometric reading of 112.6° was taken in the mouth twice. Violent shivering

occurred, the temperature five minutes after being 97.6°. He was bathed in sweat throughout the night, and slept badly. On October 31st a draught of 20 grains of sulphate of zinc was ordered to be administered at the onset of any fit, but there were no abnormal temperatures or symptoms observed during the remaining fortnight the patient was in hospital.

The rigors which occurred were very severe, and a short hot stage was followed by profuse sweats. Except on one occasion, the patient did not seem profoundly ill when the high temperatures were recorded—nothing approaching the grave condition of patients the subjects of hyperpyrexia in rheumatic or enteric fever. The periods of hyperpyrexia were, however, exceedingly brief, and this may be taken as an explanation of their innocuousness. On one occasion the nurse found a temperature of 112° F., and went immediately to inform the sister of the ward. On the arrival of the latter, within five minutes the temperature was below normal—97.6° F. As recorded in the notes, no enlargement of the spleen accompanied the attacks. I examined the blood on several occasions, but never detected melanæmia, though some pigment was observed by Dr. Sequeira on one occasion, nor could I detect any changes in the red corpuscles.

It is well known that relatively high temperatures (106° to 107° F.) are not rare in ague, and it is possible that in this case abnormally excitable thermic centres may have been excited or inhibited by a poison which commonly produces great, though brief, disturbances of temperature. I, for my own part, keep "an open mind" on the subject, and leave others to draw their own conclusions.

ON THE USE OF OXYGEN AND STRYCHNINE IN PNEUMONIA.

By A. W. GILCHRIST, M.D. PARIS, M.R.C.S., L.R.C.P.,
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THE following facts concerning the treatment of a fatal case of influenza, complicated by pneumonia, are invested with so much interest by Dr. Lauder Brunton and Dr. Prickett's paper on the use of oxygen and strychnine in pneumonia, that I have no hesitation in bringing them under the notice of your readers.

Mrs. C., a widowed lady, aged 57, began to suffer early in October from eczema seborrhœicum. The eruption spread successively from the scalp to the vulva. On the inner surface of the labia it assumed a pustular form, and gave rise to the most distressing symptoms, rendering necessary the use of sedatives, which, in their turn, seemed to produce some small degree of mental disturbance. Her strength was so much reduced by pain and sleeplessness that the appearance on January 13th of symptoms of influenza invested the case with a peculiarly threatening aspect. The temperature rose rapidly to 103° F., was accompanied by coughing, but found little explanation in the condition of the lungs, the signs there being limited to the presence of numerous mucous râles at both bases. Without any further increase of temperature or other premonitory signs, acute delirium suddenly supervened. It opened by a pseudo-epileptic fit, and was marked by restlessness, excitement, and violence, maniacal in their intensity, and that only the free use of sedatives could control. With the cessation of delirium came a period of general prostration and semi-consciousness. Food could only be administered with great difficulty. The breathing was superficial and frequent, the bronchi obstructed with secretion, finding no relief in abortive attempts at expectoration. The pulse became rapid and weak, and signs of threatening asphyxia added to the gravity of the patient's condition. A hurried examination now seemed to reveal a small area of dullness at the right base. A fatal issue seemed imminent, and was indeed anticipated by a colleague called in consultation. Every means of recovery, however, had not been exhausted, so I determined to try the effect of strychnine in stimulating the respiratory centres. I injected subcutaneously 3ij of the liq. strych. The result being apparently satisfactory, as indicated by a few effectual efforts at expectoration, a stronger pulse and increased consciousness, I repeated the dose at the

interval of two hours. The improvement was maintained, and although the condition of the patient during the night was precarious, the breathing, further aided perhaps by creating a moist atmosphere in the room, became easier and regular.

On the following night, however, collapse was again imminent. The strychnine was resumed in larger doses, and again seemed effective, while recourse was had, as a possible valuable adjunct, to the use of oxygen. It is prepared at Nice, in india-rubber bags, to which can be fitted a glass tube for insertion in the nostril. The effect of this combined treatment was as remarkable as Dr. Lauder Brunton seems to have found in the case which forms the subject of his paper. The patient's colour grew better, she became more sensible, and "expressed herself as feeling more comfortable." For two days her condition showed very little change, the same treatment being repeated at intervals. Brandy was freely administered, and when feeding was difficult, nutrient enema and suppositories were substituted.

Sunday was the fourth night of this critical condition, and it seemed that if food could have been taken in any quantity, hope might still have been entertained. This object, however, could not be obtained, and although injections of ether and caffeine were resorted to in addition to the previous treatment, the vital powers gave evidence of flagging. The temperature was then 102°; indeed it never went beyond 103°. The pulse rose rapidly, and was correspondingly weak; the breathing more superficial, though marked by loud mucous rales. The patient became again unconscious, the extremities cold, the fingers and lips cyanosed, the face of a dusky hue, and the skin suffused with cold sweat. The condition was identical with that described in the paper referred to before. It was such that further intervention could only be suggested by the fact that the patient had rallied so frequently from an apparently hopeless state. Extraction of blood offered some prospect of relieving the right heart, and Dr. Allen Sturge, who was summoned in consultation, agreed that it might be resorted to as a last resource. Fourteen leeches were applied in the interscapular region, and the wounds induced to bleed freely.

