

The deleterious influence of the protracted use of mercury, even in cases in which the effects of this medicine are really needful, will I have no doubt be readily admitted. I have been obliged to proceed on quite a different tack in a relapsing case, in which mercury, having been signally serviceable in the first attack, was found to be no less pernicious when again resorted to. I was first and most indelibly impressed with the importance of the principle (which I believe is applicable to the whole class of mineral alteratives) of which I have been speaking, when hearing the very laborious prize essay of Dr. Combe, on the effects of nitro-muriatic acid. This agent was tried internally and externally, and in various degrees of strength, and for periods of various duration. The doctor subjected himself and other healthy subjects to his experiments, besides a great number of patients labouring under a variety of diseases. The result, to which there was no exception, was this:—that, though there was a very marked improvement at the commencement of the experiments, in cases in which the influence of a general alterative was required, all the subjects, including those who at the commencement were quite well, were brought into a cachetic state, having tender gums, debility, and weakened digestion. The recollection of these facts has made me ever since uniformly unwilling to persevere with medicines of this class for any considerable time, and has induced me to suspend them, even whilst their administration was still attended with apparent benefit; yet, with the intention of reverting to them after an interval of time, and the substitution of a different agent.

I fear I may be extending these observations beyond the limits of a paper suited to an evening meeting, and I will endeavour briefly to conclude; yet there are points which I would not altogether omit.

It was stated at the commencement of this paper, that there were numerous cachexiæ; and that such is the case we can scarcely question, when we consider how many different principles may be constituted by the combination of different proportions of the elements of which our bodies are composed—that out of them are formed as many distinct animal poisons as there are different specific diseases distinguishable from each other—and how slight is the chemical difference between a wholesome alimentary substance and an intensely virulent poison.

The few illustrative examples which I have adduced, are chiefly such as we may suppose to be mainly produced by the lesion of the depurating process performed by the kidneys, or by that of the liver, in conjunction with the derangement of its function in the formation of bile. May not analogous effects be produced by disturbance of the functions of the pancreas, of the spleen, of the skin, and of the uterus? It would not be difficult to produce probable examples of each. In support of this view, I may state the opinion of a physician and pathologist whose ideas I always regard with respect. It is the belief of Dr. Foville, that some forms of mental alienation are dependent on a morbid condition of the body generally, rather than on organic lesion of the brain. Some forms of cachexia are manifestly attributable to the vitiated alimentary substances supplied to the system for its growth or repair. In my former communication, I mentioned one instance in the production of ergotism from the use of diseased rye. Liebig mentions a most remarkable—I might say marvellous—example in the fatal effects of decomposed German sausages. Scorbutus at sea, pellagra in the north of Italy, and some other endemic diseases, may arise from similar causes. The vitiated atmosphere of badly constructed and crowded cities, and of marshy districts, will also be recognised as productive of cachetic conditions of the system.

I need not attempt a further enumeration of examples; but I cannot pass over one peculiar and remarkable instance of a general state, though it is rather to be regarded as physiological than morbid. I allude to the state of the female during menstruation. Though recognised as a subject of popular belief, I am not aware of its being noticed as regards the particular characteristic of which I am about to speak, in any work of medicine or physiology. It is stated

as the result of repeated experience, that meat which has been handled by a female in this state undergoes rapid and peculiar decomposition, and that the antiseptic power of salt is effectually superseded by this influence.

The importance of the subject of this paper will scarcely be disputed, since the greatest adept at diagnosis—that is to say, in pointing out the precise locality of organic disease—may fail in the treatment of his patient, if he have not also duly estimated the state of system at the time, and recognised such a condition as I have here termed a cachexia which may be associated with it; and the able prescriber of experienced practical tact, who may perceive it and know how it is to be combated, may succeed in the cure of his patient, though he may overlook some latent organic mischief under which the patient may also be labouring. It should of course be our desire and aim to discover and appreciate both of these conditions, and properly to deal with each.

