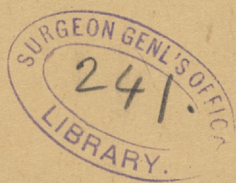
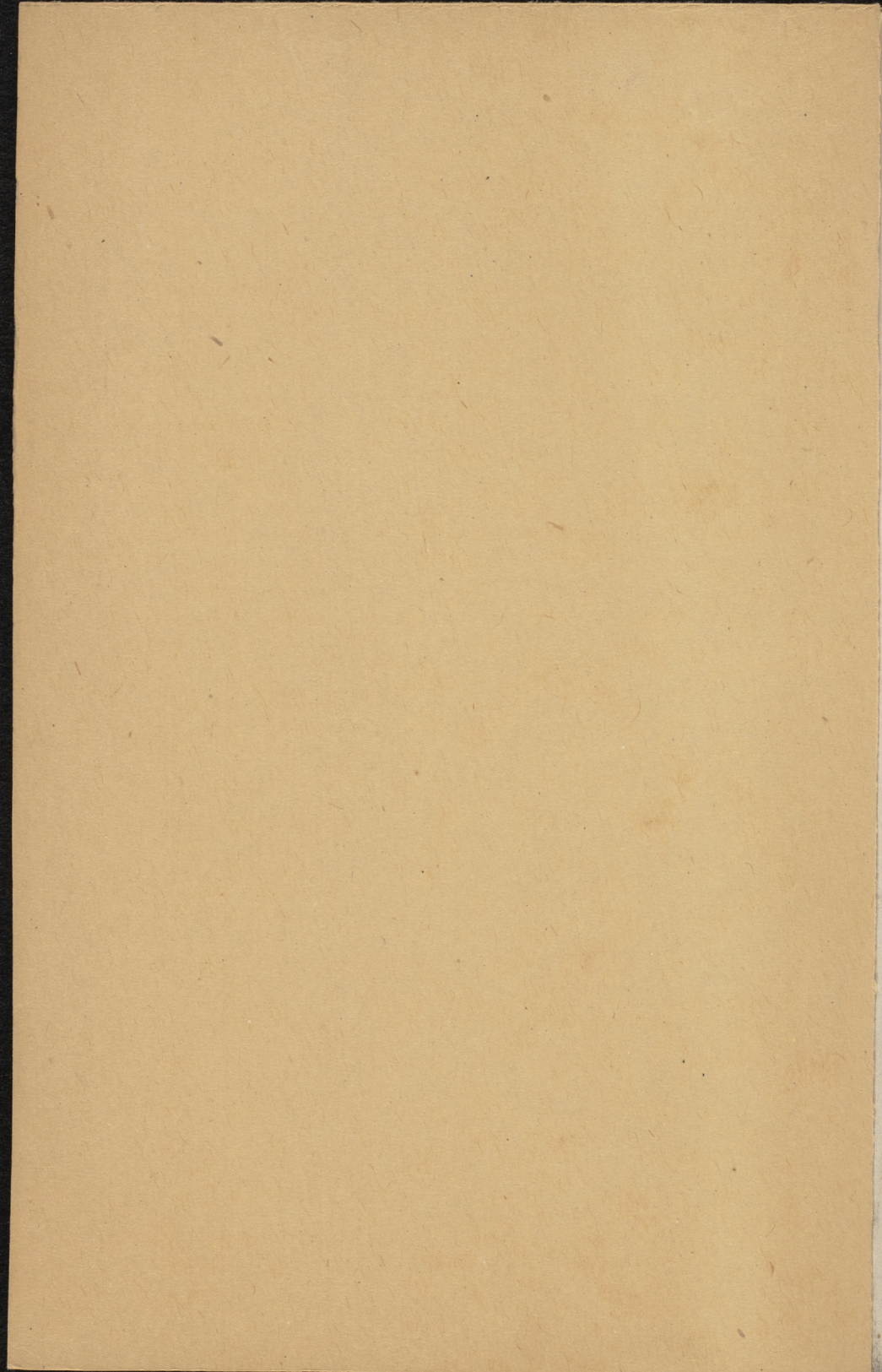


COXE (ED. J.)

Remarks on Cholera

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Coxe (Ed. J.)
Notice



The late fire in Camp street having destroyed the surplus copies of the New Orleans Medical Journal, and Daily Picayune, in which had been published the following remarks upon Cholera, I have been unable to procure copies of either for the many individuals who have desired them. Believing that no injury can result from a further dissemination of the principles upon which the treatment is based, confident that the hygienic or preventive measures will prove serviceable, if properly attended to, and with the most sincere wish that the remedies indicated for the various stages may prove equally successful when administered by other hands in distant places, I have been induced to republish the remarks in pamphlet form, and without being wedded to the course recommended, shall be most happy to find any other principles and remedies suggested, which may more certainly accomplish the objects to be attained, those of preventing, and curing the much dreaded Cholera. In vain thus far, have I perused the various European and American Medical Journals for such a desideratum.

REMARKS ON CHOLERA,

More especially in reference to the treatment proper for its different stages.

[BY EDWARD JENNER COXE, M. D.]

Cholera, whether sporadic or epidemic, always meriting particular attention, possesses at this time still greater interest, from having visited, within the last twelve months, almost every section of the United States, as also a great part of Europe.

Its sudden and mysterious approach, its epidemic character, its occasional great mortality, and the general, though unnecessary panic resulting therefrom, render it the duty of each member of the profession to contribute his mite respecting the plan of treatment which in his hands may have proved successful. Notwithstanding the many excellent publications issued during and subsequent to its first visitation as an epidemic, the communications in the medical journals of the present day display no less contrariety of proceeding, as regards the treatment, than existed during its first passage over the world.

With few exceptions, no particular system or course of treatment has been laid down for the respective well-marked stages of the disease, based upon certain indications deduced from the probable cause, though well-marked consecutive effects.