The result, if only temporary, was extremely beneficial. The cyanotic condition was markedly relieved; warmth returned to the extremities, the breathing was improved, the patient regained complete consciousness, and very shortly asked to drink. Brandy was taken on three occasions, and the pulse for a time regained some power. The improvement was maintained for several hours, but towards morning, though oxygen was still breathed at intervals, signs of approaching dissolution were manifest.

Death ensued some hours later, but by "quiet and peaceful asthenia," to use Dr. Broadbent's expression; a result sufficient to justify the last attempt at relief.

A perusal of the paper by Drs. Brunton and Prickett will show a remarkable similarity in the condition of the two patients, in the means adopted to relieve them, and unhappily, also, in the instability of every promising improvement.

TWO CASES OF HEPATIC ABSCESS TREATED BY SIPHON DRAINAGE.

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DR. MANSON'S interesting description of his ingenious apparatus for the evacuation of abscesses of the liver and analogous affections¹ puts me in mind of two cases of hepatic abscess which I had the opportunity of observing almost simultaneously in the service of Dr. G. Bülow, at the General Hospital at Hamburg, about six years ago. Possibly they may be considered worth describing. They were both treated by a kind of siphon arrangement similar to Dr. Manson's, and both recovered completely, though I regret to be unable to furnish any data as to their subsequent history.

CASE 1.—A ship's cook, aged 27, a native of Holstein, had spent some

years in the tropics, where he had suffered from malaria, dysentery, and one or two minor disorders. On admission to the hospital he presented symptoms pointing to an abscess of the liver of rather considerable dimensions. Puncture with an ordinary Pravaz syringe yielded a negative result, but on employing a longer needle foul and discoloured pus was drawn off. A trocar was thereupon inserted through the eighth intercostal space in the axillary region, and the siphon apparatus devised by Dr. Bülow, which has been in general use at the hospital for many years back, was applied. In the course of six hours very nearly a litre of matter was evacuated, with a most favourable result. A week later the siphon arrangement was omitted, and the pus, which had become scanty and laudable, was allowed to flow into a dressing of sublimate gauze. After another eight days the discharge from the wound consisted of pure golden-yellow bile. This gradually decreased, and the patient was discharged in excellent health seven weeks after the operation.

CASE II.—A lad of about 14 years of age suffered from an abscess due to the presence of an echinococcus cyst which had suppurated. Careful and repeated examination by two or three physicians failed to reveal any signs of the parasite in the pus obtained by exploratory puncture; but in the course of the disease the diagnosis was settled, both by the patient expectorating hooklets during a few days, and also by the subsequent expulsion of a large quantity of cysts through the incision before the wound healed. After the cysts came away recovery was rapid and complete.

The method of treatment employed by Dr. Bülow, although based on the same principles as Dr. Manson's, differs from the latter in some of the details, and may be preferred by some practitioners, especially as it involves no increase of the *armamentarium chirurgicum*. The preparations are as follows: Get an ordinary trocar of not too small a calibre, and a Nelaton catheter fitting accurately into the cannula; fenestrate the catheter according to the presumed depth of the abscess or, in empyema, of the pleural cavity; cut off the thickened rim at the distal end. Have ready a scalpel, solutions of carbolic acid (5 per cent.) and of boracic acid (3 per cent.), and a little carbolised olive oil; further, prepared cotton wool, iodoform powder, soft gauze roller, pretty stout silk ligature, elastic collodion, adhesive plaster, a few feet of india-rubber tubing, a glass funnel, a ring of lead (half an inch or an inch of ordinary leaden piping will do), two clamps, a short glass tube fitting into the catheter and slightly widened at the other end, if possible, to fit into the thicker tubing, and lastly, a glass jar to serve as a recipient.

The use of these simple articles is as follows: All necessary antiseptic precautions being fulfilled, a small incision is made in the skin, and the trocar, enclosed in its sheath, passed into the diseased cavity. Thereupon the stylet is withdrawn, the thumb of the left hand adroitly closing the orifice of the cannula until the catheter, carefully lubricated, can be passed through it into the cavity; then the sheath is withdrawn, and the catheter closed with a clamp. These manipulations must be performed rapidly so as to prevent any escape of pus. A little iodoform is now sprinkled on the wound, the lips of which close well around the catheter, and the latter is fastened to the skin of the thorax by carefully fixing a number of thin layers of cotton wool around it by means of collodion. In this way a little antiseptic shield is formed, which adheres firmly both to the catheter and the skin. In addition, the former may be tied round with a silk ligature, the ends of which are then looped and fixed with adhesive plaster or with strips of gauze and collodion to the thorax, or the adhesive plaster may be fastened direct to the catheter. If the whole is then enveloped in cotton wool a perfectly reliable dressing is secured. The connection with the siphon is made in the following manner: The recipient is partly filled with antiseptic fluid; the glass funnel is weighted with the leaden ring, and the stem inserted into one end of the tubing, the other end being joined to the piece of glass pipe; the tubing thus fitted is filled with solution of boracic acid, and firmly connected with the projecting end of the catheter; the glass funnel is placed stem upwards in the recipient, a little dexterity being required to prevent air getting into it while so doing. When this has been satisfactorily achieved the clamps are removed, and a steady flow of pus is at once established.

Although fully recognising the advantages of Dr. Manson's method of proceeding, I have here ventured to recommend the German plan, which, from fairly extensive personal observation, I can state to be safe, efficient, and rapid of execution.

A STOCK OF SLUDGE.—During the week ending January 30th 17,000 tons of sludge were taken to sea from the northern outfall at Barking, the amount remaining in stock being about 2,000 tons.