More than thirty years ago, I wrote an inaugural thesis on absorption. It was remarked that I took too chemical a view of the operations of the living system; but, since that time, the laborious researches of those who have so greatly advanced the science of chemistry, have placed in the clearest light that of which I had merely a glimpse in the obscure distance.

I concluded that thesis by saying: “De hydrargyri et aliorum quorundam medicaminum in absorbendi functione effectibus et agendi rationibus conjecturas meas proponere in aliud tempus differam.”

I then looked forward with juvenile hope to the time when I might in hospital practice have the opportunity of carrying out the researches which I projected; but these anticipations have not been realised; and I now unexpectedly find myself, after the lapse of so many years, performing, though very imperfectly, a promise which I had almost forgotten.

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CLINICAL NOTES ON CHOLERA.

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[Continued from page 900.]

CHOLERA IN THE INSANE.

It appears to me that a brief consideration of cholera as it occurs in lunatic asylums is of considerable interest, on account of the peculiar and anomalous type of this disease in the insane. The peculiarities which frequently present themselves in the natural history of cholera in the insane are chiefly the following:—

I. The extreme difficulty in the differential diagnosis between cases of cholera marked by mild collapse and cases of dysentery or dysenteric diarrhœa with mucoid stools, especially in debilitated subjects, when they occur in the same building, and at or about the same time with cholera cases.

II. The extreme suddenness of the invasion of the disease in many cases. In several asylums, patients are reported to have been instantaneously seized while walking, in their usual health, in the airing courts or grounds. It has also been a frequent occurrence in the history of cholera in asylums to find, in the morning, when the dormitory or bedroom doors are thrown open to enable the inmates to make their toilette, persons in advanced or hopeless stages of cholera, who on the previous evening had gone to bed in good health.

III. The absence in many, perhaps the majority of, cases of all prodromata, or of particular kinds or degrees thereof, *e. g.*, premonitory diarrhœa. In many cases, the absence of all premonitory symptoms can only be presumed; in others, which have been under careful observation prior to and during the attack, it is fully ascertained. Collapse has frequently been described to be the earliest, and sometimes

the only symptom present. The study of the origin of cholera in such institutions powerfully supports the view that it is not necessarily or even generally preceded by diarrhoea. In three-fourths of the cases in many English asylums, premonitory diarrhoea is noted as not having been present.*

IV. From the mental condition of the patients, it is seldom we can arrive at a distinct history of the prodromata or invasion of the disease; nor can we always satisfactorily ascertain their healthy or morbid condition by physical examination alone. How far the anomalies or modifications in the symptoms, presently to be mentioned, depend on the morbid condition of the brain and nervous centres, we cannot stop here to inquire. Such a condition has frequently a salutary influence, by removing one of the most potent predisposing causes of the disease, viz., mental emotion. Where the mental functions are so far impaired or suspended, as in many cases of insanity, this cause cannot be held to operate.

V. Deficiency of information as to the seizure is also due in great measure to the fact that it usually takes place during the night; that the patient rarely or ever suffers pain such as to cause him to alarm the attendant, whose attention is first directed to the case in the morning, by the amount of the evacuations, the extreme debility of the patient, or the collapse features of his face.

VI. The absence of what are usually considered characteristic symptoms of the disease, in many or most cases, viz.:

a. The absence of purging of any kind, or the absence of "rice-water" purging. The stools are frequently bilious, and resemble those common in simple diarrhoea. The purging may be small in amount: it is seldom excessive.

b. The absence of vomiting, or the matters vomited consist wholly of food recently swallowed. The ejecta seldom or never consist of "rice-water".

c. The absence of cramps.

d. The absence of any lesion or loss of animal heat.

e. The absence of collapse.

f. The absence of any lesion or loss of consciousness.

g. The absence of livor or cyanosis.

h. The absence of complaints of pain, dyspnoea, syncope, sinking, etc.

i. The absence of *post mortem* movements.

VII. The great rapidity of the course of the disease, death taking place frequently six or seven hours after the patient appeared to be in the full enjoyment of health.

VIII. The large mortality among those attacked. Of 454 persons attacked in the English asylums during the last epidemic, 311 died.

