

quent observation has led me to believe that, if not a preventive (which I do not think it is), it is at least a powerful palliative. Not only in the case of several infected stocks within my knowledge has the disease disappeared on the successful vaccination of the survivors, but those in other stocks which have been attacked have seemed to have the complaint in a very mitigated form. I vaccinated three cows of an infected stock on the 3rd of January. On the 6th one of the three was attacked with the disease; but whereas in the three cases which had occurred in the same stock previously the cows had died on the third or fourth day, this one was by the seventh day so far recovered as to be replaced in the byre. *But the progress of the vaccine pustules was retarded.* They were not matured before the twelfth day. Otherwise they ran the same course as in the other two, whose vesicles were drying up when these ripened. I have other beasts in the same stock now under observation under conditions exactly similar, or where the disease has shown itself during the growth of the vaccine pustules. If the results should be at all similar in even a large proportion of the cases, they will furnish a powerful argument in favour of vaccination."

CASE IX.

The circumstances of this case are very similar to those of Case VI. On Monday, Jan. 15th, Dr. Bellyse, of Nantwich, wrote to me as follows:—"I vaccinated a large herd of valuable cows for Mr. Hornby, M.P., who lives opposite to me, a fortnight since next Wednesday. In looking over the stock a week since, I revaccinated a few that had not taken. In three or four days afterwards one of these revaccinated cows sickened, was 'off its feed,' and altogether unwell. Mr. Lawson (the chief veterinary surgeon of Manchester) has been over to see it, and says it is a very mild case of rinderpest, and, I hear, believes that it has been modified by vaccination. I have an exactly similar case at Mr. Akroyd's, of Doddington Hall, and in this case the cow is improving. Another instance is at Mr. Broughton's, of Wistaston Hall. The cow is in this case quite well again."

In confirmation of this and the last-mentioned case, the following extract from a letter of Dr. Lord, of Crewe, may be quoted: "My faith in vaccination increases daily; so much so, that I have thought that a partial effect of vaccination—say four or five days—has modified considerably the attack of rinderpest."

CASE X.

The details of this case have been communicated to me by Mr. Macintosh, veterinary surgeon of Dumfries, N.B., who has investigated them with great care. In a farm close to Dumfries, thirty out of forty cattle have lately died of rinderpest; and in another farm, distant only 150 yards, twenty-nine out of thirty cattle have also died of it. A third farmer, also close by, who had three cattle, lost them all. The eleven cattle in the first two farms which did not die, had the disease severely. Two other cows on the first-mentioned farm, belonging to two farm-servants, and kept in separate sheds, also had the disease, but in an extremely mild form, and both recovered. They both had loss of appetite, lumbar pain, and discoloration of the lining membrane of the vagina, and one had an aphthous mouth; but these symptoms were of very short duration. These two cows had cow-pox during the previous summer. Of this Mr. Macintosh has no doubt after examining the owners of the cows. There is no evidence, however, that any other of the cows on the three farms ever had cow-pox.

CASE XI.

On the 12th inst., Mr. Tollemache, of Dorfold Hall, Nantwich, amongst whose cows the spread of rinderpest was to all appearances arrested by vaccination, wrote to me as follows:—"I yesterday (Jan. 11th) sent a calf of thirteen months old to a very infected stock. This calf took the vaccination better than any of the cows, at least apparently so.* The matter could be seen through the scab before the scab was lifted. I have subjected this poor animal to a very severe test. She was turned into a loose place, in which was a calf very ill with rinderpest, and another calf lying dead from the same disease, which the farmer had not time to bury, as he was engaged in digging graves for two cows that had died beforehand. The dead calf, however, was removed in about half an hour after my calf was put in the loose place with her and the sick one. The sick one and mine are together, and will remain so."

On Jan. 16th Mr. Tollemache writes as follows:—"The *experimentum crucis* seems satisfactory indeed! The calf is healthy

It was vaccinated, however, I believe, in only one point.

and well, having been confined in a kind of Black Hole of Calcutta for five days and nights, with four calves that have died in succession of rinderpest. The space in which the calves were shut is literally no more than nine feet square. Fancy the fetid atmosphere, all the chinks and holes in the walls being crammed with straw to keep the wind from the calves ill with the rinderpest! I have moved my poor calf out of this horrid place, and she is running about in a large roomy shippon, in which, alas! there are now no cows."

This experiment is being conducted under the superintendence of Dr. Bellyse, and the result must be watched with great interest. Although some time must elapse before it can be regarded as in any way decisive, I have thought it better to detail the circumstances of the case at its present stage. The progress of the case will be detailed hereafter.

Jan. 18th (by telegram): "Mr. Tollemache's heifer seized yesterday with symptoms of rinderpest, but is better this morning."

CASE XII.

On Jan. 16th Mr. Mathews, of Nantwich, writes as follows: "I have left an affected cow (with rinderpest) in a shed with four successfully vaccinated cows. It has been there three days, and I intend them to remain together until it either recovers or dies, to see whether any of the four will take the rinderpest now that they are successfully vaccinated. I will give you further information at a future time."

