Causes of cholera, its treatment and cure / by William Grove Grady.

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Grady, William Grove.
Royal College of Surgeons of England

Publication/Creation

London : Samuel Highley, 1853.

Persistent URL

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CAUSES OF CHOLERA:

ITS

TREATMENT

AND

CURE.

BY

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PHYSICIAN TO THE DUBLIN CHOLERA DEPÔT AND KILMAINHAM CHOLERA HOSPITAL, IN 1849, AND NOW MEDICAL OFFICER TO THE PIMLICO AND WEST LONDON GENERAL DISPENSARY.

PRESENTED

LONDON:

SAMUEL HIGHLEY, 32, FLEET STREET.

1853.

PREFACE.

HAVING had great experience in the treatment of Cholera as physician to the Dublin Cholera Depôt and Kilmainham Cholera Hospital in 1849, and also in my private practice, and having been successful in at least upwards of 1000 out of 1200 cases, I fear that I should be guilty of a neglect of duty if I did not at the present period invite attention to the consideration of the treatment which I adopted.

W. G. G.

September 27, 1853,
WARWICK SQUARE, BELGRAVIA.

CAUSES OF CHOLERA.

THE public have been so long familiar with the general history, origin, and progress of Cholera, that, as I have nothing new to add on the subject, I pass it altogether, and come at once to the predisposing causes—which are chiefly fear, debility, fatigue, exhaustion, lowness of spirits, want of good food or clothes, use of vegetables, fruit, or acid liquors, or other things of a like kind, calculated to irritate the lining membrane of the stomach and alimentary canal, want of cleanliness of the person or habitations, low, damp, and swampy localities, proximity to cesspools, stagnant waters, and pestilential vapours, and miasms, &c. &c. Whether Cholera is contagious or not, is a question on which doctors differ. Notwithstanding the weight of authority on the other side, I, from my own experience, incline to think that it is contagious; and I should therefore strongly advise persons not to expose themselves unnecessarily to the miasm, which may lurk in the clothes of a person affected with the disease, or in his bed or apartments, or in the air of the district where the disease is prevalent. When the atmosphere is charged with the poison, almost all diseases of the stomach and bowels, except dysentery, have a tendency to turn into Cholera; for instance, infantile diarrhœa — chronic diarrhœa, &c.

PREMONITORY SYMPTOMS.

Diarrhœa I have found to be almost invariably a premonitory symptom. Though many patients told me that they had not diarrhœa, yet when I examined more carefully I found that they in reality suffered from it, but it was so slight that they did not regard it as a symptom of disease, but as a wholesome and natural relaxation of the bowels, and consequently were accustomed to say that they had not any diarrhœa upon them. But this symptom proceeding unnoticed or unarrested for a few hours—sometimes three, sometimes four—

Vomiting supervenes. Then the patient becomes alarmed, and medical aid is sought; and the serious question arises, What is to be done? The answer cannot be given till we consider what means have been tried and have failed.

ITS TREATMENT AND CURE.

The General Board of Health suggested as a cure the ordinary astringents; viz., chalk, catechu, kino, opium, and rattina. These, I may say with the greatest deference for that body, did not prove successful.

Wrapping patients in blankets steeped in hot water, was a remedy at one time in vogue; but it of necessity led to a great loss of life, inasmuch as when the blankets cooled the vital heat of the patient diminished, and there was nothing to sustain or restore that action.

Bloodletting was also extensively practised, but the consequence was, that when the disease was itself prostrating the vital functions, this practice increased the evil and deprived the patient of all power of resistance.

Calomel and opium were considered for a long time the most efficient remedies, but they failed—because, instead of stopping the diarrhœa, they invariably acted on the mucous membrane of the bowels in such a manner as to keep up a discharge, which was so slight as not to create alarm, until collapse unexpectedly set in, and death was inevitable.

Opium alone, or uncombined with any other substance, was extensively tried. It is no doubt a powerful astringent, and a sedative or a stimulant according to the amount of the dose administered; but given in such quantities as would speedily check the diarrhœa, it is likely to narcotise the patient, and produce cerebral congestion, and lead to a fatal termination.

I need not occupy time or space by a detailed notice of the various other remedies which have been tried by the profession and have failed, and I proceed at once to state the course which I found successful, and the reasons which led me to adopt it.