Without presuming to have arrived at any positive certainty, upon so important a point, I have ventured to offer a few suggestions, previously to noticing the symptoms and mode of treatment evidently called for by the existing symptoms of the different stages of the disease.

As heretofore, the cause of epidemic cholera remains a profound secret, and although many theoretical opinions have been promulgated to account



for it, the only adequate and intelligible one, in my opinion, is that, proceeding upon assumption after all, of its being dependent upon an invisible and inscrutable aërial poisonous principle, involving, to a greater or less extent, every portion of the body, though primarily and principally expending its influence upon the great nervous system, and indirectly or secondarily through its all-powerful agency upon the circulatory, hepatic, respiratory and other organs.

The great tendency to a general depression of the powers of life, manifested first in the capillaries, then in the larger vessels and heart, with a consequent congestion of an impure blood in the internal organs and tissues, are some of the immediate and prominent effects of the invisible cause. The morbid condition of the blood, the absence of the biliary secretion, the decrease or suppression of urine, no less than the other changes observed, must be regarded as effects produced by functional derangement of one or more important organs, resulting from this poison.

A negative proof of the existence of some powerful unknown cause in the production of epidemic cholera, is found in the fact, that in ordinary seasons, the most violent attacks of disease of those organs, acknowledged in cholera to be implicated, do not produce the same character or train of symptoms, though occasionally, one or more of the characteristic symptoms of epidemic or Asiatic cholera have been noticed in those of a sporadic character.

Among the numerous predisposing causes of this disease, previous to, or during its existence, the following may particularly be noticed: Living in low, damp localities; food, whether in excess or from its quality, possessing a tendency to occasion a derangement of the digestive organs; the use of intoxicating drinks; great anxiety of mind, or fear; exposure to the rays of the sun; undue fatigue; raw, damp, rainy weather; sudden changes from warmth to cold, no less than inattention to cleanliness and proper clothing.

During the prevalence of this epidemic it is important to remember that one of the primary effects of the general cause is an enfeebling of the powers of the digestive organs, and, as a consequence generally observed, many of the ordinary articles of diet cannot be readily digested; therefore, slight errors of diet can, and do produce a depression of the healthy powers of the stomach, rendering the system more accessible to external impressions. The question of the contagiousness of this disease it is unnecessary to dwell upon at length; but believing firmly in its noncontagious character, I cannot refrain from noticing the following conclusive evidence, from the report of Drs. Bell and Condie, to the College of Physicians of Philadelphia, in 1833. They remark: "Perhaps we could not cite a stronger example of the difficulty of explaining, by any known law of transmission, or order of succession, an attack of cholera, than its sudden appearance in the heart of Paris, the first city in France, to suffer from the pestilence." In connection with this historical fact, Drs. B. and C., after noticing in detail the precise time and manner of appearance of the first case of cholera in most of the cities of Europe, during its first visitation, conclude thus: "These several facts concur to authorise the positive conclusion, that *non intercourse* between places actually ravaged by cholera, and places still exempt from the disease, however rigidly enforced, can give no certainty, nor even any well grounded hope of protection for those latter. The promised benefit from such restrictive measures has not been obtained, while the inconveniences and sufferings caused by them have become too manifest."

Were it in the power of any government to prevent the appearance of this disease, by any system of quarantine, unquestionably attainable, if contagious, all Italy should have been exempt, for there, the most rigid military cordons sanitaires failed entirely in arresting the progress, or preventing the approach of cholera.

Strongly corroborative of the above position, is the fact, that of the large number of physicians throughout the world, constantly engaged at the bedside, fatigued in body and mind, and occupied for hours in post mortem examinations, the hands imbued with the contents of all parts of the body, and inhaling whatever could exist of a poisonous character, comparatively few contracted the disease, or were compelled to cease from their labors.

The following facts and remarks upon the capriciousness of cholera, in the Valley of the Mississippi, as peculiarly apposite to the subject, are taken from the Cincinnati Gazette :

"The cholera has now swept over the entire extent of the Mississippi Valley, as an epidemic, and spent its force at nearly all important points. Its deadliest ravages have been at New Orleans, St. Louis, Quincy, Nashville, Lexington, Cincinnati, Sandusky City, Lafayette, and Buffalo. Of towns and cities of considerable size that have been visited by it, it has fallen most lightly upon Mobile, Natchez, Vicksburgh, Louisville, Wheeling, Detroit, Cleveland, Columbus and Pittsburgh. The small towns in which it has raged worst, are Bellville in Illinois; Lebanon in Tennessee; Paris and Richmond in Kentucky; Aurora, Boston and Napoleon in Indiana; and Eaton, Vandalia and Minster in Ohio. Places that have suffered a good deal and yet cannot be classed among the worst, are Chicago, Alton and Peoria in Illinois; Memphis and Clarksville in Tennessee; Maysville in Kentucky; Richmond in Indiana; Xenia, Dayton, Springfield and Batavia in Ohio.— "The Coast" of Louisiana has also suffered a great deal, from first to last, 10 to 25 per cent. of the slaves being carried off by the disease, on some of the principal plantations. Places of considerable size which have either or nearly altogether escaped the visitation of the pestilence, are Jackson in Mississippi; Little Rock in Arkansas; Huntsville, Tuscaloosa and Florence in Alabama; Knoxville in Tennessee; Glasgow, Shelby, Georgetown, in Kentucky; Cairo and Springfield in Illinois; New Albany, Madison and Indianapolis in Indiana; and Zanesville, Steubenville, Marietta, Chillicothe, Hamilton and Rossville in Ohio.

