

lung, probably also on the other, which was not examined, owing to the weak state of the patient; morning temperature, 100; evening temperature, 101.

23rd.—Delirious; an offensive and almost cadaverous smell proceeds from his body; much difficulty in feeding him, owing to inability to swallow readily; breathing easier, and cough less troublesome; one stool; still has fever, but the thermometer was not used on account of the restlessness of the patient.

25th.—No improvement since the 23rd; continued to be restless and delirious; died at 1 p.m. I was desirous of making a post-mortem examination, but was told it was not the *dustoor* in the regiment to do so. I referred the subject to the Deputy Inspector-General of Hospitals of the Presidency, and was advised by him not to press the matter.

The case of Nait Ram is remarkable for its protracted duration. The fever began on the 10th July, 1871, and terminated fatally on the 25th September, extending over a period of eighty-seven days. It is probable, however, that the fever terminated in the first week of August, and that a relapse occurred on the 25th of that month. The diary was not kept between 27th July and 26th August.

That instances of typhoid in the native have not been more frequently recorded, is due to the prevalent practice of applying the neutral terms "remittent" or "continued" fever to all cases which are non-intermittent. In the Punjab I did not meet with typhoid in the native, and can only recall three instances of the disease in Europeans during a period of ten years. The non-occurrence of the disease in the native of the Punjab, in the parts of that province of which I have had experience, was not due to a race distinction, but to the simple and intelligible circumstance that the cause or causes of the disease were non-existent. In Calcutta, where the cause exists, every human being, black or white, exposed to it is naturally liable to take the disease. In the very first native hospital in Calcutta of which I had charge, I recognised typhoid in the native soldier, while I failed to meet with the disease in any native hospital, regimental, police, or jail—in the Punjab in which I had the opportunity of observing fever. I might further add, that, although I met with a few instances of typhoid amongst the European and native residents of Fort William, I did not find a single instance of the disease amongst the large number of warrant and non-commissioned officers who reside, with their families, in Hastings. Nor, within the period of nearly eighteen months, during which the wards of the Presidency General Hospital were open to me, was there, to the best of my recollection, a single case of typhoid contributed to the hospital from Hastings, although that military suburb swarms with children. It would assuredly be incorrect to attribute the exemption from typhoid enjoyed by the European warrant and non-commissioned officers, and their families, resident at Hastings, to race distinction. A more rational explanation would be, that the disease does not occur, wherever the cause of it is wanting.

CHITAGONG: 10th March, 1872.

EXPERIMENTS WITH CARBOLIC ACID.

By Surgeon P. CULLEN, M.D., *Civil Surgeon, Hoshungabad.*

(Continued from page 252, Vol. VI.)

Mussamat Ameerjan, who remained under treatment at the time of my last paper (3rd June), was discharged cured on the 8th June, and has not had any relapse.

As I was about to leave the station for some days, both dogs were let loose on the evening of the 3rd June, but returned on the 4th and 5th for their food. On the 6th, the big dog was

missing, and, when searched for on the morning of the 7th, was found dead; but the native doctor, under whose care the dogs were left, did not make a post-mortem.

12th June.—At 7-27 a.m., half a drachm of acid was given to the little dog. In one minute, he was a good deal agitated and moved about in jumps, carrying his hind legs under him. In three minutes, he lay down, but again got up and staggered about a good deal. In five minutes, $\frac{3}{4}$ of infusion of Valerian (pharmacopœial strength) was given to him, after which he fell down, lay quiet for about one minute, then got up and sat on his haunches. In nine minutes, he sank into a half sitting, half lying posture, and was panting a good deal, and for some time kept changing his position, sometimes sitting, sometimes lying down. In fifteen minutes, the symptoms began to decrease. At the twentieth minute after the dose, a little cold water was sprinkled on him, when he got up, was able to stand, and strength gradually returned; and in fifty minutes' time he was all right again.

In this experiment there was no stertorous breathing, nor frothing at the mouth.

13th.—At 7-38 a.m., forty minims of acid were given to this little dog, and he immediately staggered and fell; but got up and fell again some three or four times. In three minutes, he fell, and was unable to rise again. In five minutes, $\frac{3}{4}$ of infusion of Valerian was given. At 7-48, there was stertorous breathing, frothing at the mouth, pupils dilated, and eyes blood-shot; and he lay quite helplessly. At 7-54, he attempted to rise but could not; but at 7-56, got up, but was unable to stand, and fell again; by 8 o'clock, the symptoms began to wear off; and by 8-20 a.m., he was quite himself again.