Cholera is a disease so sudden and rapid that no time whatever is to be lost in the treatment. If a patient is allowed to pass through the stages of diarrhœa and vomiting to collapse, his chance of recovery is all but hopeless; and in many cases he passes from the first noticeable symptom of diarrhœa to collapse in less than two hours. It often happens that he passes from diarrhœa to collapse without the warning of a vomiting. He is also liable to be taken unawares, inasmuch as the first two or three evacuations are commonly of the ordinary natural colour, and he is alarmed only when on the next occasion he finds the evacuations of a rice colour; but this is merely the consequence of the previous stools having removed the natural excrements, and then nothing else remaining but the serum of the blood and the mucus of the intestinal canal—these form the evacuation which, unhappily, is too often thought to be the first symptom of disease. But the patient is then in great danger, as collapse commonly follows

within a period of from one to three hours from the rice-coloured discharge.

Cholera seems, from the first moment the poison attacks the patient, to operate in two distinct ways; it gradually depresses the vital functions, and also causes a rapid evacuation of the contents of the bowels, and then, when the natural excrements are ejected, and the serum of the blood is exuded from the vessels, and the blood itself thereby altered and deteriorated in character, the consequence of the double operation follows, the heart's action flags, and there is a collapse of all the vital functions. Practitioners have generally overlooked the necessity of meeting the depressing effects of Cholera, apart from the disorder of the bowels, by the continued administration of stimulants, until the inability of the system to sustain its action, without the aid of stimulants, has become too obvious. Though stimulants are given, especially at the onset of the disease, yet the administration of them is not continued in the same regular manner as the administration of the medicines applied for checking the disorder of the bowels. Nor is the same care applied in the selection of stimulants, as for example, where brandy is given, it seems not to be considered a matter of importance whether it is genuine Cognac, or an adulterated article, or some composition such as British brandy, which has little or no stimulating property whatever. But it is so important that genuine diffusible stimulants should be regularly administered, and that the practitioner should not be dependent for the success of his treatment on the judgment or honesty of dealers in spirits, and that he may better know the quality and effect, and regulate the quantity of what he administers, that he ought to select from the Pharmacopœia such preparations as he may deem best.

I now proceed to state the course I pursued with great success in Dublin in 1849, and the circumstances under which I adopted it. The Cholera appeared there

in February, and a Cholera depôt was opened by the public authorities for the poor to resort to in all incipient symptoms of Cholera. I was one of the medical officers from February till August, when I received the appointment of physician to the Kilmainham Cholera Hospital. While I was at the depôt I saw a vast number of patients, and for a long time I was, like others, baffled as to the best mode of treatment. I found all the ordinary remedies fail. At length the view of the disease which I here lay before the public gradually developed itself, and on the 10th of June I made the following note:—

"June 10.

"In the great majority of cases that present themselves, I find diarrhœa exists of apparently a mild nature; but from the quickness with which the vital functions become depressed, I consider it of great importance to administer stimulants in conjunction with direct astringents in the most simple cases from the very onset, and steadily persevere in this plan till reaction is permanently established, for if the pulse is once permitted to flag, it will be impossible to maintain the heart's action. I am certain there is too much time lost between the stage of diarrhœa and the stage of collapse, and one lapses so very quickly unto the other, that I am astonished to find a patient with a mild form of bowel complaint collapsed in a few hours, and beyond all hope of recovery. I make this note in consequence of seeing patients become collapsed in the depôt while waiting for their medicine, and especially of one case which occurred to-day, where a patient presented himself with diarrhœa; and while he stood before me, unconscious of his danger, I saw that he was becoming blue and collapsed, told his friend of it, gave him stimulants and astringents, ordered him home at once, and to be put to bed, but it was too late—in an hour I called to see him, and found him dying. I am now resolved to place every case of diarrhœa on astringents, in conjunction with stimulants, repeated at regular intervals."

This treatment I thenceforth followed without hesitation, and found that the cases I so treated were attended with extraordinary success.

STIMULANTS.

The Board of Guardians did not allow any brandy, and the stimulants I had recourse to were ammonia, camphor, and æther, which I gave at intervals of an hour or two, according to circumstances, and the formula which I generally used was as follows:—

℞ Spiritûs Ammon. Co. ℥i
Misturæ Camphoræ, ℥xvi
(Murray's)*
Aquæ Ammon. ʒii
Liquoris Æther. Ol. ℥j

Ft. mistura. Capt. coch. i amplum omni vel secundâ quâque horâ.

I gave the aqua ammonia, or declined giving it, according as I found the patient to require or not require a higher degree of stimulation.

ASTRINGENTS.