Here, now, are singular facts, plainly showing the mysterious and capricious character of this dreadful disease. It appears here, there, elsewhere, suddenly, and often giving no warning, without reference to lines of travel, regardless of natural water-courses, wholly independent of the direction of prevailing winds, and uncontrolled by the topographical character or geological formation of the districts within its general course. Spending itself where it lights first, either gently or ferociously, it disappears, and while neighboring points are standing in awe of its proximity, and daily expecting its desolating presence, it suddenly appears in altogether another region, a hundred or two or three hundred miles away. And again, two or three weeks or two or three months afterwards, while those who seemed to have escaped are still warm in their congratulations of each other, and are beginning to talk and to write about the superior healthfulness of their towns, the destroyer retraces its steps, strikes at their best and their worst, their strong and their feeble alike, and carries mourning to nearly every household.

This is the manner in which the cholera appeared and disappeared, in the course of its march over the Mississippi Valley. For weeks it is at New Orleans, and does not appear at Natchez or Vicksburg or Memphis, although the inter-communication is incessant. For even *months* it is in that city, and does not appear in Mobile at all, except in the instances of three or four persons, who come home with the disease developed in their systems, and die of it. It appears at St. Louis, and scourges that city as no other American city has been scourged; and yet, for the space of five months, the city of Alton, a few hours travel above on the same river, and in daily, we may say hourly communication, does not feel its presence in a single case. Then Alton is stricken, and in a fortnight many of her best citizens are borne to the grave, while the vile look on and escape. It leaps to Cincinnati, moving over hundreds of miles of populated country in a direct line, and passing by many towns and cities on the water line of travel, and for two months subjects us to its terrible ravages, carrying off thousands of our people. Yet while this is going on, a populous city, but little more than a hundred miles from us, nearly altogether escapes its presence, and many smaller towns, not half that distance, remain wholly exempt from its visitation. Then it leaps 60 miles north to Dayton, a city of 12,000 to 14,000 inhabitants, and 80 miles south to Lexington, a city of 7,000 to 8,000, and fills their cemeteries with new made graves, while the intermediate towns, with their populations of 1,000 to 5,000 each, experience entire immunity. In the rural districts, too, the same capriciousness is shown. In some counties almost every town of from 100 to 300 inhabitants has witnessed the presence and the ravages of the disease, while in adjoining counties even its breath has not been felt.

And now having moved thus capriciously from one extreme to the other of this Great Valley, it threatens to return upon its track, and wrap in darkness and desolation the places that till now it has spared. This, indeed, is what it has already to some extent done, in so recently striking Lebanon in Tennessee, and Harrodsburgh in Kentucky, and Springfield in Ohio, and Birmingham near Pittsburgh, and some other places near which it showed itself a month or two ago, and from whose vicinity it had almost entirely disappeared for weeks.

Truly is this the pestilence that walketh in darkness, and wasteth at noon-day, by which of two men working in a field the one is taken and the other left, and of two women grinding at the mill, the one is taken and the other left."

The possibility of preventing an attack of this disease is of sufficient importance to merit a few remarks.

It may be confidently asserted that the only possible means of accomplishing this desirable object consists, 1. in the strict avoidance of all causes calculated to diminish the energies of the system, as excess in eating or drinking; abandoning, for the time, all articles of food generally admitted to possess the power of producing relaxation of the bowels, thereby impairing digestion.

2. Observe cleanliness of the body, house and premises; dress more warmly than usual; avoid sudden changes of, or exposure in, raw, damp and chilly weather, more especially if in a state of perspiration; and, unless in active exercise, do not remain longer than possible in damp or wet clothes.

3. As long as every organ of the body gives evidence of performing its functions healthily, avoid resorting to any medicine whatever, in the fallacious hope of forcing a continuance of the same. Such a course must be always productive of harm.

The only certain preventives consist in sobriety, the use of plain nutritious food, avoiding all acid fruits, and uncooked fruits and vegetables, and attention to personal cleanliness, free ventilation, regular exercise, calmness of mind, and the daily morning and evening use of the sponge or shower bath, followed by friction of the whole body with a coarse towel or flesh brush.

It may be laid down as an axiom, that all food known to favor a relaxed state of the bowels, or that is not, in general, easily digested, should be carefully avoided; for, as a consequence of the peculiar condition of the atmosphere, many articles of diet commonly reputed wholesome and digestible, may, and very frequently do, prove injurious. It is the mark of prudence to observe and act according to these facts.

Certain articles of diet should be scrupulously avoided, as green vegetables, raw or cooked, pickles, salted or smoked meats, fresh pork, salted or shell fish, cider, and all acid drinks.

Potatoes, well cooked—roasted or boiled—are generally easy of digestion; but if baked or badly boiled, heavy and sodden, there can be no doubt of their dangerous tendency.

Moderation in eating and drinking during the existence of cholera, will prevent the possibility of over-taxing the digestive organs, thereby removing one of the most frequent and common causes of an attack of this, as well as of many other diseases.

Although occasional exceptions may occur, it is proper, as a general rule, that the diet be of a more solid character than usual, and consist principally of meat, rice and other farinaceous articles, with spices, such being more invigorating, and containing in smaller bulk, an equal if not greater amount of nourishment. The experience of every one must, however, upon so important a point, be brought into requisition, though a strict observance of the above will place all upon the safe side.

The experience afforded upon a large scale, resulting from allowing the garrison of Genoa, near 10,000 men, a better character of food, during the prevalence of cholera in that city in 1835, proves incontestibly the power of preventing the spread of this disease among so large a body of individuals, by habits and customs otherwise predisposed to an attack.

Having been instrumental in effecting a change of diet, a strict avoidance of fruit and vegetables, a change of dress from summer to winter uniform, as well as an exemption from unnecessary parades, which resulted so favorably, and having been called upon by a body of superior officers to receive their thanks for the interest and exertions manifested, and the benefits acknowledged to have been received, I think I have a right to insist upon the positive advantages that will result to every community by a strict attention to diet and other hygienic measures.

