mended by Councilman and Lafleur, who have written on their researches with regard to amœbic dysentery.

It is, however, to the chronic form of dysentery that I am specially going to direct your attention, to those obstinate, severe, and exhausting cases which, a burden to themselves and their friends, too often wander from one doctor to another in fruitless search for relief. They try ipecacuanha, calomel, opium, salines, bismuth, Bael fruit, quack medicines, and a host of other things, sometimes with temporary relief, but seldom with cure. The very number of remedies which are used and recommended for this disease testify to its obstinacy to any particular treatment.

There is, however, one line of treatment by drugs which I have found infinitely superior to any other. It is a simple one, and one which, after years of trial of all sorts of remedies, I now almost invariably first resort to. It consists in the administration of castor oil and opium combined at comparatively short intervals, and in small doses. A drachm to 2 drachms of castor oil, with about 4 to 10 minims of tr. opii three times a day, is a favourite prescription of mine. With this should be combined a simple diet largely of milk and broths. In dysentery milk, or in some cases whey, is the diet *par excellence*. So great was Dr. Jameson's belief in milk that when in practice in Kimberley he was very fond of large enemata of warm milk, slowly injected into the bowel with a long tube, both in acute and chronic dysentery.

I frequently use the milk enema, especially in obstinate chronic cases. It thoroughly cleanses and empties the gut, and is more easily tolerated than any medicated and especially astringent lotions. In fact it is not merely tolerated, but it has a bland and soothing effect on the irritable bowel which is most grateful to the patient. Rest is of course an essential in cases of any severity, and even in the milder forms has an undoubtedly beneficial effect.

Hare of Edinburgh has recommended in these chronic cases injections of nitrate of silver, and Osler recommends 20 to 30 grains to the pint, of which, if possible, from 3 to 6 pints at a temperature of 100° should be injected. This may be tried if no progress is made with the foregoing treatment, but it sometimes produces such pain as to be almost immediately rejected.

In conclusion I will merely add this final piece of advice: Before trying any other remedies in chronic dysentery, the physician will be wise to give a full and patient trial to milk, castor oil, and opium.

TREATMENT OF ENTERIC FEVER BY CARBOLIC ACID AT THE BRITISH GENERAL HOSPITAL, NOWSHERA, PUNJAB.

By CAPTAIN R. C. THACKER,
R.A.M.C.

On April 12th I was placed in medical charge of the special enteric wards attached to the above hospital. A most excellent opportunity was afforded of giving a further and more extensive trial to the carbolic acid treatment in enteric fever, and the following has been the result up to the present date:—

Number of cases treated	...	...	...	79
Number of deaths	...	...	...	11
Percentage of mortality	...	...	...	13.9 per cent.

All these cases were, in the first instance, diagnosed in the field hospitals at Laudi Kotal, Ali Musjid, and Jumrood respectively, and on arrival at the base were most carefully examined both by Major Flanagan, R.A.M.C., the Principal Medical Officer, and myself. Only well-marked typical cases of the malady in which there was a concurrence of opinion were at first admitted to the special wards; so that I consider that I may fairly claim that the diagnosis was accurate and above suspicion. Owing to the exigencies of field service numbers of the patients arrived in a very advanced stage of the disease, suffering from cardiac asthenia and low vitality, unquestionably associated with the prolonged physical effort and exhaustion attending long marches in dhoolies, a railway journey of 25 miles from Peshawur, and a most trying climate—circumstances in themselves in no way

conducive to a successful issue in the treatment of this treacherous and fatal malady.

TREATMENT.

Carbolic Acid.—On the arrival of the convoy of patients from the railway station they were invariably at once seen and examined, after being thoroughly washed and cleansed and placed on a comfortable spring mattress with clean sheets and body linen. Carbolic acid was then prescribed, four doses of miv each, well diluted with iced water, were ordered in the twenty-four hours. This was supplemented during the night, if the skin was hot and burning and the temperature running high, by two full doses of ordinary diaphoretic mixture. The formula generally used for the carbolic acid was Calvert's pure carbolic acid miv , spirits of chloroform mxx , compound tincture of cardamoms mxx , with syrup and water to 1 fluid ounce. This mixture was kept in the ice box, and was thus administered cool and refreshing to the sufferers. Without any exception it was well tolerated by the stomach, caused no unpleasant symptoms, and was thoroughly liked by the patients as a palatable medicine. In fact, in more than one instance it was reported to me by the sister on duty that the patients frequently asked for an extra dose. This, though a trivial incident, showed that the medicine was liked, and that the patient had some faith in its efficacy, a point of no small importance when treating soldier patients.

