

Contents of bowel natural. The mucous membrane of the intestine was no where thinned or gave reaction with iodine. The blood was sisy.

This case was returned as death from malignant cholera, but probably was only a case of severe climatic fever of whose pathology nothing is known and confounded with another disease in consequence of similar dejecta.

(To be continued)

### AN INSTANCE OF WATER SERVING AS A VEHICLE OF CHOLERA POISON.

By K. D. GHOSE, M.D., M.R.C.S.

THE following extract from an official report that I had occasion to make is one of the many instances which show that the discharges passed by a cholera patient contain the poison, and that it is often carried into the human system with the drinking water, and I believe should be placed on record.

"On the 11th April 1874 I visited a village called Goopinathpore, on the opposite bank of the river at Nisbettgunge (in the district of Rungpore). A cartman named Bhollo, belonging to this village, was employed in transport of grain for Government. Immediately after depositing a load of rice at one storehouse he was attacked with cholera, and went home with the disease. He caught the malady on his way to the storehouse where cholera was raging. The part of the village where Bhollo lived was a dirty, low and jungly spot. In the compound of his house, and a few yards from the door of the hut in which he slept, and at the lowest spot, was a well from which the people of six neighbouring houses obtained their drinking water. Bhollo returned home with cholera on the 2nd April; on the 3rd there was a shower of rain; on the 4th he died. On the 6th his nephew got the disease, and on that evening there was another shower of rain. On the following day four others were affected in the same house. By the 11th, when I visited the spot, there were 21 cases in the six houses that were supplied by the well in Bhollo's compound, of whom 11 died. It was clearly told me that Bhollo had passed his discharges about five yards from the well, and that these discharges had been washed off by a little water, or in other words, a little water had been poured over the spot to dilute the excrement and vomited matter. There can be no doubt then that the shower of rain on the 3rd April washed the discharges into the well, which was unprotected even by a raised brim, and thoroughly poisoned it.

"When I was there I stopped the people from drinking out of the well, and had a new one sunk, and the result was that in three days the disease altogether disappeared from that quarter of the village, and no fresh cases have occurred since then."

REMARKS.—The facts above detailed need no comment. There is no doubt in this instance that the polluted water was the cause of the disease in the village, but at the same time every one who drank the poisoned water did not get cholera, which clearly shows that certain conditions of the system are necessary for the invasion of the malady, and there are others in which our frame can resist the poison even when in its most active state. But what the two contrary sets of conditions are, it is difficult to say. The people in the village lived very much under the same circumstances, they were all undoubtedly ill-nourished and hard-up on account of the present scarcity, but among those who succumbed to the action of the poison were young men and women who had more strength and vitality than several of those who escaped. It is possible that in the strong and working frame the urgency for suitable nourishment is greater than in the weak and idle, and therefore in the case of a failure of a proper or timely supply the former gets out of order and becomes liable to disease much sooner than the latter, but in the present instance the old, weak, and idle were not spared. Nor did the disease make any distinction in the age or sex of its victims.

The persons affected ranged from boys and girls in their mother's arms to old men and women who were not far from a timely grave.

RUNGPORE, June 1st, 1874.

### DR. DOUGALL'S TREATMENT OF LEPROSY WITH GURJUN OIL.

By Surgeon A. S. LETHBRIDGE, M.D., Superintendent of Jails, Bhaugulpore.

HAVING just returned from a visit to Port Blair, I am anxious to bring to the notice of the profession the wonderful success with which Dr. Dougall is now treating all forms of leprosy with Gurjun oil.

I had read Dr. Dougall's paper on the subject in the *Medical Gazette*, and heard a very favorable account from Dr. Lynch of the cases he had seen, but I was not prepared for the remarkable results which I actually witnessed.