But for the positive bearing of such vital truths upon a subject involving life or death, sickness or health, I should not have alluded to my residence, with my family, in the city of Genoa, during the entire period of the existence of the epidemic in that city.

Two general well established facts, in reference to epidemic cholera, have been conclusively proved by the testimony of the vast majority of the profession in every section of the globe, which cannot be too extensively known or strenuously insisted upon :

1. That when this disease is attacked in its first or forming stage, it is properly to be regarded as of easy management.

2. Should these first symptoms be neglected, under the erroneous though common impression that they are too slight to merit care or attention, the lapse of a few hours may show, as has frequently been the case, that false confidence and delay have been unwisely calculated upon.

SYMPTOMS AND TREATMENT.

The existence of three distinct stages of this disease has been generally acknowledged, though by some there has been made a fourth, that of the consecutive fever, or reaction subsequent to, but not necessarily following the third stage or that of collapse.

Symptoms of the first stage, generally called the premonitory symptoms.

It may not be unnecessary to remark, considering the apparent mildness of many of these symptoms, that during the prevalence of epidemic cholera any departure from the ordinary healthy condition of the body merits attention, though it by no means follows, notwithstanding the assertions and opinions of some physicians, that active medication should be immediately resorted to ; for very frequently I have found repose, with some mild spicy ptisan, as of cloves, ginger or cinnamon, all sufficient. The symptoms most usually observed are lassitude, slight uneasiness in the stomach and bowels, a furred tongue, a dull heavy sensation in the head, soreness of the eyeballs, slight spasmodic pains in the muscles of the extremities ; nausea, or sickness of the stomach, though not frequent, is present at times. The bowels are more or less frequently moved, the discharges being generally thin or watery, and usually at first of a dark color, often containing bilious matter. In proportion as these increase in frequency, they lose their natural appearance, resembling first dirty water, and gradually running into the whitish or rice water discharges.

This looseness, when not in excess, may continue one or more days, to be followed by apparent costiveness, when it may again be produced ; and unless the cause be removed by appropriate medicine, we may have a sudden appearance of many of the characteristic symptoms of the well marked disease.

Before commencing the treatment appropriate to this collection of symptoms, I cannot refrain noticing a few of the opinions entertained by Dr. Cartwright, and published in his pamphlet upon cholera. In the course of his remarks, he says, "I treat both the cholera, and what are improperly called the premonitory symptoms, in the same manner, viz : twenty grains cayenne pepper, twenty grains calomel, or hydrargyrus cum creta, ten grains gum camphor, fifteen grains gum arabic, and fifteen grains calcined charcoal, mixed together and given at one dose, in two tablespoonfuls of cold water." In severe cases, there can be no question of the excellence and power of this combination, and that many deaths have resulted from trifling

with even the mildest premonitory symptoms, most uniformly diarrhœa, providentially sent as a beacon light to arrest the attention of the thoughtless, in a time of great danger, can not be questioned; but that such, in most cases, very mild symptoms require an heroic dose, may very properly be denied. In the most positive language, from one end of the world to the other, we have been assured, by correct and close observers, that an immediate attention to the premonitory symptoms almost certainly and invariably arrested the further progress of the case, by the timely exhibition of one or more doses of many mild though unquestionably efficient remedies. My own experience, no less than that of the community at large, is directly opposed to the necessity or propriety of resorting to the most powerful remedies in the incipient stage of this, or indeed most other diseases.

Dr. C., notwithstanding the previous quotation, makes use of the following language: "What is best for one case, may not be best for another," "much therefore, must be left to the judgment of the practitioner, in adapting the most suitable plan to each case as it occurs." "*No one plan can be best in all cases, because the constitution of the patient and the circumstances surrounding him, are not the same in all cases.*"

These medical truisms, I consider rather difficult to reconcile with the previous quotation, or still more with the following, in the words of Dr. Cartwright, who says in his preface, that his paper is intended for intelligent and well read members of the profession.

In the appendix, alluding to the most severe grades of cholera of a malignant character, Dr. C. remarks: "Whenever this form of cholera occurs, recommend that every negro on the plantation, young and old, have a full dose of my cholera medicine, in proportion to their ages, given to them in their respective houses, without waiting for them to get sick." If such directions are in accordance with the true principles of the healing art, I must confess, that my preceptors left me in profound ignorance, as to the sources from which they emanated.

Treatment of the First Stage or Premonitory Symptoms.

These symptoms, as generally observed, will almost invariably yield to one or more doses of the following, given either separately or several in combination:

Laudanum	- - - - -	dose,	drops	- - - - -	15 to 30
Paregoric,	- - - - -	do	do	- - - - -	40 to 100
Ess. Peppermint	- - - - -	do	do	- - - - -	15 to 30
Spirits Camphor	- - - - -	do	do	- - - - -	10 to 20
Tinct. Red Pepper	- - - - -	do	do	- - - - -	20 to 40
Tinct. Ginger	- - - - -	do	do	- - - - -	20 to 50
Comp. Tinct. Myrrh	- - - - -	do	do	- - - - -	20 to 40
Spirits Hartshorn	- - - - -	do	do	- - - - -	10 to 15
Sulphuric Ether	- - - - -	do	do	- - - - -	10 to 30

To be taken in water, or sugar and water, every half hour, hour, or two hours, according to the violence of the symptoms.

Should none of the above be at hand, it may be well to know that a wine glassful of port wine, a tablespoonful of brandy in hot water, or half a teaspoonful of powdered ginger, with a few grains of red or black pepper mixe..

in a small quantity of sugar and water, will answer the same purpose.

Satisfied in all cases, of the tendency to, or actual presence of more or less derangement of the digestive organs, I preferred and used with uniform success the following pills and mixture :

R—Pulv. Opii., 5 grs. ; pulv. Ipecac. 5 grs. ; pulv. Capsici, 8 grs. ; Mass. Hydrargri, 30 grs. M.

to be made into twelve pills ; dose, one pill, two, three or four times a day if necessary ; rarely are more than one or two required.