In the selection of a good astringent I found great difficulty. In Cholera there is a tendency to congestion of the brain, and though opium is a good astringent, yet it is not safe where this tendency manifests itself. Again, in many patients I found an idiosyncrasy which made them intolerant of this remedy. Moreover, it required the greatest caution in its administration, from its tendency to narcotise and poison the patients; and, indeed, I should say, that there is no remedy which has been more fatally abused. I need not go through a catalogue of astringents that I found not to answer. Acetate of lead in small doses was recommended by Dr. Graves. I tried it in small doses, but it did not answer, and as it is so powerful an astringent and sedative, I hoped that by increasing the doses I might attain the desired effect; and accordingly in several cases, that, with any

* Murray's Camphor Mixture contains a larger proportion of camphor, and lies better on the stomach than any other.

other means would have been utterly hopeless, I tried large doses of it in conjunction with opium, and was invariably successful; and though the received opinion of the profession is, that any dose beyond half a grain is dangerous, I can say that I never saw any bad consequence from administering it in doses of several grains in cases of Cholera. Colic is said to be one of the common consequences of it, but I never saw colic arise from the use of it as I prescribed it. It is beyond doubt a powerful poison; but in Cholera I never had any apprehension in administering it in large doses. I myself took upwards of 15 grains of it between one o'clock in the afternoon and six in the evening, when labouring under an attack of Cholera, caught in the discharge of my duties, and to it I attribute, under God, the saving of my life. I can therefore say, that there is no danger in administering it to the extent to which I did in Cholera. I used it chiefly in combination with opium, because I believe its poisonous properties were rendered less noxious in that combination; but where I saw danger of congestion or consecutive fever, I used it by itself. The formula I used was

℞ Acetatis Plumbi, ʒiϑi
Pulv. Opii. gr. xiv½
Divide in Pil. xxx.

Four or six to be taken immediately, and two or four repeated every second, or third, or fourth hour in succession. When I had occasion to administer it uncombined with opium, I did not alter the proportions of the acetate of lead.

When it happened that the stomach could not retain the medicine, I administered it by the rectum in the form of an enema, and generally used from a scruple to a drachm at a time. This I found an exceedingly safe and efficacious mode of administering it; and it may be adopted by those who may be apprehensive of administering it in large doses by the mouth. In

administering it thus, I often combined opium with it, in cases where I would not have administered opium by the mouth, for fear of congestion. When prescribed in solution, a few drops of vinegar will dissolve the lead and prevent its being decomposed.

Enteritis very frequently presented itself among cases of Cholera; and where diarrhœa existed, it was usual for medical men to treat enteritis as Cholera; of course life will be lost when such a mistake is committed; and, therefore, in order to avoid falling into such mistakes, practioners, during the prevalence of Cholera, ought to be cautious, and should carefully examine the abdomen of all patients; and if on pressure tenderness is found to exist, to use the remedies that are proper to enteritis.

Vomiting was a symptom of great embarrassment and danger. In consequence of the stomach then rejecting stimulants and astringents, it became difficult to control the disease, and a great deal of valuable time was lost while efforts were made in vain to restore the stomach to a state in which it would retain the medicines necessary to check the progress of diarrhœa and vital prostration. Opium was of no use—it was rejected as fast as it was swallowed; and so were all the other remedies that were generally recommended. Creosote was recommended by the Board of Health, but I am not aware that any practitioner but myself used it. I tried it according to the following formula, and never found it to fail.

℞ Mucilaginis Acaciæ, ʒjii
Aquæ Menth. vir. ʒvii
Creosoti, ʒi
Ft. solutio
Capiat coch. i parvum omni vel secundâ quâque horâ.

In general I found a few doses to stop the vomiting. When the case was in an advanced stage, and no time to be lost for supporting the vital functions and stopping

the diarrhœa, I combined stimulants and astringents with the creosote, and found it most efficacious; when the stomach became settled I discontinued it. This combination I found very useful in the treatment of children, of course proportioning the doses to the condition of the patient; for children from three to six years old the following formula was the one I used—

℞ Acetatis Plumbi, ℈i
Misturæ Camphoræ, ℥i
Creosoti, gutt. xi
Mucil. Acaciæ, ʒii
Aceti. Opii, gutt. iv
Spt. Ammon. co. gutt. xij.
Ft. mistura. Capt. coch. i parvum secundâ quâque horâ.

In cases of vomiting, I also found counter-irritation over the stomach most useful; and when I did not consider a mustard poultice speedy enough, I applied some lint or linen saturated in the strong water caustic of the ammonia of commerce, and covered it over with medicated oil silk. It produced a blister instantaneously.