CASE XIII.

Some of the particulars of this case are given in a medical contemporary of the 13th inst. by Mr. Fairmann of Hanley, who visited the farm during a short journey into the plague-stricken districts. The facts are briefly these. In a herd of seventy cows belonging to Mr. Boote, six cows were attacked with rinderpest, three of which were dead at the time of Mr. Fairmann's visit. The first cow was seized on Dec. 30th. During the autumn of last year cow-pox is said to have prevailed extensively amongst this herd, although all were not attacked. The hands of the milkers were affected with what the family medical attendant believed to be cow-pox. Three of the six cows attacked with the rinderpest are said to have had the cow-pox, and one of these cases had died.

Since the first particulars of this case were published I have, through the kindness of Mr. Fairmann, seen Dr. Waterton of Betley, the medical attendant of the farmer above referred to, who kindly undertook to obtain for me additional information. The eruption on the hands of the milkers, he says, consisted of two or three pustules like vaccine pustules on the backs of the hands. In reply to the question, "With regard to the three cows that had rinderpest after the cow-pox, is it perfectly certain that they had cow-pox, and on what evidence?" he writes, "Not perfectly certain that they had cow-pox. They had an eruption on the teats, but not on the udder in any one case." It is right to add, however, that Mr. Fairmann remarks, "I myself observed the marks of the cow-pox on the udder of one of the cows now under the disease." Up to January 16th, seventeen of Mr. Boote's cattle had been attacked, of which five had died.

NOTES

ON

THE PREVENTION AND TREATMENT OF CHOLERA.

By C. MOREHEAD, M.D., F.R.C.P.,

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1. THE first practical rule is to confine our action to the application of those principles which previous experience of the disease justifies us in entertaining. But is this attended to? Certainly not. The threatening or outbreak of cholera is met by panic and spasmodic efforts, as if it were something new. All is confusion and alarm, and endeavour to frame new theories out of old observations, and to act upon them.

2. Let us inquire what of our knowledge of cholera is as yet uncertain, and therefore inapplicable to practice; and what are the facts which we may regard as certain, and therefore safely use for the prevention and treatment of this disease.

(a) The exciting cause is an epidemic one—a something in the

atmosphere, the exact nature and the laws of which we do not understand. (b) Its action is favoured by all those conditions of atmosphere, of locality, and of human constitution (mental and bodily), which are adverse to health. (c) If infectious at all, it is so in a very limited degree, under crowding and neglect of scrupulous cleanliness. (d) The premonitory stage of diarrhoea and the consecutive stage of reaction are, in their course and issue, very materially influenced by medical treatment, including the judicious use of familiar articles of the *materia medica*. The characteristic stage of collapse, with or without rice-water purging, is not amenable to the action of articles of the *materia medica*, for a very evident reason—that absorption is, with the other vital actions, in abeyance more or less; but the result of this stage—i. e., death, febrile reaction, or gradual recovery—is very materially influenced by assiduous and judicious nursing and care.

3. How are these facts to be practically applied? (a) This in its present state is a subject for further careful observation and inquiry; it cannot as yet be safely brought within the domain of practice. (b) It includes all the well-understood sanitary measures relating to purity of atmosphere, and the bodily and mental condition of the members of a community, which should be systematically enforced at all times, whether cholera threatens or not. If only brought into use with panic and irregularity when cholera threatens, then the adverse influence on the mind of the community does much to neutralize the good effect of the sanitary measures which relate to improvement of the bodily condition of the community, and the unmaking of the nidus for the cholera epidemic poison. The remark made by Dr. Parkes (p. 433) in his excellent work on *Practical Hygiene*—viz., “general feebleness of health gives no predisposition”—is opposed to my personal experience, and, in my opinion, a grave etiological error. (c) If, as I believe, and as is the general belief in India, cholera be infectious at all, it is so in a very limited degree. Then the application of a quarantine system is not only unnecessary, but is calculated to be injurious, because it favours panic, and, if not at all points perfectly organized, it exposes those subjected to it to discomfort—that is, to predisposing and exciting causes of disease. The principles noted under *b* and *d* are sufficient to meet what there may be of infection in cholera. (d) It is of great importance to apply these principles of treatment with care and judgment in a well constructed and ventilated hospital, with strict attention to cleanliness by a well-disciplined establishment; for I am satisfied that by such a system the rate of mortality may be very materially lessened. Let this, however, be done with a steady eye to improvement in detail and method; but wild haphazard experiment, in the expectation of finding a special means of at once or very speedily removing the extreme collapse of cholera, is not only vain but injurious; for it tends to the use of medicines which, by accumulation, become an evil in the event of reaction, and it withdraws attention from that rational system of management by which the rate of mortality is undoubtedly decreased. Therefore in all communities from time to time visited or threatened by cholera, there should not only be an efficient sanitary system of prevention, but also a well-considered method of treatment and hospital organization, officially recognised, and ready to be brought into practice when the necessity occurs.