The following mixture was generally given in conjunction with the above, though frequently by itself has proved sufficient.

R—Tinct. Opii., 2 drs. ; Tinct. Capsici., 3 drs. ; Tr. Zingiber, 4 drs. ; Tr. Camphor, 2 drs. ; Syr. Rhei. Arom. $1\frac{1}{2}$ ozs. ; Ol. menth. pip., $\frac{1}{2}$ dr. ; Aq. Camphoræ, q. s. pro. 4 ozs. M.

Dose, one teaspoonful every half hour, hour, or two hours, until relieved.

In cases attended by frequent discharges from the bowels, the addition of one ounce of the tincture of kino or catechu to the above proved very serviceable.

In those cases resembling colic, I have found the following successful :

R—Tinct. Capsici, 2 drs. ; Tinct. Zingib, 6 drs. ; Tinct. Camphor, 2 drs. ; Tinct. Cinnamon, 6 drs. ; Ol. Caryoph, 25 drops. M.

Dose, 20 to 60 drops, every half hour or hour, on a lump of sugar, or in sugar and water. In all cases I advised those complaining to return home, keep quiet, and if not relieved in an hour or two, to apply a mustard poultice to the stomach, and use tea and toast, rice gruel, chicken or mutton broth, flaxseed tea, or gum water for nourishment.

The following spice tea has always proved serviceable, in mild cases sufficient by itself, and in severe ones a valuable adjuvant.

The spice tea is made by infusing in half a pint of boiling water, over a few coals or a spirit lamp, for ten or fifteen minutes, the following articles : One or two tablespoonfuls of the best Jamaica Ginger, the same quantity of cinnamon, one or two teaspoonsful of cloves, bruised or broken into small pieces. The addition of sugar and a few tablespoonsful of the best brandy can be made, if advisable. One or two teaspoonsful may be given hot or cold, every ten or fifteen minutes.

The following cholera pills and syrup have been extensively used, with as much success as could be anticipated from any remedy for the treatment of epidemic cholera.

Cholera Pills.

R—Assafœtidiv, 10 grs. ; Opii., 10 grs. ; Camphor, 25 grs. ; Capsici, 2 grs. ; Sub. mur. Hydrarg. $1\frac{1}{2}$ drs. ; Quinine, $\frac{1}{2}$ dr. ; Mass. hydrarg. 1 dr. ; M. in pil no xxx div.

Dose, from one-half to one or two pills, every one, two or three hours, according to the violence of the symptoms.

Cholera Syrup.

R—Pulv. Acaciæ, 2 ozs. ; Sacchar. Alb., 6 ozs. ; Aq. Camphoræ, 6 ozs. ; Tr. Rhei., 2 ozs. ; Tr. Opii., $1\frac{1}{2}$ ozs. ; Tr. Catechu, 2 ozs. ; Tr. Myrrh

Comp., 2 ozs. ; Tr. Campher. Satur., 6 drs. ; Tr. Zingiber, 2 ozs. ; Tr. Cap-
sici, $1\frac{1}{2}$ ozs. ; Tr. Gallarum, 1 oz ; Ol. Cinnamom, 1 dr. ; Ol. Caryophil, $1\frac{1}{2}$
drs ; Ol. Menth. Pip., $1\frac{1}{2}$ drs. M.

Dose, from twenty drops to one teaspoonful, repeated every 20 or 30 min-
utes, according to circumstances, with or without the cholera pills.

The following correspondence is not adduced for the purpose of ascri-
bing to, or claiming for these pills and syrup, any peculiar merit or specific
properties. I am confident many other combinations would have proved
equally efficient, and do not believe in the possibility of discovering a spe-
cific for this disease ; but rather that the principal reason of the acknow-
ledged want of success in its treatment, in Europe and this country, has
resulted from the vain search after some specific remedy to remove or cure
the assemblage of symptoms constituting the different stages of this con-
fessedly one disease.

The course of treatment recommended and published in the Delta, was
the same as that noticed in these remarks, and not only in my own hands,
but in those of others, the result having been at the bedside perfectly satis-
factory, I think it sufficiently proves the much dreaded cholera to be as
much under the control of medicine, when guided by fixed principles, as any
other severe disease of an epidemic character.

NEW ORLEANS, April 26, 1849.

MR. SMITH, of *Steamer Alex. Scott* :

Dear Sir : The conversation had with Capt. Sturgeon and yourself, prior
to the departure of your well known boat, on 27th March, for Louisville,
and the published fact of their not having been a death on board during the
passage of six days, notwithstanding the large number of passengers, and
many cases of sickness, sufficiently apologise for the request of an answer
to the following questions :

1st. What was the number on board, including passengers, officers and
crew ?

2d. What number of cases of sickness occurred during the passage ?

3d. What was the general character of the sickness ?

4th. What general course of treatment did you adopt ?

5th. Did a single death occur ?

6th. Are you aware of any other boat, during the last few months, hav-
ing made a similar trip, without the occurrence of one or more deaths ?

Very respectfully, your friend,
E. J. COXE, M. D.

P. S.—Friday evening, 27th.—As you have just returned from a second
trip to Louisville, be so good as to notice, in reply to the different questions,
all that may appertain thereto.

The following answers were kindly favored by Mr. Smith :

Answer 1. Four hundred and twenty-six in the first, and three hundred
and sixteen in the last trip.

Ans. 2. Rather more than one hundred cases of sickness in the first, and
seventy in the last. The greater number of cases in the last, occurred
within thirty or thirty-six hours, and appeared to have been caused by the

sudden and great change in the weather, which became very cold and damp.