IX. The great difficulty of treating the insane, on account of their obstinate resistance to, and rejection of, all therapeutic remedies.

The history of cholera in asylums presents to us, moreover, the following points of interest:—

I. The effect, apparent or real, of isolation in protecting a healthy community from the incursion of the disease.

II. The epidemic outbreak of the disease, notwithstanding complete and prolonged isolation.

III. Cholera is not wholly or even generally confined to the worst regulated or oldest asylums, or to those exclusively inhabited by paupers.

IV. It is not always determined or aggravated by defective sanitary arrangements, or by the presence of nuisances, private or public.

V. It does not always attack the most debilitated or dirty patients, or the most chronic cases; nor is it most common where the mental powers are most in abeyance. It attacks persons labouring under all classes of mental diseases, and every stage thereof; so that no species of insanity tends to produce immunity.

VI. The insane are equally liable to be affected by the cholera poison as the sane, when placed in similar circumstances in relation to predisposing and exciting causes. Their immunity during recent epidemics is probably due to

the excellent sanitary condition of modern asylums, which are almost all suburban, or in the country, and are well situated with regard to ventilation, light, water supply, etc.

VII. The popular idea that the presence of cholera in a place is necessarily indicative of defective sanitary arrangements, is very erroneous; for it has occurred in the best regulated asylums in this country, and under circumstances where the most complete prophylactic measures were had recourse to to prevent its appearance, and to mitigate and check its ravages in case of an outbreak.

IX. The disease does not seem much affected by the kind or amount of water supply, as it occurs under the most different circumstances.

X. The disease is induced in many cases by predisposing causes acting entirely *ab extra*, i. e., without the assistance or intervention of ordinary mental causes.

XI. In some asylums the exemption, in others the seizure, of the medical officers, servants, nurses, and attendants.

XII. The effect of improved sanitary regulations in arresting the progress or mitigating the virulence of the disease in circumscribed communities.

XIII. The exemption of several British asylums during former epidemics, and their involvement during the present; whether and how far due to the presence or absence of rigid cordons *sanitaires*.

XIV. The sudden and stealthy invasion and termination of the disease.

To illustrate a few of the statements above made, I shall very briefly cite a few particulars of the only two cases seen by me in the Dumfries Asylum, which, under the supervision of Dr. Browne, ranks among the best managed asylums in this country.* I shall at the same time mention several collateral circumstances, which bear more upon the general question of the origin and progress of the disease than as specially elucidating the two cases in question.

The one case was that of a gentleman, the other that of a lady, both at or about the period of middle life. The former occupied a private parlour and bedroom in one of the cleanest and best ventilated galleries in the institution. He was a high class patient, and his associates in the gallery were convalescents belonging to the middle and higher ranks of life. The latter occupied a separate bedroom, but mixed in the sitting parlour with about a dozen ladies belonging to the middle ranks, several of whom were noisy and dirty in their habits. The gallery occupied by them was on the ground-floor, but was also, in common with every part of the house, kept as scrupulously clean and well-ventilated as the habits of the class of patients would admit. Both were attacked on Aug. 30th, and no cases occurred subsequently. Both were chronic cases, and of enfeebled constitutions; but they were far from being the most debilitated cases in the house, or those most likely to fall the first victims to the destroyer. Both were in comparatively good health on the previous day, with the exception that, in the case of the gentleman, a slight diarrhoea existed. In both, the disease was far advanced when it was first detected by the attendants; and both cases were rapidly fatal, the one in two and a half hours, the other in nineteen and a half hours. In neither case could the origin of the disease in the asylum be traced, the patients being simultaneously affected in distant parts of the building; in neither could the history of the prodromata or first symptoms be ascertained; in neither were there purging, vomiting, or cramps, from the time I was first called to see the cases; in neither could any cause be assigned for the seizure; and, unfortunately, in neither was a *post mortem* examination permitted, so that the pathological appearances were not observed.

CASE I was a lady, aged about 36—a case of chronic mania, with great intellectual impairment. She had been highly educated and accomplished, but was now reduced to a con-

* I take the present opportunity of recording my deep obligations to Dr. Browne—who may be justly considered the father of Scottish psychology, and one of the most philanthropic and large-minded psychologists of the age—~~for~~ permitting me to publish these details.