14th.—One drachm of the acid was given to this same little dog at 7-26 a.m. In two minutes, he was frothing at the mouth, and staggering about. In six minutes, he sat down, and then quietly lay down. In eleven minutes, he got up, sat, and staggered about slowly until the fifteenth minute had elapsed, when the symptoms began to wear off; and in one hour and five minutes he appeared all right.

In this trial, the dog was not entirely overpowered, but seemed to have a tolerance of the acid.

Further experiments were interrupted until the 17th July; but this dog was well cared for all the time, and was in good condition. On the morning of the 17th July, at 7-35 o'clock, 40 minims of acid were given to him in half an ounce of tepid water. In five minutes, he was affected with a hoarse rattling noise in his throat, was a good deal agitated, and walked about with his hind legs drawn under him. After the tenth minute, he sat down, and got up several times. In fifteen minutes, he passed his urine, and vomited once, and then rapidly recovered; and by 8 a.m. was all right.

19th July.—At 7-38 a.m., one drachm of acid was given to this little dog. In two-and-a-half minutes, he trembled greatly, had a hoarse rattling noise in his throat, and moved about in a half sitting posture, with his hind legs drawn under him. There was also twitching of the eyelids, and the pupils were dilated. At 7-45, he fell over, but with a little difficulty got up again, and remained more or less affected, but not overpowered, until about 8-20 a.m., when he seemed quite recovered.

Experiments were again interrupted until the 5th December, when this dog could not be found, but two others about the size of water spaniels were secured.

5th December.—At 8-46 a.m., dog No. 4 got one drachm of acid in four drachms of cold water; he fell down instantly; and in thirty seconds, three grains of calabar bean, in powder mixed with $\frac{3}{4}$ of cold water, were poured down his throat; he was strongly convulsed, and died in seven minutes.

At 8-51 a.m., dog No. 5 had $\frac{3}{4}$ of acid in $\frac{1}{2}$ of cold water given to him; in thirty seconds, he was frothing much at

the mouth, and in one minute fell down convulsed, but, in about ten seconds more, sat up again, and continued half sitting, half lying for about five minutes; pupils were dilated, and eyes watering a good deal. After this the symptoms gradually wore off, and he was all right again in about forty minutes.

At 12 o'clock mid-day, a post-mortem was made of dog No. 4. The lower lobes of both lungs were slightly congested; the whole four cavities of the heart distended with fluid blood; in the right auricle only was there any sign of coagulation, and here only a very small soft coagulum was found. Stomach contained some half-digested food, but at its œsophageal end exhibited spots of redness, and similar spots were seen along the intestinal canal. Liver quite dark, and gorged with fluid blood, also the kidneys; and the bladder was full of red urine, which smelt strongly of the acid. The vessels of the brain were full of fluid blood, but no particular vascularity was seen in the brain substance; each lateral ventricle contained a small quantity of serous fluid.

6th December.—Dog No. 5, at 8-30 a.m., appeared thin, and frothing at the mouth. Half a drachm of acid in four drachms of tepid water was given to him, and immediately afterwards four grains of powdered calabar bean, which had been steeped for ten minutes in ʒij of spirits of wine, were poured down his throat: as soon as he was let go, he fell down, but was not strongly convulsed. In two minutes, he was put into a warm bath, and kept in for three minutes, but without any apparent benefit; he died in ten minutes from the time of taking the acid.

A post-mortem was made at 12 o'clock mid-day. The whole of the internal organs were gorged with blood as in No. 4, and there was serous effusion on the surface, and into the ventricles of the brain. The spine, from the shoulders to the sacrum, was laid open, but no effusion or signs of inflammation could be detected on the cord, or its sheath.

7th.—At 8-10 a.m., half a drachm of acid in ʒiv. of tepid water was given to dog No. 6. In thirty seconds, he was staggering about. In two minutes, he was put into a hot bath, and kept in for one minute, then taken and wrapped in a blanket; this served to check the spasms, but not the heavy breathing. At 8-20 he got up, and the effects of the dose had quite worn off by 8-20 a.m.