Ans. 3. Vomiting, purging, and cramps; the most frequent being vomiting, as well in the first as in the second trip. Great prostration was almost uniformly observed.

Ans. 4. The general course of treatment was as near as possible that recommended in your general directions, and additional remarks, as lately published in the Delta.

Ans. 5. In the first trip there was not a single death, and in the second but two—both men were in a dying condition when first reported to me. I did not do any thing for them, and in less than two hours they were dead. These persons had eaten freely of decayed oranges but a few hours previously.

Ans. 6. To the best of my belief, I do not think there has been one.

Symptoms of the Second Stage, or Confirmed Cholera.

The premonitory or second stage, having been neglected or uncontrolled by the usual remedies, or as sometimes occurs, there having been little, if any premonition, we have a well marked case, presenting the following symptoms, varying not a little in intensity and rapidity.

Sickness of stomach, preceded by looseness of the bowels, and followed by vomiting; the quantity ejected from the stomach and bowels is frequently very profuse, and most frequently soon followed by excessive exhaustion or weakness.

Purging is more constant than vomiting, and in the majority of cases is the first symptom, it is rarely absent altogether, and when unnoticed, generally indicates a marked degree of malignancy in the attack. Gripping and tenesmus are rarely if ever observed, although the calls are frequent and irresistible.

The skin becomes cold and presents a peculiar livid appearance, faintness supervenes, and there are painful spasmodic contractions of the muscles of the extremities, or the body, or both.

The pulse becomes small, weak and quick, frequently imperceptible in a short time at the wrists. The surface of the body has a collapsed or shrunken appearance, the lips and nails become blue, and the hands and feet shrivelled, as if soaked for days in water. Almost invariably we have oppression, pain, or a burning sensation in the stomach, accompanied with excessive thirst and an insatiable desire for drinks. The eyes are sunk in their orbits, and surrounded by a dark livid circle; the features collapse, and the countenance quickly assumes that cadaverous appearance so peculiar and marked a characteristic of the disease.

The tongue is generally moist, whitish, and cold to the touch, and the breath is also cold.

The purging, at first consisting of dirty, feculent discharges, and the vomiting of the contents of the stomach, continue to increase both in quantity and frequency, until the matter assumes the appearance of rice water. There is now evidence of a complete cessation of the secretion of bile, and most generally a decrease or total suppression of urine, which last is always to be regarded in an unfavorable light.

This excessive vomiting and purging do not generally continue very long, being either moderated or overcome by the resources of art, or continued until, from its excess, the system is reduced so low that no more can be supplied, they, as well as the spasms, often disappearing, and the patient falling a victim to the disease, or the recuperative power of nature, aided by appropriate remedies, bringing about a reaction.

The immense amount of watery discharges, by vomiting and purging, if always present would afford a rational explanation of the great debility, thirst, thickness of blood, and absence of pulse; but as such is not the case, and some of the most sudden and rapidly fatal cases are seen where neither exists, we are forced to believe in the presence of some poisonous principle extending throughout the atmosphere.

Treatment of the Second Stage, or Confirmed Cholera.

The great tendency to, and rapid approach of extreme prostration, the recession of the blood from the surface to the central organs of the body, the cold livid skin, all indicate, as the great and first object in the treatment, the producing a positive reaction, or determination to the surface, manifested by an increase in the volume, frequency, and force of the pulse, a hot skin, and warm perspiration.

Admitting that this desirable object has been and can be obtained by different modes of proceeding and remedies, I feel convinced that in the majority of cases, under all circumstances, this desideratum will be more speedily, safely, and certainly effected by the use of emetics than by any other class of remedies.

Although not objecting to the various articles of this class which have been used successfully, I am of opinion, that the stimulating emetic which I have so frequently and successfully employed, is most to be depended upon for the accomplishment of the end in view, for the following reasons:

1st. Properly employed, this emetic will rarely, if ever, fail to produce immediate and powerful straining and vomiting, constituting the essential difference between the vomiting as an effect of the disease, and that produced as a means of cure. In the former the most serious depressing or prostrating influence is exerted, tending rapidly to the stage of collapse, while in the latter the very reverse is brought about, with an almost immediate cessation of every bad symptom.

2d. Possessing stimulating properties of a positive character, in addition to the amount of salt used, which may by itself produce some of the good effects ascribed to the saline treatment, this powerful perturbing mixture stimulates every portion of the body, produces a general and permanent reaction, and by equalizing the circulation, prevents the uniform tendency to congestion in the internal organs.

3d. As a consequence of the effects produced by this emetic, it will almost invariably allay or completely arrest the vomiting, purging, cramps, sensation of heat or oppression, very quickly producing a marked change in the pulse, which, although previously scarcely perceptible, becomes full and frequent, followed, or rather accompanied by a hot skin and copious warm perspiration. In proportion to the abundance of perspiration, fullness of pulse, and heat of the skin, I have always observed a corresponding permanency of the

much desired reaction, a less tendency to recede, with very seldom any symptoms of congestion.

I have frequently, at the bedside, noticed all of the above changes, and still more, that patients who, after having had profuse vomiting and purging for hours, accompanied with violent spasm of the muscles of the body and limbs, cold tongue and breath, the peculiar cholera countenance, were not only immediately relieved of all, but would sink into a sound sleep, which has lasted from one to five hours, and when aroused would be found to be in a favorable condition, requiring little else than a dose of calomel, or one or two of the cholera pills to complete the cure.

The following remarks upon the employment of emetics in cholera are given by Dr. Chapman: "More is done by the emetic in occasionally overcoming the spasms, and on its secondary and diffusive operations taking place, a centrifugal direction is given, whereby the irritation of the first passages, as well as the deep seated congestion, are removed. On the restoration of the just balance in the circulation, and the functions dependent on it, the system, before prostration, now emerges from under the load, and we are presented with a case altogether more open and manageable." The following is the emetic I prefer.