Dietary.—The principal article of diet consisted of three pints of fresh-boiled milk of excellent and irreproachable quality in the twenty-four hours; 5 ounces were given every two hours, and was supplemented by 1 pint of sound carefully-prepared chicken broth. Two pints of iced barley water flavoured with lemon were also allowed as a cooling drink (4 ounces every hour) if so desired. The enteric evacuations were examined daily with care, and on the first suspicion of "solid" curd appearing in the stools, or the slightest tendency to irritability of the stomach, the milk was either peptonised or alkalisied, the latter being usually carried out by the sister on duty by adding a powder containing sodium bicarbonate, potassium bicarbonate, and sodium chloride of each 6 gr. to each pint of milk. This simple procedure proved most beneficial and effectual in many cases.

Stimulants.—Owing to the weak and prostrate condition of many of the patients on arrival, brandy had in most cases to be administered early in small quantities freely diluted. If grave symptoms supervened, such as a dry, brown, tremulous tongue; quick, weak, and irregular pulse; rapidly failing first sound of the heart, and low muttering delirium, the amount was rapidly increased up to 8 or 10 ounces in the twenty-four hours, with a pint of champagne if necessary and indicated. Stimulants in grave and malignant cases of enteric fever in India are, in my experience, well borne by the patient, and in most cases essential to a thorough and sound convalescence.

Nursing.—The nursing arrangements were efficient, and I would wish to record my thanks and appreciation of the untiring energy and devotion of the sisters.

COMPLICATIONS.

Complications were, I regret to say, frequent and severe, and included hæmorrhage. Cardiac asthenia, with hypostatic congestion of the lungs, hyperpyrexia, perforation, secondary bronchitis and pneumonia, tympanites, nervous symptoms, and phlegmasia.

Hæmorrhage.—Hæmorrhage occurred in four cases. The quantity of milk given every two hours was at once reduced to half, and given iced; stimulants were stopped altogether if admissible, or at least reduced to a minimum. Ice in small quantities was given to suck and allay thirst; ice was applied over the right iliac fossa and abdomen generally by means of ice trays. An enema in the ward of Dover's powder 10 gr., tannic acid gr. 20, in Zij of mucilage of starch, which was kept ready, was administered. At the same time a mixture composed of gallic acid, aromatic sulphuric acid, and liquor opii sedativus was given by the mouth every hour for six doses if necessary. This method was introduced by Dr. Burney Yeo, and he states "that lives have been saved by the precaution of having it kept ready at hand," and I can quite endorse his opinion. Turpentine was freely used in cases of protracted hæmorrhage, and found most beneficial. A combination of turpentine m15 , with ergotin gr. 3, and m10 of liquor opii

sedativus was usually prescribed. Ergotinine was also given hypodermically in doses of gr. $\frac{1}{16}$ every fourth hour.

Cardiac Asthenia.—Cardiac asthenia with hypostatic congestion of the lungs proved a most frequent, dangerous, and trying complication to deal with, owing to its sudden onset and rapidly fatal termination. Stimulants were given freely, and also combined with tincture of digitalis $\frac{1}{2}$ x and liquor strychninæ $\frac{1}{11}$ in $\frac{3}{8}$ ss of brandy freely diluted. The most satisfactory results were obtained from the hypodermic injection of strychnine in doses of $\frac{1}{16}$ gr. every four hours until some improvement was observed in the first sound of the heart and in the pulse. I have no hesitation in saying that many lives were saved by these injections of strychnine. In many of the cases it had to be exhibited from the first day of admission.

Hyperpyrexia.—Hyperpyrexia caused anxiety in several cases. It was treated by ice sponging, ice pack, ice to the head and neck, with ice trays suspended over the abdomen; and internally mistura diaphoretica, with small doses of potassium bromide. Powerful antipyretics were carefully avoided owing to their depressing effects on the circulation.

Secondary Bronchitis and Pneumonia.—These complications were usually treated with diffusible stimulants and expectorants; counter-irritation by means of mustard and linseed-meal poultices, turpentine fomentations and dry cupping.

Tympanites.—Tympanites was rare, and occurred in very few cases to anything like an excessive extent. It was readily controlled by the ice cradles suspended over the abdomen. Hot flannel stupes of turpentine and opium liniment also were used, and internally ol. turpentine in $\frac{1}{2}$ x doses every fourth hour.

Diarrhoea.—Excessive diarrhoea gave very little trouble and caused no anxiety; it was easily controlled by ordinary astringents, while the amount of milk was diminished, peptonised, or alkalis as the symptoms indicated.

Nervous Symptoms.—Nervous symptoms in the majority of cases were slight and quickly yielded to opium, potassium bromide, and tincture of hyoscyamus judiciously administered.

Phlegmasia.—Phlegmasia occurred in four cases; the foot of the bed was elevated and the affected limb painted with equal parts of glycerine and belladonna liniment and then wrapped in cotton wool kept in position with a wide flannel bandage.

REMARKS.