The belief in the efficacy of this treatment is universal both among the Europeans and Natives in the Settlement. I had accidentally the means of testing the opinion of prisoners on the subject on the morning of my arrival in the island. While being carried up to Mount Harriet by some prisoners, I noticed that many of the large trees in the jungle were deeply notched. On asking the prisoners what this was for, I was informed that it was to collect Gurjun oil for the treatment of lepers. I was surprised to find how unanimous they all were as to its being a great cure. One man, a Sikh, thinking I was incredulous said, "why saheb if you don't believe us you can see for yourself by going across to the hospital at Haddo."

The day after my arrival I visited the Leper Hospital with Dr. Dougall. I think I saw in all about 28 cases; this is, I believe, the whole number of cases in the settlement. The majority were cases that Dr. Dougall has already fully described in his paper, but two or three suffering from the disease in its early stage had been recently admitted.

The patients were all paraded in a line, each man on his own mat and having a quantity of Gurjun ointment before him. They were going through the regular morning's operation of rubbing on the ointment. All the arrangements about the place were admirable, and what surprised me most was the cheerful look the lepers had, and the vigorous way in which they rubbed the ointment.

As far as I could judge they had all without an exception recovered their natural tone of voice, or rather I should say, lost the voice so characteristic of leprosy. Dr. Dougall tells me that this improvement of the voice generally precedes all other signs of recovery.

The patients who had suffered from anæsthesia and partial or total loss of power over their hands and feet had recovered sensibility and complete power over their limbs; men who could not hold walking sticks being now able to handle a pickaxe vigorously; those who could not walk when first treated were made to run before me.

Out of the whole number under treatment I saw only two with ulcers; these were situated in the sole of the foot, and were evidently healing rapidly.

The most curious feature connected with this treatment is the process by which the tubercles disappear. They gradually, as the treatment proceeds, become loose and detached from the surrounding tissue, then get soft and burst externally—the ulcers thus caused healing rapidly on the application of the ointment.

The men complained that since they have been under treatment their appetites have improved so much that the diet allowed does not satisfy them.

With regard to this Dr. Dougall explained that he did not wish to make a difference in this particular diet just at

present, lest the benefit derived from the treatment should be ascribed to generous diet.

In employing this treatment therefore with a liberal quantity of good nourishing food, we may reasonably hope to have even better results than those already obtained.

As there has been no intermission in the treatment since it was begun, it is impossible to say whether the disease is entirely cured or only checked for a time. Dr. Dougall proposes to carry on the treatment for a whole year, and then to test whether the effect is permanent.

Whatever may be the issue of this further experiment, I think the results already obtained are so valuable that it is the duty of the profession now to urge on the Government the building of Leper Asylums in connection with all stations. The treatment is so much appreciated by lepers themselves that it would be no hardship if a compulsory order for segregation were issued. Leper Asylums under the present treatment would be very different establishments to the loathsome places they were before.

I think it is only fair to Dr. Dougall that those who intend to try his treatment should carry it out to its full extent. The great point that he insists on is that the ointment should be carefully rubbed into all parts of the body, taking care to remove all traces of old ointment by rubbing the body with dry earth and then washing. I think it is important to mention this, for I was recently in a hospital where the treatment was supposed to be in use, and where I found the patients only rubbing the ointment on the parts affected by leprosy.

I have for twenty days had eight cases under this treatment; the result so far has been most encouraging.

BHAUGULPORE, 17th May 1874.

### OBSERVATIONS ON BURDWAN FEVER.

By RADHANATH ROY, *Assistant Surgeon, Alligurh.*

(Continued from page 115.)