The strongest flour of mustard, 2 or 3 tablespoonfuls; common salt, 4 to 16 tablespoonfuls; powdered ipecacuanha, one teaspoonful; powdered Jamaica ginger, 2 or 3 teaspoonfuls; powdered cayenne, half to one teaspoonful; These, mixed in 3 or 4 pints of water as warm as can be swallowed, and taken by the tumblerfull in rapid succession, until a full effect has been produced, will rarely disappoint our expectation. In cases of emergency where valuable time would be lost in procuring all of the above, I have used with almost as much satisfaction, the mustard and salt alone, given in the same manner.

Previous to, or simultaneously with the emetic, I bring into requisition the following: A large mustard plaster to the abdomen or spine, and calves of the legs, or soles of the feet, or in its place, or subsequent to it, as may be demanded by the case, a spice plaster applied as hot as can be borne, and the heat retained by applying over it five or six thicknesses of flannel or muslin, wrung out of boiling water, which can easily be renewed when required.

The spice plaster is made as follows:

Powdered Jamaica Ginger, 3 or 4 tablespoonsful; powdered cinnamon, an equal quantity; powdered allspice, 2 tablespoonsful; powdered cloves, the same quantity; cayenne pepper, 2 teaspoonsful; 1 or 2 handfuls of flaxseed meal, hops or chamomile flowers.

These being well mixed in a basin with boiling water, and a few table-spoonsful of brandy added, are to be put in a flannel bag, or spread upon a piece of muslin and applied to the stomach.

In cholera, no less than in other diseases, this hot spice plaster will frequently relieve and remove pain or irritability of the stomach more certainly than mustard, and to a degree by no means to be measured by the degree of irritation produced.

The emetic having produced the desired effect, and the external applications being all arranged, I now, except the patient has fallen into a sound

sleep, when I prefer waiting and allowing nature to do her part, give either a large dose of calomel, from 20 to 40 grains, depending upon the age, combined with 3 or 4 grains of cayenne pepper, and 10 of the best Jamaica ginger, in one or two teaspoonsful of cholera syrup, or any other stimulating remedy that may be at hand. Instead of the large dose of calomel I have very frequently given one or more of the cholera pills, generally with equal advantage, though I confess to a preference for the calomel.

At this stage of the disease, small portions occasionally of the spice tea, given hot or cold, as may be preferred, I have found very serviceable, and grateful to the patient.

To allay the thirst which sometimes exists after the operation of the emetic, though far less frequently or severely than by any other course of treatment, I give small pieces of ice as frequently as may be desired, or iced water, gum water, or flaxseed tea in small quantities at a time. Nothing proves more generally grateful or successful in allaying the inordinate thirst so constantly complained of in the disease, than a seidlitz or soda powder mixed with ice water, and taken occasionally while effervescing. For the same purpose, a solution of super carbonate of soda in ice water may also be given. Dissolve one teaspoonful in half a tumbler of ice water, and give one teaspoonful every five or ten minutes.

The characteristic discharges of the disease from the bowels having ceased, if the first dose of calomel or pills have not produced any effect, I now generally give another of either and wait for the effects.

Should the discharges be of a black offensive character, and not abundant, it may be necessary to give a stimulating injection of senna tea and salts, or a few doses of the following:

R—Tinct. Rhei., $1\frac{1}{2}$ ozs.; Syr. Rhei. Arom., $1\frac{1}{2}$ ozs.; Tr. Capsici, 1 dr. Tr. Zingiber, 2 drs.

Dose—two to four teaspoonfuls, every one, two or three hours.

In this stage of the disease should the remedies have produced their anticipated effects, and no particular indication exist, it is highly important to allow your patient to remain perfectly quiet, satisfied to let well enough alone, confining him to small quantities of mild nutritious drinks, as arrow-root, rice gruel, chicken or mutton broth, and such articles.

It may be laid down as a general rule, that the vomiting, purging, cramps, and other symptoms having been overcome without the existence of any particular local pain, our best and safest course is to watch closely, and by means of mild nourishment, perfect quietude of mind and body, to allow the powers of nature gradually to restore the system to a state of health.

Symptoms of the Third Stage, or that of Collapse, also called the Blue Stage.

The main difference in the symptoms of this stage from those of the second, consists rather in the degree of violence, and almost hopeless condition of the patient. The principal symptoms are a deeper livid or blue color of the skin, lips, and nails, a more general appearance of shrinking of the whole body, with much more of the sodden or soaked condition of the hands and feet.

The skin is still more insensible to the action of powerful stimulants, the

eyes more deeply sunk in the orbits, surrounded with a far deeper livid circle; the countenance assumes still more the corpse-like appearance so remarkably characteristic of this stage of cholera.

The insatiable thirst and desire for cold drinks continues unabated. The tongue is moist, whitish, and almost as cold as ice to the touch. The voice is unnatural, very weak, or scarcely audible. Respiration is generally slow and oppressed, with a manifest coldness of the breath. The pulse falls rapidly, and soon becomes extinct at the wrist, and scarcely perceptible in the large arteries. The spasmodic contractions of the muscles are often very powerful and painful.

The duration of these symptoms varies materially, sometimes terminating fatally in a few hours, at others prolonged, beyond all expectation, to one or two days, when the combined powers of nature and art may succeed in producing a reaction, which, when of a violent character, has been called the fourth stage, or that of reaction or fever.

Treatment of the Third Stage, or that of Collapse.

The first and second stages having passed without timely assistance, or the remedies having proved ineffectual, few recoveries can be anticipated.

The important and principal object in such a case, is to arrest its downward progress, by causing a reaction.

The ordinary means most likely to effect this, are regular and long continued friction of the body and limbs with flannel and hot salt, mustard and cayenne, finely powdered; a mustard poultice, or flannel steeped in turpentine, or aqua ammoniæ, applied to the spine: the dry frictions are, however, most to be relied upon.