* Fifth Annual Report of the Commissioners in Lunacy, 1850.

dition of second childhood. She was noisy, playful, mischievous, and frequently destructive, dirty, and degraded in her habits. She had an anæmic, leucophlegmatic appearance, but was possessed of considerable strength, and might be considered in comparatively good health. She had been, however, liable to certain forms of bowel complaint, occurring at long intervals, supervening suddenly, and attended by a slight degree of collapse. She was, at the period of her attack, in such a condition of physical health as to be allowed to take exercise in the airing courts and grounds, and also to have occasional carriage exercise. When I was called to see her, at 7 A.M., by the attendant, who was surprised to find the bed-clothing soiled with her evacuations, she presented the usual features of deep collapse: she was deadly cold; pulseless at both radial and carotid; the heart-beat was barely audible; her features were pinched and ghastly; the fingers sodden; the malars were very prominent; the cheeks sunk, and the ocular areola marked; the breath was cool, but the voice was unimpaired in power and clearness. When roused, she answered questions in her usual manner; but she lay as if in a doze, or condition approaching coma. There was no evidence of cramps or pain, but she frequently tossed about in bed, as if suffering from the extreme respiratory oppression and feeling of syncope and heat so common in cholera. Though she lay to all appearance moribund, her physical strength was still considerable; she resisted, with considerable force, efforts to surround her with artificial heat; and when the attendant left her bedroom for a moment, on some necessary errand, she jumped out of bed, and attempted to thrust her head into a *commode* full of her evacuations. The night watchman, on passing her room at 6 A.M., overheard her chattering and laughing in her usual way; nor did she make any noise or utter any complaint which could have led the attendants to suspect serious mischief. She sank gradually, and died at half-past nine, A.M., without exhibiting any change in the symptoms.

Her alvine evacuations, as contained in the sheeting of her bed, were of a green tinge; and the vomit, which was also scattered over the bedclothes, consisted almost wholly of fragments of potatoes and beef, and other *débris* of food. The *commode* was full of a fluid of a dark chocolate brown colour; on the surface floated a number of muco-granular masses, resembling sputa. This fluid evidently consisted of a mixture of vomit and fæces; it contained several solid masses of dark-coloured fæces, but otherwise it resembled the evacuations of common diarrhoea. As such, it was immediately thrown out by the attendant; so that I had no opportunity of examining its microscopical or chemical characters.

CASE II was a gentleman, aged about 50—an old standing case of *religious melancholia*, with considerable intellectual impairment. His was a much debilitated constitution, but he usually enjoyed comparatively good health. He seldom moved further than across the gallery from his bedroom to his sitting parlour; he took no interest in reading, amusements, conversation, or the society of his fellow-patients. His existence might be said to be almost wholly vegetative—his movements dictated purely by his animal wants and necessities. He was a high class patient, had been a highly educated man, and enjoyed all the comforts of life. I was called to see him at half-past seven, A.M., for the same reason as in the first case, viz., that his attendant found he had suffered from purging and vomiting during the night. He had no appearance of collapse; his pulse was comparatively good; the temperature of the body was natural; he was quite sensible to external impressions; and he made no complaint, except of occasional and slight abdominal pains, which he said had now left him. At noon, the collapse appearances began to exhibit themselves in a mild form, but soon disappeared; and sinking very gradually, without any exacerbation or change of the symptoms, he died at half-past two, A.M. (next morning). The only collapse appearances or conditions were a sinking, but no distinct loss, of the pulse; a diminution of the temperature; a degree of restlessness, caused by the distressing feeling of asphyxia; an occasional complaint of internal heat; slightly hurried

respiration; occasional moans; sodden and livid appearance of the extremities of the fingers; a slight areola round the eyes; and pinching and pallor of the features.