The following favourable signs appeared after the administration of the acid:

1. A rapid cleaning of the tongue with the abolition of the characteristic unpleasant enteric odour from the breath.
2. A sustained and remarkable lowering of the febrile temperature with a well-marked morning remission in many cases.
3. Marked improvement in the unpleasant odour from the stools, which in a few days become practically deodorised.
4. Tympanites, diarrhoea, and delirium were rarely excessive and easily under control.
5. A most favourable convalescence with a sound recovery.

NINE CASES OF HEPATIC AND BILIARY SURGERY.

By RUSHTON PARKER, M.B., B.S., F.R.C.S.,

Professor of Surgery in University College and Surgeon to the Royal Infirmary, Liverpool.

THE cases to which I desire to draw attention belong to three categories, abscess of the liver, hydatid tumour, and impacted gall stones. The diagnosis was in each case usually made by a physician, who also suggested the treatment which I followed. It is chiefly with regard to the operation performed that I relate the cases, which have a never-failing interest now that modern surgery so largely rescues them from the unfortunate fate formerly awaiting most of them. Three were cases of hepatic abscess, four of hydatid cyst, and two of gall stones. I might have added a few where obstruction was caused by malignant disease in the biliary passages, but they possess chiefly an incidental pathological interest in contrast

with the curable cases of cholecystotomy, and will therefore be omitted on this occasion.

HEPATIC ABSCESS.

CASE I.—A man, aged 38, had been a sailor for twenty years, but had never had dysentery or other disease accounting for the abscess, which had only troubled by pain for nine weeks. His temperature was 100° F. on the evening of admission into a medical ward in March, 1894. The next day pus was drawn off by exploratory puncture and the temperature rose to 101° , where it remained for two days, falling next day to 100° , and on the fourth below 98° . The abdomen was opened that day, the tumour tapped with a long curved trocar, the liver sewn to the abdominal wall and then incised, washed out and drained with two glass tubes. An uneventful recovery took place and complete healing resulted in six weeks.

CASE II.—A seafaring man, aged 45, had been told three years before that he had abscess of the liver. On admission in February, 1896, to a medical ward his temperature went up to 100° and 101° some evenings, but most evenings not higher than $99\frac{1}{2}^{\circ}$. Exploratory puncture revealed pus. He was transferred, and aspiration was practised at intervals for five weeks, on four occasions the amount drawn off varying from 12 to 22 ounces. These operations, including the exploratory puncture, were done through an intercostal space. On some of these occasions salt solution, glycerine and iodoform, and zinc chloride, were injected; but although the sensation and health of the patient improved, and the temperature became normal, the contents of the abscess did not diminish, as much as 22 ounces coming away on the last occasion. So, on March 30th, 1896, incision was made along a costal cartilage, that structure being then removed. On passing inwards, layer by layer, complete adhesion was found between the diaphragm, pleura, and liver, so that the affected organ was simply opened without further precaution, and washed out. A large cavity remained and gradually closed. After twenty-four days the patient got up daily, quickly improved in health, got fat, and healed completely some weeks later.

CASE III.—In August, 1897, a chief officer of the mercantile marine, aged 34, came under the care of Dr. Bradshaw, who expressed the opinion that hepatic abscess existed, deep in the right hypochondrium. Here there was no fever, and preliminary puncture was deliberately avoided until the arrangements were made for the complete evacuation by incision. I wondered if the absence of fever were consistent with the existence of hepatic abscess; but Dr. Bradshaw informed me that such concurrence had been referred to by Dr. Murchison. Aspiration was performed through an intercostal space, giving vent to fetid pus, and incision was made over a rib as in the previous case. Part of the rib and its cartilage were removed, and on incising further the pleura was exposed, and no adhesion found. The diaphragm was closely sewn to the thoracic wall and then incised, exposing the liver, on which the peritoneum was also found free from adhesions. Some clear fluid escaped, and then the liver was aspirated, with issue of about a pint of fetid pus. The liver was then incised, and the edges stitched in a few places to the diaphragm and peritoneum. About two pints of pus now escaped, and the resulting large cavity was washed out, and drained with glass tubes. The patient has gone on uninterruptedly well, and has changed from emaciation to stoutness.

HYDATID.

CASE IV.—A girl, aged 12, was tapped by me in four places with an exploring trocar on October 11th, 1895, in three places on November 13th of the same year, and in one place in March, 1896. She was brought to me by Dr. Dimond of Liverpool, and the operations were performed without chloroform in my house. Hooklets were found in the fluid by Dr. Abram, and the patient was reported free from disease early in 1897.

CASE V.—The same treatment was attempted in a woman, aged 49, two simple tappings in January, 1897, having let out clear fluid containing hooklets. On February 1st the fluid was yellowish and turbid, and on March 4th purulent and fetid. On March 5th the liver was opened and the cyst pulled out. The cavity in the liver was treated with glycerine and iodoform, and healed gradually without suppuration in a couple of months.