DRINKS.

I did not drench my patients with cold water where vomiting existed. I am of opinion that the smaller the quantity of fluids taken the better until this symptom discontinues; but in all other states I never prohibited copious draughts of cold water for the purpose of relieving the thirst. I would warn those who are constantly tippling spirituous drinks for the purpose of warding off a seizure of cholera, to discontinue such a practice if they wish to escape—it is the very best means of producing an attack. Those very persons are much more predisposed to the disease, and never long survive it.

SPASMODIC CHOLERA.

This was a form of the disease which I met frequently. Whenever cases had not in the first instance been treated with sufficient decision, I discovered that the diarrhœa had insidiously and imperceptibly progressed, and resulted in a spasmodic affection of the muscles of the extremities. In this state subsultus or jerking of the tendons became apparent, the patient being generally attacked with vomiting and cramps. The chief object here to be attained was to control the vomiting. After this had been effected, the cramps yielded to the internal administration of four grains of powdered opium. In some cases (but very few) it became necessary to repeat the dose, and I seldom found it to fail in allaying the cramps in this form of the disease. Many practitioners placed great faith in the administration of large doses of opium during the vomiting, but I am of opinion that it was rejected from the stomach without producing any effect. I saw myself two cases in each of which eight grains of opium had been administered; and I know the doses were rejected. Where vomiting exists, the administration of opium must not be relied upon.

COLLAPSE.

When the diarrhœa and vomiting remained unarrested for from two to six hours, I found, almost invariably, that collapse supervened, the patient becoming cold and bedewed with a clammy sweat, the pulse hardly perceptible, the features sunken, the countenance of a dusky hue, the tongue and skin ice cold, the integuments of the fingers corrugated, and the nails blue. This was the most formidable stage of the disease the practitioner had to deal with, the vital

functions becoming so depressed and prostrate that the patient sank under the most active treatment; no skill being of the slightest avail.

I have, however, seen some cases in the early stage of collapse recover under the influence of stimulants. Those that I administered were brandy, ammonia, and æther, in large quantities, introduced by the rectum; but the recoveries were so few that they are scarcely to be calculated upon. I am aware of no artificial means of raising the animal heat to its natural temperature in this stage of the disease. If the patient should show symptoms of recovery, the practitioner must be careful not to allow him to rise from the horizontal position too soon, as it may bring on a fatal syncope, the heart not being able to propel the blood through the system. But I have seen so many instances in which the patient, apparently on the point of death, and beyond the aid of medical science, recovered by the mere *vis medicatrix naturæ*, that I think the practitioner should not abandon a case even at the very last moment.

I did not look on the blueness of the skin as characteristic of collapse, for I have seen as malignant cases of collapse when the skin was colourless as when it was quite blue.

I cannot speak favourably of counter-irritation of the spine in this stage of the malady. I have seen the most powerful counter-irritants used with no other effect than that of torturing the patient. I never found that they roused the nervous system from the insurmountable shock it had sustained.

There is also great danger in applying unctuous preparations to the skin, as they tend to reduce the temperature of the body, and prostrate the vital powers. The necessary exposure of the body to the air in the operation is itself most injurious to the patient, who requires all the artificial heat that can be imparted to him, rather than exposure to the cold air. If, indeed, any good could arise from this friction, it might be ob-

tained with less danger by rubbing the warm hand over the body under the blankets

In all these and the like operations great caution is necessary, as I have known fatal consequences to follow from the too sudden restoration of the natural temperature of the body.

CONSECUTIVE FEVER.

It was by no means an uncommon occurrence for consecutive fever to supervene when the diarrhœa ceased. It generally presented itself in two forms, one most malignant and intractable, the other mild, and yielding easily to judicious treatment. I shaved the head and applied bladders of ice to it, extracted blood locally, used counter-irritation with mercurial inunction in the armpits; but in the most malignant form of the fever, I must confess, with very little effect. The milder form generally yielded to local bleeding, diaphoretic medicines, and cold lotions to the head. I observed that this form arose chiefly from the abuse of stimulants, and the imprudent, careless, and improper administration of opium, causing passive congestion.

DEBILITY.

A very great number of patients in a convalescent state suffered from extreme debility. The aged and infirm and delicate in constitution were those who most frequently laboured under it. The practitioner should pay marked attention to any patient who suffers from this cause, as tonics must be immediately administered, but with great care and caution, for if used in too large doses, or too powerfully, they are likely to excite fever and congestion of the brain. Wine is also advantageously administered in this stage of the disease. If

much gastric derangement exists, I have never feared giving mild aperients.