The stools were of a pale, dirty greenish colour, very fluid, fœtid, and alkaline; the fluid contained numerous flocculi of the same tint. The sediment contained the ordinary histological elements of mucoid stools, besides starch granules, annular bodies, and a number of hyaline bodies, larger than the blood-corpuscles, some of them having a crenate or irregular margin. A stool, evacuated immediately after death, consisted of thick viscid mucus, tinged with blood, exactly resembling many dysenteric stools; its histological elements were those of nearly pure mucus. Heat and nitric acid developed a dirty, but distinct pink colour.

The vomit was acid, and of a dirty reddish-brown colour; its sediment was granular and mucoid; it was loaded with sarcinæ; it contained also a quantity of epithelium—indistinct from granular infiltration—mucus and mucus-corpuscles, starch, annular bodies similar to those occurring in the stools, muscular fibre, and vegetable *débris*. The histological elements were similar to those described in a former paper to be characteristic of the vomit in cholera. Heat and nitric acid caused a brownish-red colour in the filtered fluid.

At and prior to the period when these cases occurred, there were in the house several patients labouring under simple or dysenteric diarrhoea, or dysentery, whose stools exactly resembled those just described, and whose symptoms were much more severe than those of case II, except that there was no ocular areola, soddening or livor of the fingers, or other collapse characters. Without the latter, which in some cases are absent, it would have been impossible to form a safe and just differential diagnosis and prognosis. In one case, which happened more than a month previously, the stools consisted of nearly pure mucus, of a bloody tinge, and contained, under the microscope, a great number of mucus and pyoid-corpuscles, compound granular bodies, epithelium scales, altered blood-corpuscles, and fibrillæ of mucus, entangling a few fragments of muscular fibres and other food *débris*. In another case (a lad of 19, labouring under acute mania, and having all the physical appearances of being the victim of an advanced stage of scrofulous disease of several of the internal viscera), the stools resembled pus, or very soft putty, floating as flocculi in a brownish red or blood-red fluid, according as the predominant colouring matter was bile or blood. The fluid was very fœtid and alkaline; the flocculi consisted, under the microscope, of mucus and mucus-corpuscles, phosphates, hyaline bodies, varying in size from that of a blood-corpuscle to three times as much, compound granular bodies, and granular *débris*.

On the same day on which the above cases occurred, there were abundant evidences of the epidemic constitution of the atmosphere in and about the asylum, in the form of simultaneous complaints of nausea, vomiting, purging, or general *malaise*, in different parts of the house, and by patients who were in good health on the previous day. On the same day, also, five cases occurred in the town of Dumfries, from which the asylum is about one and a half miles distant. The first well ascertained cases in the town may be reckoned to have occurred on the 24th August, when there were, I believe, two fatal cases. On the 25th, there was one case fatal on the fourth day; and on the 28th, one fatal case in a village about three miles down the river. These are the whole cases which occurred in the immediate vicinity of the asylum prior to the outbreak of the disease therein during the present epidemic. The two cases I have detailed are, therefore, so intimately connected with the origin of the cholera at Dumfries this autumn, that I may be excused for making a very few remarks on the condition of the weather prior to and during the very mild epidemic in a town, which, on former occasions, was devastated to a greater degree, perhaps, in proportion to its population, than any other town in the kingdom.

