that it appeared advisable to relieve it by moderate bleeding and quite possibly although only 6 oz. were abstracted, and although there was no immediate good result this step was important towards his recovery, for it immediately relieved the pressure on the nervous centres, if only to a very small extent, while it was not enough to retard his convalescence by unduly weakening him. Temperatures over 108° are usually fatal, and the present case is one more in evidence of the efficacy of the direct application of cold to the body in cases of hyperpyrexia. He was given the bath as soon as it could be got ready.

For the restlessness and delirium, both morphine and bromide failed, but chloral always had the desired effect: in my experience a somewhat surprising fact after the two former drugs have failed.

The relapse on July 16th was by no means unexpected, and here again cold in the shape of a wet pack acted well.

The impairment of speech, sight, and hearing after the first attack are all evidence of the great strain the entire central nervous system must have sustained.

In testing his urine, which was done on the earliest occasion possible, it is to be regretted that it was not possible to test for sugar, as the reagents had been destroyed by the warm weather: it would have been interesting to observe if temporary glycosuria, due to intense central nervous disturbance, were present.

A SUCCESSFUL CASE OF DRAINING THE LUNG.

By HAROLD B. MEAKIN, M.D.LOND.

THE following case¹ came under my care in the London County Asylum at Banstead:

E. C., aged 31, a very stout, well-fed woman, working in the laundry of the asylum, developed an attack of acute pneumonia at the base of the right lung on May 20th, 1896. The patient had been in the asylum for eleven years, and was subject to frequent and severe epileptic fits. With the exception of an attack of influenza in 1892 she had been in good health since her admission.

On May 22nd the patch of consolidation showed no increase. It was about 5 inches in diameter. There was a resonant interval between the edge of the dull area and the spine, and there were no signs of pleural effusion. Her evening temperature was 103.5° .

On the evening of May 23rd the patient appeared to be more distressed, and her breath was noticed to have a pungently foetid odour. An examination showed that the area of dulness had extended in every direction, and there was no resonant interval between it and the spine. The temperature was 104° . Later in the night the patient's condition was distinctly worse, and her breathing was short, laboured, and very rapid. The dulness had reached the clavicle, and though harsh breath sounds were heard everywhere, the character of the percussion note was that met with when an effusion is present. The dulness extended one inch to the left of the sternum and the heart's apex beat was outside the nipple line. The temperature was 104.5° . The patient was sweating freely, and was obviously very ill. She had some cough, but could not be persuaded to expectorate the sputum.

The chest was punctured with an exploring syringe in the sixth space in the posterior axillary line. The syringe filled easily with an opalescent fluid, with the peculiar odour which is associated with gangrene. The needle of an aspirator was then introduced, and about 3jss of thick and deeply blood stained fluid were withdrawn, which was even more stinking than the fluid removed by the exploring syringe. As the cannula was slowly withdrawn from the chest there was a sudden rush of fluid, not blood stained, and similar in appearance to that withdrawn by the exploring syringe. Altogether 3viij of fluid were withdrawn and the stream then ceased spontaneously.

The removal of the fluid made no difference to the dulness and seemed to cause but temporary improvement. Four

hours later (6 A.M., May 24th) the patient's condition became very grave. Her chest was again explored, and finally about 3vj of opalescent stinking fluid, not blood stained, was obtained through a cannula introduced high up in the axilla. It seemed certain that she would die unless a free drainage of the pleura were established.

The patient was taken to the theatre, and since her condition did not justify the employment of a general anæsthetic, local anæsthesia was induced over the intended seat of operation by Schleich's method of infiltration. The sixth and seventh ribs were resected in the anterior axillary line, about $1\frac{1}{2}$ inch being removed from each, and the pleural cavity was opened. A spot so far anterior was chosen because the patient's breathing was so laboured that it did not seem safe to turn her further over to the sound side of her chest. This would have been necessary had a spot further back been chosen.

On the pleura being opened, a quantity of greyish-black, semipurulent fluid, with an abominably foetid smell, gushed out. The lung could be clearly seen and felt. It did not collapse, and was never more than $\frac{3}{4}$ inch away from the opening in the pleura. It was bluish-black in colour. To the touch it was generally hard, though immediately opposite the opening was a spot where it felt doughy and inelastic; over this spot was a small punctured wound in the visceral pleura, which, it seemed likely, was due to one of the previous exploratory punctures. Doubtless it was from a puncture of this sort that the thick blood-stained fluid of the first tapping was obtained. The point of a pair of closed pressure forceps was introduced through this, and readily found its way to a depth of about 2 inches. The forceps were withdrawn unopened, and were then pushed in again, having first gripped the end of a piece of india-rubber drainage tube. The drainage tube was left in, reaching into the lung tissue a depth of about 2 inches. A second drainage tube was put into the pleural cavity, and the ends of both tubes were sewn to a transverse piece of tubing to keep them in position. The wound was well dusted with iodoform powder and dressed. The patient was then put back to bed.