Thinking that, perhaps, the calabar bean had had something to do with killing dogs Nos. 4 and 5, I caught another dog on the 7th December, and to him gave two grains of powdered bean in ʒiss of spirits of wine and ʒij of water. In three minutes, he coughed a little, and then vomited; the cough continued at intervals for about twenty minutes, but no other effects were noticeable. But the next morning (8th December) a weakness in his hind-quarters was quite evident in the way he walked. At 8-44 a.m. two grains of calabar bean, powdered, were given to him in cold water; he vomited almost immediately, but no further effects followed, nor was the weakness in his gait more evident the next day. From this I attribute the death of dogs Nos. 4 and 5 to the carbohc acid purely.

On the 13th December, Kulloo, a prisoner, Hindoo, aged 22, was admitted into hospital, complaining of purging; stools semi-fæculent, frothy, with mucus in them. There was tenderness over descending colon, and straining at stool, but no fever. The native doctor gave him a dose of oil on admission, and the next day gallic acid grs. iii. with gr. ss. of opium, three times; but there was no improvement on the morning of the 15th when I saw him, and I then ordered carbohc acid ʒ iii. with tincture opii ʒ xv. in half an ounce of camphor water. On the 17th his stool was natural, and the medicine omitted; and he was discharged, cured, on the 18th.

(To be concluded.)

CASES OF ABSCESS OF THE LIVER WHICH OCCURRED AMONG THE MEN OF H.M.'S 58TH REGIMENT DURING THE YEARS 1869 AND 1870, WITH SPECIAL REFERENCE TO THE CONNECTION OF THE DISEASE WITH DYSENTERY.

By Assistant Surgeon J. O'REILLY, M.B.,

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(Continued from page 131.)

CASE XII.—Private James E—, age 34, service 12 years. This man was admitted into hospital on October 4th, 1869, suffering from dysentery of a severe type. The disease proved rather intractable for some time. However, in about six weeks, it had abated considerably, and the patient was strong enough to be able to leave hospital on the 28th November, with the other invalids *en route* for England. During the 54 days he was in hospital he never at any time complained of any pain or tenderness in the hepatic region. But, a few days after leaving Allahabad, very decided symptoms of serious hepatic mischief set in, ran their course with great rapidity, and the man died at Nagpore—a place about 420 miles distant from Allahabad—on the 7th December. A post-mortem examination at Nagpore revealed abscess of the liver as the cause of death. There were no symptoms to warrant a suspicion of any hepatic mischief, much less the existence of abscess of the liver, when he started from Allahabad on his homeward journey: another illustration of the insidious and rapidly fatal course sometimes taken by the disease when it follows on dysentery.

CASE XIII.—24th October, 8th day.—Private F. D—, age 24, service 4 years, admitted on the 17th instant, with a very severe attack of acute hepatitis—no history of dysentery. The more acute symptoms have now subsided, but there is still a good deal of tenderness on pressure in the hepatic region, and considerable enlargement of the liver. From this date until the 16th December, when he proceeded to England *via* the Cape, no amendment took place. Dull aching pain was steadily present in the right side; occasional diarrhœa, constant accessions of hectic; face sallow; rapidly losing flesh and strength; very anxious and desponding. In the report of this case by Dr. Ambrose I find the following note, dated 20th November:—“There can be little or no doubt, from all the symptoms, of the existence of an hepatic abscess in this case, although there seems to be no tendency on its part to point at any particular spot.”

CASE XIV.—Private James A—, age 36, service 16 years, admitted on 12th February, in a very low state of health; suffers from a severe cough: symptoms of a phthisical nature. Has lost strength and flesh very rapidly; went on from bad to worse until the 18th March, when he was attacked with most obstinate vomiting. On the 3rd he complained of pain in the hepatic region. On the 5th, the vomiting, which had abated, again set in, and with it severe diarrhœa. The vomiting continued incessantly for three days, and reduced the patient to a state of great weakness. On the 8th, complained of pain in the region of the right kidney. Urine discovered to contain a large quantity of albumen. On the 10th he had rallied somewhat, and appeared to be improving; but the vomiting and purging recurred with great severity about the 17th, and he gradually sank, dying on the 20th, utterly exhausted.

Autopsy.—Deposit of tubercle in apices of both lungs.

Liver much enlarged, bearing marked traces throughout its structure of considerable structural change. In the left lobe there was an abscess, containing a couple of ounces of thick pus. There were numerous smaller abscesses scattered throughout the substance of the liver in both lobes.