IN the last May number of the *Indian Medical Gazette* I described defective drainage and vegetable decomposition as causes of this pestilential fever. Now let me here quote some instances in support of my observations where I have ascertained the fact. On each side of the Damooda there was an embankment or bund to protect the villages from being overflowed. A portion of it between Salemabad and Kashra had been out of repair for some time, where the river was causing enormous loss to the villagers during its overflow by pulling down houses, sweeping away cattle, huts, &c., that fell in its way. Government seeing this condition of the country deputed Mr. Impey about 20 years ago to take measures of safety. He rejected the old embankment and caused a new one to be constructed far away from the river side to the east of several villages between Harala and Kashra, a distance of more than two miles in length, and which still goes by his name. The villages to the west of this bund during each overflow were allowed to suffer their destiny. The heavy losses suffered by the people drove them into utter despair. They were pondering for emigration, when Government listening to their prayers sent one Mr. Goodwin to see what further measures could be adopted. He, on the contrary, rejected Mr. Impey's bund and caused the old one along the side of the river to be reconstructed about 12 years past and which is known as Hashia bund. This embankment protects the following villages—Harala, Monpoor, Jamalpoor, Katurapara, Badulpoor, &c.; but nothing was done for the drainage of the surface water of the above named villages lying between the old and the new embankments. About two years later on this side the embankment was joined by one, by which the Kana Nuddee was blocked up. Thus the turn and course of the river were directed to a different channel. During and after the close of the rains it has been

observed that water, in some places more or less than 3 feet deep, becomes stagnant. This state of things has existed for more than 12 years, and fever appeared four years after this. This malarious fever first broke out in Salemabad and Bathragore, both being situated on the side of the Kana; two years after the river was blocked up and four years after the reconstruction of the side embankment. It is quite evident from this that when the Kana Nuddee was in existence the villages about it were all in a healthy condition; but when it was blocked up and when the natural outlet for the drainage of surface water was interfered with, malaria broke out with extreme violence. Having for its nidus the two abovenamed villages, it spread like wild fire, north and south, devastating and depopulating the villages as it marched on.

The same might be said regarding villages lying on the western side of the river. Between Karala and Jangirpoor, a distance of 1½ miles, the embankment was left open for several years; and during each overflow of the Damooda the water found its escape unobstructed through this space, and inundated an area of some 8 or 10 miles. It was on such occasions the force and might of the river could be seen. This water some times remained on the surface for two or three days, some times a week, the people having intercourse from house to house by means of boats. How miserable was the condition of these villagers could be well imagined from the water not subsiding for days; they being confined to their damp and swampy houses. There was a provision for the escape of the surplus water during the rains by a channel named as Bachoordal Khal. This has become silted up in several places and the water remains confined as in a reservoir. It has been also observed that the field has become higher than the plain of the villages from the vast amount of sandy deposit during each inundation. The water of the villages, *viz.*, Jangirpoor, Rajarampoor, Sreekishtipoor and Jotesreeram consequently cannot be drained and remains stationed on the low lands converting them into swamps. I have seen this state of things to last till the end of November. Here I may mention that when the left embankment of the Damooda was found giving way in 1859 or 1860 to the pressure of the inundated waters it was thought necessary to cut the right wing of it to remove the pressure. Accordingly a portion of it was cut down at Sreekishtipoor, where the mighty force of the water caused an excavation which still remains to show the dreadful accident. During a night, half of the village was swept away with the loss of some twenty lives. This was kept open for three years, and in 1863 on the application of the zemindars and ryots was closed up again. The first appearance of this fever took place four years after this. The virulence of the poison was greatest at Jotesreeram, where two-thirds of the inhabitants were killed by it. Not a single soul could be seen without an enlarged spleen or liver.

(To be continued.)

### SUICIDE AND LUMBRICI.

By Assistant Surgeon GOOROO DOYAL DOSS GOPTA,

*in Medical charge, Dispensary Tangail.*

SINCE I took charge of this dispensary (*i. e.*, during the last 17 months) I examined 18 dead bodies of undoubted suicidal hanging, and in course of which several peculiarities were marked in such deaths:—

*Firstly.*—That round worms are found in the small intestines of most part of such dead bodies.

*Secondly.*—That persons of tender ages preponderate over advanced.

*Thirdly.*—That females commit suicide more frequently than males.

Again there were more such deaths among the Musulmans than the Hindoos. It has been invariably noticed that many