The climate of the vicinity of Dumfries is very moist,

and to strangers rather enervating. In them it is found to predispose to various forms of bowel complaint, influenza, bronchitis, tic douloureux, and other nervous disorders, and headaches. This climatic peculiarity is, to a certain extent, undoubtedly due to the physical configuration of the surrounding country, which may be considered as basin-shaped, or resembling an amphitheatre, in the bottom of which, on the banks of the Nith, lies the town. The past summer has been noted as unusually moist and calm; with great excess of rain and cold, there has been a deficiency of wind and thunder. Hail fell in the middle of August. During the summer, the weather had been very variable; and, for some weeks prior to the outbreak of cholera, there had scarcely been a day entirely free of rain. The first beautiful harvest day occurred towards the end of August—indeed, immediately prior to the appearance of the disease; and, for some weeks hereafter, the weather continued dry, hot, sunny, and even sultry, the days being beautifully clear, and the evenings misty, dewy, and cold: there was comparatively little wind or moisture. The reading of the barometer was permanently above 30, ranging from 30.05 to 30.38; and the thermometer varied from 60° to 70° in the shade. Some of the hottest days of this summer occurred during the period in question. The prevalent clouds were strati, cirri, cirro-strati, cirro-cumuli, and cumuli: rain and storm clouds were rare. On one or two evenings towards the end of August there was some sheet lightning, accompanied, however, by little thunder. I do not mention these facts as throwing any light on the origin of the disease; on the contrary, they are corroborative of a statement I formerly made, when speaking of meteorology in connexion with cholera—that, between the condition of the weather, so far as ascertainable by our ordinary means of information, and the outburst, increase, and decrease of cholera, in a given place, there exists no fixed relation. The comparative immunity enjoyed by Dumfries during the present epidemic, is ascribed doubtless by the local authorities to improved sanitary regulations. In what these consist I am not aware; they may be very excellent: but, even yet, I cannot help regarding Dumfries as a most favourable site for cholera; and it is to me a matter of surprise, not that it has been attacked, but that it has been so long exempt, when the disease was raging so near as Kilmarnock and other towns in Ayrshire. The fact that it has suffered slightly this year, is no proof that it will enjoy an equal exemption on the occasion of the next great outbreak in this country.

During the first epidemic visitation of cholera in this country, in 1832, comparatively few asylums were attacked; one reason of which undoubtedly was, that comparatively few asylums then existed. In 1848-9, a large number of the English asylums were attacked, but comparatively few of the Scotch; while, during the present epidemic, a comparatively large number of our Scotch asylums have been visited in various degrees. An impression unfortunately prevails in the public mind, that the existence of cholera in a place is a sure indication of defective cleanliness, or some equally serious breach of the natural laws in that place. Such an impression is liable to produce serious mistakes and misconceptions. With the fact that cholera has broken out in an asylum, we are apt to associate the idea that the sanitary condition of such an establishment must be seriously wrong; that the building must be badly situated for free ventilation and light; that its drainage is probably defective; its wards or galleries damp and overcrowded; its inmates chronic, dirty, or refractory cases, or paupers of the lowest class, kept like so many pigs in the fewest cubic feet of air that can barely support human life; that their clothing must be insufficient, their food bad in quality and poor in quantity, and their exercise imperfect. This idea has probably arisen from the fact that cholera has raged with considerable virulence in establishments where most, or at least many, of these conditions existed. But I hope I have said enough to prove that the reverse of all this is frequently the case, and that cholera has occurred in the best regulated asylums in the kingdom, and

notwithstanding all the means which human sagacity or forethought could adopt to prevent its incursion or to stem its progress.

INFLUENCE OF ISOLATION IN PROTECTING A HEALTHY COMMUNITY FROM CHOLERA.

It is a question of considerable importance to the superintendents of public asylums, and to the profession in general, how far the formation of a rigid *cordon sanitaire* is necessary or justifiable on the approach of cholera, or to what extent we are justified, by this means, of expecting exemption or security. Many practitioners ridicule the idea, as one dictated by excessive caution, idle fears, or mistaken ideas of the nature of the disease. We cannot enter at length on the *pros* and *cons* of the subject; suffice it to say that, so long as there is every reason to suppose that cholera is produced and propagated, both epidemically and by contagion, or, in other words, by external causes, over which we have not and have control, to a great extent, respectively, I believe it to be our duty to endeavour to obviate the latter, and to remove, so far as is in our power, all causes which can predispose to, or aggravate, the disease. Were the question of the contagiousness of cholera merely *sub judice*, it would be prudent and justifiable to "err on the safe side" (if this could be called error); but our duty is rendered comparatively clear by the fact that a very large proportion, if not the majority, of the profession are veering towards the opinion that the contagiousness of the disease, in addition to its epidemic propagation, admits now of little doubt.