In these extreme cases it has been proposed and practised, more immediately to accomplish the end in view, to moisten the spinal column with spirits of wine or sulphuric ether, and then set fire to it. As a very powerful and immediate excitant, this is deserving of more attention than has been given to it. Strong saline enemata, given as warm as prudence will permit, have been strongly recommended.

Of the propriety and usefulness of calomel in these cases, many speak with the greatest confidence. Some give it in large doses, while others prefer it in smaller quantities, repeated more frequently: in either case, it is better to combine it with cayenne and ginger.

For the avowed object of procuring a reaction, the application of a number of dry cups to the abdomen and breast, by their powerful revulsive action, will frequently prove highly beneficial. Of all the remedies noticed, there is not one that will so uniformly or certainly accomplish the reaction, as an emetic of mustard, salt, cayenne, and ginger. Given as warm as it can be swallowed, it will rarely disappoint our expectations; The reaction with the profuse powerful perspiration ensuing, will, in the words of Dr. Chapman, give us a case altogether more open and manageable.

The apparent hopelessness of the case should not deter us from the use of this emetic. Frequently have I had great difficulty in causing it to be swallowed, never to regret its administration, but more than once that it had not been used. After every other means had been unavailing, I have seen it prove perfectly successful.

Doubtless there are cases in which this remedy could not properly be resorted to; there, however, the judgment of the physician must decide. Should it not be considered advisable to administer the above or any other emetic, our main resource will be dry cupping, and the continuance of powerful stimulants internally, as the spice tea, with brandy, camphor, carbonate of ammonia, spirits of hartshorn, cayenne, milk punch, and injections of hot salt and water, or other stimulating articles.

The fear of the too great degree of the possible consecutive fever must not prevent the employment, in these desperate cases, of repeated doses of powerful stimulants; for, if we cannot succeed in producing a reaction, death, in all probability, will shortly occur. If the remedies used should succeed in causing reaction—and, however hopeless the case may appear, we must not relax in our efforts—we have the case brought to the second stage, when one or more doses of calomel, quinine, cayenne and ginger may be given to restore a healthy biliary secretion.

We should now continue the application of warm stimulating applications to the abdomen, soles of the feet and calves of the legs, for the double purpose of maintaining the reaction, and diverting to the surface and extremities, thereby lessening the tendency to a determination to the head.

Small quantities of the most concentrated animal broths should be occasionally given, together with wine or milk punch, to meet the demands of the case.

Should the reaction prove too violent, causing the consecutive fever, with more or less pain in the head, it will be necessary to apply cups or leeches to the temples or back of the neck, or even to draw blood from the arm, with cold water constantly to the head, having previously thinned or removed the hair.

One or more doses of calomel, followed by seidlitz powders and injections of salt and water, more especially if the bowels have not been opened, may now be used very advantageously.

The desire for cold drinks may be gratified at this time with more freedom. It is all important in the treatment of this disease to advert to the strong tendency to congestion, more especially of the brain, and upon the first appearance of any of the ordinary signs to refrain as much as possible from the use of stimulants, confining the treatment to mild nutritious drinks, dry or moist cupping to the temples or back of the neck, shaving the head, and keeping ice water constantly applied.

The brain remaining unaffected, we must never despair of success; but where it is so, the number of recoveries will be very small.

In reference to the treatment of the consecutive fever in the fourth stage it is unnecessary to offer any additional remarks, so much having already been said appertaining thereto.

During the continuance of this febrile condition, it is necessary to ascertain whether any urine be passed, and if not, to examine the region of the bladder. Passing the catheter is frequently necessary to determine the actual condition of the bladder.

In conclusion, the following general remarks may be introduced:

A singular fact attends the progress of this disease through its most severe stages, that of the continuance of the functions of the brain almost to the last moments of existence. Although the symptoms of the several stages

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are most generally observed in their regular order, it is by no means an unusual circumstance to find cases of an extremely sudden and fatal character, wanting in many of the usual and more prominent symptoms.

At times there may be an absence of vomiting, and prevalence of purging; at others an excess of vomiting, with a very moderate discharge from the bowels, and this last may sometimes be wanting entirely, though of very rare occurrence. The spasms vary considerably, generally very severe, though occasionally scarcely perceptible.

Perhaps the most sudden, severe, and almost certainly fatal cases, are those attended by slight apparent derangement or disturbance of the system, little or no vomiting, purging or spasms; with very little premonition; there comes on a sensation of great coldness and exhaustion, with the peculiar characteristic features and expression to a surprising degree, and in a very short time an almost total arrest of the circulation, the pulse being scarcely perceptible. In these cases, without the most prompt and energetic treatment, death will inevitably result.

From a due consideration of the preceding remarks, the following corollaries appear naturally to follow.

1st. That during the existence of cholera, an attack is almost uniformly preceded by some uneasy sensations in various parts of the body, more especially slight pains in, and more or less looseness of the bowels.

2d. That for these manifest indications of derangement of a healthy condition, it is always in our power to arrest their further progress, by the timely use of some of the ordinary yet efficient means above noticed.

3d. That inattention to these apparently slight symptoms is fraught with danger, and that it is safer, easier, and more consistent with reason, to remove the first impressions of disease, rather than procrastinate until the disease shall have assumed an alarming character.

4th. That in consideration of the universally conceded power of hygienic measures to preserve a healthy condition of the different organs of the body, too much attention can not be paid to all properly appertaining to that head.

5th. That as with few, if indeed, any exceptions, an attack of cholera can be traced to some imprudence in the ingesta, and undue exposure, no less than the unjustifiable inattention to a deviation from the natural healthy condition of the body, it follows that the majority of any population possess within themselves the preventive measures calculated to diminish, if not entirely obviate the probability of an attack, even of the precursory symptoms.