4. Procedure in regard to outbreaks of cholera in India is now ruled by a general order of the Commander-in-chief, dated 7th April, 1862. In this order it is wisely directed that officers should be thoroughly acquainted with the ground twenty miles round stations, with the view of selecting sites for the encampment of troops on the outbreak of cholera; and it might have been added that suitable and ample camp equipage should at all times be ready in store with this view, because to move troops struck with cholera from barracks and positions where sanitary conditions are defective often is a necessary and important step. But it is further ruled, in this order, that as soon as a case of cholera is reported at a station the troops will be moved into camp, and that no unfavourable condition of the weather is to prevent this movement being carried out. This, in my judgment, is a most unwise infringement on the exercise of that discretion with which each visitation should be met by the authorities on the spot; because, (a) in the hot and rainy seasons, when the barrack and other conditions of a station are good, life in camp under canvas will in all probability prove the greater evil; (b) the movement into camp at these seasons cannot be effected without increasing the panic and causing more exposure and fatigue—i. e., without inducing more or less of the conditions of marching life, which it is well known are in the hot and rainy seasons predisponent of cholera; (c) the right treatment of cholera, of which so much con-

sists in protection from heat, cold, and wet, and in careful nursing and watching, cannot be efficiently conducted under canvas. Therefore any good in the way of prevention may be more than neutralized by an increased rate of mortality of the attacked. I believe that a reference to Army Medical Reports drawn up since this general order came into operation will show that when it has been rigidly enforced, the rate of mortality has been most unusually high—60 per cent. and more,—without there being sufficient proof that the ratio of attacks to strength has in any degree been lessened. (See Report of 93rd Highlanders, p. 406 of Army Medical Reports for 1862.) I am aware that Dr. Parkes (at page 433 of his work) says, “In India it should be a rule to treat every cholera patient in a tent.” On the contrary, in my judgment, it should be a rule in India, whenever practicable, to treat every cholera patient in a well ventilated and constructed hospital, with all the means and appliances of a well organized and disciplined establishment. No doubt where an hospital is bad and crowded cholera patients will be better under canvas; but the statement as put by Dr. Parkes, if acted on, will in the long run augment the mortality-rate of the sick from cholera.

5. Surely our experience in cholera by this time amounts to something, and leads to some safe practical conclusions. Why are these not methodically applied in the meantime, while by cautious and patient observation we seek for further light? For example, it is very right, by a study of the general conditions of localities and seasons and peoples visited by cholera, to endeavour to increase our *certain* knowledge of the causes of cholera; but why is the surest method of coming to true results on the etiology of disease so entirely overlooked in the instance of cholera—I mean, generalization from a large number of carefully-studied individual cases? It seems to me that this is the only method by which we can ever hope to learn with accuracy and certainty the causes of cholera, as well as of all other forms of disease; it is the *test* by which to judge of the truth of the conclusions to which the *general* study of the forces which influence the human system (i. e., the causes of disease) may conduct us. Yet I know of no series of carefully observed cases of cholera in which the attention necessary to this end has been fixed on the previous history of the individual. We have enough in our records of present symptoms and of pathology; but where is to be found that sufficient note of the previous history—that part of a clinical case which has mainly to do with etiology? I would lay it down as an axiom, that positive and certain facts in etiology are only to be reached through extended faithful clinical observation; all else is very useful and suggestive, but without the clinical test it can never be absolutely trustworthy. This patient clinical study of cholera is not only necessary to elicit new truths, but also to correct errors. For example, it is no doubt true that in cholera seasons a draught of impure water may be a *determining* cause, just as a mild dose of Seidlitz or other saline, or a teaspoonful of castor oil may be, and ought, as these, to be carefully avoided; but to give to impure water the place in the etiology of cholera assigned to it in the Report of the Royal Commission on the Sanitary State of the Army in India, is a preposterous application of a series of loose and one-sided opinions and statements, which can only serve to withdraw attention from other causes and lead to disappointment. Impure water is, doubtless, a sanitary evil, and calls for prompt and decided removal. But in this and all other questions of sanitary science, it cannot be right to lose hold of the sound principles of the inductive philosophy, and to run riot in the field of sensational writing.

November 17th, 1865.

ON SYPHILIZATION.

By HOLMES COOTE, Esq.,

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I VENTURE to offer some remarks on the treatment of syphilis by the process termed “syphilization,” founded on experiments lately carried on in the female venereal ward in St. Bartholomew's Hospital under my care. It would be tedious to repeat the daily details in each case; I will therefore premise that the number of patients was five, and with all the proceeding was optional. The pus was introduced by Dr. Boeck himself, in the presence of Mr. Orton, my house-surgeon. Three punctures were made with the point of an armed lancet every third day. The regions selected were, first, the sides of the chest;