After the operation the patient's distress was considerably diminished, and her condition improved materially. About five hours after the operation she developed a status epilepticus. Her temperature was 105.5° , her pulse reached 160, and then became so running that it could not be counted. She had frequent opisthotonos, and was acutely cyanosed. Rectal injections of chloral and bromide of potassium had no apparent effect on the fits. In order to reduce her temperature she was sponged first with tepid water, then with iced water, and finally rubbed with ice. The temperature fell to 104.8° , the fits ceased, and the patient dropped into a heavy sleep.

From this point onward she made a steady recovery. The discharge from the tube in the lung was, for the first 24 hours, dark red, almost black, and of a tarry consistency. It then gradually took on the characteristics of ordinary pus. The tube in the pleura at first drained a fluid similar to that which escaped at the operation when the pleura was first opened. The stench from the wound was foetid for the first four days, after which it disappeared. The tube in the lung was shortened at intervals, and finally removed on June 3rd. The tube in the pleura was finally removed on July 4th. On July 11th the wound was quite healed. The breath-sounds were normal over the whole chest, and the patient, who had been putting on flesh rapidly for a fortnight or so, returned to her work in the laundry.

This case seems to me to be of interest in respect of (first) the diagnosis and (second) the treatment.

The clinical history of the case is best explained by regarding the rapidly-occurring foetid effusion as due to infection of the pleura from a patch of pulmonary gangrene. Gangrene of the lung following pneumonia is comparatively common among the insane. It is unfortunate that the patient swallowed her sputum. An examination of it might have assisted the diagnosis materially.

In regard to the treatment adopted I cannot but think that the patient's recovery depended greatly upon the draining of the lung in addition to the free opening of the pleura. At the time of operation she appeared to be thoroughly poisoned by septic absorption, and it seemed unlikely that she would live long enough for Nature to deal with the extensive pneumonia

¹ I am indebted to Dr. Clay Shaw for permission to publish this case, and for advice and support in the treatment I adopted.

with its central putrid patch, unless further absorption were at once stopped.

I commenced the operation with the intention of merely resecting a rib and establishing a free drainage of the pleura, and I am bound to admit that there seemed little hope of a successful issue to the case.

It was not till I had seen and felt the condition of the lung that it occurred to me that the chances of recovery would be greatly augmented by further surgical interference. I was led to drain the lung by a consideration of the extent to which Nature might be aided by artificial means; in short, I treated the infiltrated septic lung as I would have treated septic infiltration of the cellular tissue over the buttock—by free drainage.

It is possible that some will consider the patient's recovery due rather to good luck than to good surgery. I am aware that my treatment of the lung was attended with great risk. Infection of the pleura had, however, already occurred, and had there been hæmorrhage I have no doubt that it could have been arrested. Hæmorrhage from the lung has several times been successfully treated by plugging, and in the centre of an area of solid exudation it could not surely have been very difficult.

Since this case came under my care Mr. Paget² has put before us the records of many cases of operations on the lung, and a careful consideration of all the cases recorded convinces me that the only right treatment of this case was that which I adopted.

ON THE SUBSEQUENT HISTORY OF CHILDREN WHO HAVE SUFFERED FROM TYPHLOITIS.

By R. W. MURRAY, F.R.C.S.,
Surgeon to the Liverpool Infirmary for Children.

THE cases I am about to deal with have all been treated at the Children's Infirmary during the last nine years. Some were under the care of the late Mr. Rhinall¹ Pughe, most of them under the care of my colleagues (Drs. Peter Davidson and Marsh), and others under my own care; and I take this opportunity of thanking Dr. Davidson and Dr. Marsh for allowing me to make use of their cases, for I have thus been enabled to collect a series of 23 cases of an affection not very uncommon in children, but an affection which I take it is of interest both from a medical and from a surgical point of view. These 23 patients by no means represent all the children suffering from typhloitis treated at the infirmary since 1886, but they are all the cases of which I have notes, and whose subsequent history I have been able to trace.

With one exception I have purposely refrained from including the more recent cases, that is to say, those under treatment during the last two years, so that one may the more fairly deal with the question of prognosis. In order to satisfy myself as to the after-history of the patients, I have recently called and seen them at their own homes. In the majority of instances I saw the children themselves, and when not enabled to do so either from their being at work or at school, I learnt from the mother the child's present state of health and progress since discharged from hospital.

The cases for the most part naturally arrange themselves into the three following classes:

CLASS I.—Inflammation of the vermiform appendix, most probable associated with a localised peritonitis.

CLASS II.—A localised peritoneal abscess associated with an inflamed appendix.