This *cordon* consists in cutting off rigidly and at once all communication with the outer world; and the methods by which this has usually been accomplished are:

- a. By preventing all egress of officers, servants, attendants, and patients.
- b. By refusing admission to the friends of patients, to tradesmen, and, in general, to visitors of whatever description.
- c. By refusing the admission of new cases, especially from infected districts.
- d. By subjecting all goods intended for the use of, and all communications to, the inmates of the asylum, to quarantine or fumigation and ventilation before receiving them.
- e. By improving, in every way, the sanitary condition of the establishment.
- f. By fortifying the constitutions of the inmates against predisposition, by means of additional nutritious food and clothing, external heat, etc.

Such an arrangement cannot fail to be unpopular among the attendants, servants, and officers of an establishment, who are thus excluded from the society of their families, and who may be suffering the most intense anxiety and anguish as to the welfare of absent friends, during a period of national affliction by a devastating epidemic. But when the domestic feelings and private interests of a few are balanced against the welfare of hundreds, it is not difficult to perceive that a sacrifice, however painful, is demanded on the part of the minority.

The most beautiful instance of the positive effects of a *cordon sanitaire* in protecting a large community, while cholera raged to a frightful extent in the immediate neighbourhood, occurred, under the superintendence of Dr. Browne, in the Dumfries Asylum, during 1848-9. It is a very striking fact, that while four hundred and thirty persons died of cholera, within a short period, in the neighbouring town of Dumfries, and a thousand more were probably ill, and while several fatal cases occurred within a few yards of the physician's house, not a single case appeared in the asylum. Nay, more: its inmates enjoyed unprecedented good health during the whole period of the epidemic; so far from there being any tendency to diarrhoea, purgatives were habitually required.* We are not justified in asserting that this immunity directly depended on the means employed: this may be a mere *post hoc*, in-

* Vide Dr. Browne's Report on the state of the Crichton Institution during the prevalence of Cholera in Dumfries, 1849.

of *propter hoc*; but we feel warranted in affirming that the arrangements instituted could not have been more complete, nor the means employed better adapted to the desired end.

The two cases before described, occurred before a *cordon* could be conveniently instituted. The natural conclusion *prima facie* deducible perhaps is, that they occurred in consequence of the neglect of precautionary measures. But, from the circumstances of the seizure, in both cases, I believe it probable they would equally have occurred, notwithstanding the most rigorous exclusion of all communication from without. In the history of cholera in the English asylums, during 1848-9,* not a single patient is reported to have been attacked through the medium of contagion; the disease usually broke out simultaneously in various parts of the building and grounds, and frequently in the cleanest and best ventilated galleries, and among the most quiet, clean, industrious, and respectable patients. In some cases, moreover, no cholera existed at the time in the neighbourhood.

[To be continued.]

Royal Lunatic Asylum, Perth, October 1854.

ARSENIC A REMEDY FOR CHOLERA.

By C. BLACK, M.D., F.R.C.S., etc.

CONSIDERING the prevalence of cholera at the present time, and the fearful mortality which has hitherto attended the different methods of treating the malignant form of that disease, it is, I conceive, the duty of every medical practitioner to lay before the profession any mode of treatment which, from his own experience, is calculated to effect the greatest number of recoveries. It is owing to this conviction that I now invite the attention of the profession to the treatment of diarrhoea and cholera by arsenic. For some time past, diarrhoea and English cholera have prevailed in the town of Chesterfield and its neighbourhood to a much greater extent than in former years. The attacks have been unusually severe, and characterised, in many instances, by that want of amenability to the treatment of ordinary remedies, which is seldom observed except in the more inveterate forms of the above diseases. Still, not a single case of Asiatic cholera has as yet occurred. In a number of cases, however, considerable collapse, cramps of the extremities and abdomen, urgent vomiting, and bilious diarrhoea, quickly followed by rice coloured dejections, were present; but certainly not to that extent which would justify our classing them under the head Asiatic Cholera. In about one-third of the cases, commencing as simple diarrhoea, dysenteric symptoms supervened in twenty-four or thirty-six hours; and thenceforth such cases manifested the characteristics of dysentery.