GENERAL REMARKS.

I would advise the proprietors of manufactories and establishments, where large numbers of persons are employed, to have their *employés* constantly examined as to the state of their bowels, and not rely upon their own reports of their health, for nothing is more common, when Cholera is raging around them, than for persons to allow diarrhœa to go on unnoticed, and even to deny that they are labouring under it until all the well-marked symptoms of Cholera alarm them of their danger. When diarrhœa is discovered, the patient should be put to bed wrapped up in a warm blanket, and the plan I have herein ventured to recommend should be adopted.

It is exceedingly advisable that all shops where vegetables and animal food are sold, should be inspected daily by the police authorities whilst the Cholera exists, and everything in an unwholesome state removed by them for destruction; for, so sure as any food in a decomposed state is eaten, even by the most healthy, during the prevalence of the disease, it will produce Cholera. The use of vegetables and fruit should be avoided. Rice, mutton, and poultry are the safest food. Fish should not be eaten. Stimulants should be taken with caution. Small quantities of wine or brandy in cold water will be beneficial, but all abuse of them is dangerous. The temperature of the body should be regularly preserved; the mind kept at ease; all damp and crowded dormitories shunned; and all depressing or debilitating causes avoided.

There is nothing more to be deplored than the neglect of the properly-constituted authorities, until the arrival of this fatal malady on our shores, to enforce in

low, damp, crowded, and unhealthy localities, any sanitary regulations. I apprehend the most serious consequence from their anxiety *now* to atone for their neglect and delay at the proper time, by an injudicious letting forth, from confined places, of effluvias and miasmas, that, at any time, are pestilential in themselves, but more especially so, at the present moment. Far better would it be to confine their operations for the present to bare cleansing, and whitewashing, and preventing the overcrowding of lodging-houses and dormitories.

There is no necessity to encumber this little treatise with the hundreds of cases I have in my possession, illustrating the views I have here endeavoured to bring forward. I shall subjoin only a few cases which, I trust, will be sufficient for the object I have in view; and I hope that I have been so plain and explicit, and have so avoided all technical expressions, as to have made my views intelligible to all my readers.

CASES.

CHOLERA—COLLAPSE.

Mr. F. T., æt. 28, of delicate constitution, was attacked with Cholera on the 29th of June, 1849, at three o'clock, A.M. His pulse was feeble, evacuations rice-coloured; and on the very verge of collapse. I at once placed him under the treatment already mentioned (*antè*, pp. 10, 11); at eight o'clock in the evening he was attacked with vomiting. I ordered creosote, which soon checked the vomiting; but the diarrhœa for some time resisted the treatment already recommended. It at length yielded to a steady and patient perseverance in the medicine, and he was convalescent on the 31st of July.

Mrs. M. sickened with Cholera about seven o'clock in the evening of the 8th of August, 1849, and was attended by a medical gentleman; she was a corpse at four o'clock in the morning; her husband took it

from her on the 9th. I was sent for, and when I saw him he had diarrhœa without vomiting, and was on the very verge of collapse. He was walking about his room deploring the loss of his wife, quite unconscious of his danger; with great difficulty I prevailed on him to go to bed; I had him rolled in a warm blanket close to his skin, and ordered four astringent pills at once, two to be repeated every second hour, with two tablespoonfuls of the stimulating mixture, and with each a wine-glass of brandy in addition, if necessary.

10th.—Looked better, but the diarrhœa obstinate. I ordered him to persevere steadily in the medicines, arrowroot, and rice.

11th.—His countenance improved; collapse had not increased; diarrhœa less;

12th.—Longer intervals between evacuations; no pain; tendency to collapse removed. I ordered chicken tea for him.

13th.—Has passed a good night, and had not been purged; feels quite well, but very weak. I ordered him wine.

Mr. M., æt. 70, was, at half-past ten o'clock in the morning of the 17th of August, 1849, seized with purging and vomiting, and cramps. I saw him immediately; collapse had not fully developed itself. I ordered him the astringents, together with a tablespoonful of the stimulating mixture every second hour, and a large mustard poultice over the region of the stomach; he was wrapped up in a warm blanket, and rubbed with the hand over the surface of the body under the blankets: and watched closely.

19th.—Tongue covered with white coat; diarrhœa less; cramps and vomiting continued; I gave creosote and opium.

20th.—Neither cramps nor vomiting, but purged again; I gave the acetate of lead and opium in the form of enema.

21st.—Bowels have not been opened since; stomach