CLASS III.—The appendix rapidly become gangrenous or perforated, resulting in general suppurative peritonitis.

CLASS I.—INFLAMED VERMIFORM APPENDIX.

The ages of these children varied from five years to twelve years, the average age being nine years. The history was usually the following: For a week or ten days before admission the child complained of pain in the abdomen, and from time to time vomited. The bowels, as a rule, were constipated, though in some instances the motions had been loose and offensive. The vomiting continued off and on, and there was loss of appetite and increase of abdominal pain. The

legs, especially the right, were drawn up, and any attempt to straighten it caused pain. The tongue was furred, and the temperature ranged from 99° to 102°. There was no very marked abdominal distension, but acute localised tenderness in the right iliac region. The treatment almost invariably adopted was, rest in bed, milk diet, fomentations to the right iliac fossa, and an enema or dose of castor oil. The symptoms usually subsided rapidly, and at the end of a few weeks all tenderness had entirely disappeared and the child was again in its usual health. In 6 of these 9 cases there was no previous history of any similar trouble, but 3 had suffered from similar attacks, and in fact might be called "relapsing cases." A boy of 11 years—the relapses occurred in the older children—was in hospital three times for the same complaint, the last attack being far the most severe. A girl of 12 years was in hospital twice for the same trouble; and in the case of a boy of 10 years there was a history of several milder but similar attacks previous to the one for which he was admitted. In every one of these 9 cases there was an accompanying gastro-intestinal disturbance, and the local trouble in the right iliac fossa was, I take it, almost certainly due in the first instance to a catarrhal condition of the vermiform appendix, the swelling of its mucous membrane causing some retention of the morbid secretion, which induced inflammation of the appendix as a whole, together with, most probably, a slight and strictly localised peritonitis. All these 9 children have remained in good health since their discharge from hospital, and, as this includes a period ranging from three to seven years, the results must be extremely gratifying to the physicians under whose care they were.

The following case, recently under the care of Dr. Davidson, illustrates the occasional difficulty in diagnosis.

Edward P., aged 6 years, was admitted into the infirmary on October 5th, 1895. His only previous illness was measles, two years ago. For a fortnight before admission he complained of pain in the abdomen, and lost his appetite. His bowels were regular, and he had not vomited. The abdominal pain had occasionally been so severe as to "double him up." When I saw the boy, with Dr. Davidson, three days after his admission, during which time he had been kept in bed, he appeared to be in good health, and had had no return of the abdominal pain. His temperature, which on admission was 100°, had fallen to and remained normal. His bowels were constipated, but his tongue was clean. There was no abdominal distension or tenderness, but in the right iliac fossa a firm irregular-shaped mass was noticed by Dr. Davidson the first time he saw the child. In order to make a more thorough examination chloroform was administered. The swelling could then be readily felt. It was about the size of a hen's egg, irregular in outline, remarkably hard, and apparently fixed to the bone. What appeared to be a thickened cæcum and ascending colon could be detected attached to the upper limit of the tumour. A rectal examination confirmed the hardness and fixity of the mass. It was difficult to say what the nature of the tumour was, and in the absence of a previous history of trouble in this region, and on account of its hardness and the absence of tenderness, it was thought unlikely to be of an inflammatory origin. I inclined to the view that we were dealing with a new growth. However, the diagnosis being uncertain, an exploratory operation was performed on October 16th, and I found not a new growth but the vermiform appendix much thickened and enlarged, bound down to the iliac fossa by a great mass of firm fibrous tissue. I liberated the appendix, and removed it by performing practically a circular amputation near its base. The boy subsequently made an uninterrupted recovery.

CLASS II.—LOCALISED PERITONEAL ABSCESS.

The clinical histories of the 10 patients in this class were much the same as in the 9 non-suppurative cases, with this difference, either the inflammatory trouble was from the first more acute or the children were not brought for treatment sufficiently early. There was, as in the simpler cases, some preceding and accompanying gastro-intestinal disturbance. The children, as a rule, were decidedly ill, the temperature raised and the tongue furred. The right thigh was acutely flexed upon the abdomen, there was swelling, tenderness, and marked induration in the right iliac fossa extending sometimes from Poupart's ligament to the umbilicus, with, in the more advanced cases, some local œdema of the skin.

It is rare to find actual fluctuation, and certainly most undesirable to attempt to do so, for fear of rupturing the abscess and so causing general suppurative peritonitis. This localised suppuration is, of course, merely an aggravation of the more simple inflammatory trouble, and I do not draw any very hard and fast lines between the two conditions. The indications upon which I chiefly rely as evidence of suppuration are, the general condition of the patient and the local condition in the right iliac fossa. If there is suppuration the temperature as a rule is raised, but by no means necessarily so, for in several

² *Surgery of the Chest.* By Stephen Paget, F.R.C.S. Bristol: J. Wright and Co.