From the failure of the remedies already in vogue to arrest these cases, from the belief that many (not all) of the cases of English cholera are produced by the presence of a poison in the blood, and from the known power of arsenic to counteract the effects of the poison introduced into the circulating current by the bites of venomous serpents, I was induced to try it as a remedial agent in the treatment of diarrhoea and English cholera. I have now exhibited it in twenty-five cases; of which sixteen were English cholera, four simple diarrhoea, and five diarrhoea passing into dysentery after the lapse of twenty four hours. Six of the cases of cholera, and two of diarrhoea, had resisted the ordinary treatment by astringents, anodynes, carminatives, etc.

Of the sixteen cases of cholera thus named, fourteen quickly recovered under the arsenical treatment, one was not benefited, and one died. The one not benefited occurred in an aged female, who for the last two years had been subject to frequent attacks of diarrhoea. The case of death

occurred in an infant six weeks old. It had suffered for two days before I was consulted, and was in the last stage of exhaustion when I first saw it. Although it had vomited and purged almost incessantly to the time of my first seeing it, yet both these symptoms subsided after the first dose of Fowler's arsenical solution, and did not again occur. There was an attempt on the part of the system to rally; but reaction could not be maintained, and the patient sank four hours after I first saw it. This case, therefore, notwithstanding its fatal termination, offers, in my opinion, good proof of the value of arsenic in cholera. Of the fourteen successful cases, the vomiting was permanently arrested in six by the first dose of the arsenical solution; and in all a manifest improvement, with respect to both vomiting and purging, had occurred by the time four doses had been taken. The cases which were treated from their outset by arsenic, recovered sooner than those in which the arsenical treatment had been preceded by ordinary remedies. Of the four cases of simple diarrhoea, the arsenical solution was successful in three, and failed in one. The failure occurred in a delicate female, who had frequently suffered from diarrhoea. Of the five cases of diarrhoea passing into dysentery, the arsenical solution had a beneficial effect in all; but the addition of one to five drops of laudanum to each dose, according to the age of the patient, was productive of a more rapid improvement than was the arsenic alone.

The dose was, for an infant, half a drop or a drop, and, for an adult, from two to three drops, of Fowler's solution, coupled with a few drops of tincture of orange peel, every half hour or every one or two hours, according to the urgency of the symptoms. When the temperature of the body was considerably reduced, artificial warmth was applied; and in every case the patient was allowed to drink as much cold water as he or she desired. As soon as the choleraic symptoms had improved, the arsenic was administered either in smaller doses or at longer intervals; and when it was thought advisable to discontinue it entirely, no further remedy was deemed necessary.

The success thus attending the exhibition of arsenic in English cholera leads to the inference that it might prove a valuable remedy in the Asiatic form of that disease, in which I should not scruple to give it in five, eight, or ten drop doses, every half hour, until either a decided amendment had taken place, or an aggravation of the symptoms declared it to be of no service.

No apprehension need be felt on the score of its poisonous properties, because the choleraic symptoms always subside before its poisonous effects can be manifested; and the first improvement in the symptoms is an indication either to diminish the dose or to exhibit it at more distant intervals.

Chesterfield, Oct. 12th, 1854.

[In our Periscope Review, vol. for 1853, p. 91, it was stated that Dr. Burow, a German physician, "gave to twenty-nine cholera patients doses of four drops of the arsenical solution every hour or half hour, and only one of them died." In autumnal relapsing diarrhoea, we have found no remedy more useful than quinine, especially when combined with iron. We believe that all antiperiodic remedies, such as quinine, arsenic, and iron, are useful in cholera. EDITOR.]

CASE OF POISONING BY RED PRECIPITATE: PTYALISM: RECOVERY.

By FREDERICK JAMES BROWN, M.D.

MARY ANN KAIN, aged 16 years and 9 months, residing with her parents at Chatham, swallowed thirty grains of red precipitate mixed with jam, at 11 A.M., 31st August, 1854. The girl took the powder herself, intending to take some aromatic powder to relieve pain in the bowels which had just seized her. The red precipitate was properly la-

* Fifth Report of the Commissioners in Lunacy, *ol. cit.*