

Dr. Hiltner

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Cholera: its Nature, Cause, and Treatment,

*Simply, Scientifically, and Practically Explained.*

Intended for General Information.

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As the successful treatment of this too fatal disease is so largely dependent upon the early treatment of its invasion, it is both right and proper that not only the Medical profession should know, but the public also should be made fully acquainted, with what constitute the earliest symptoms of the attack and mode of its invasion, as well as the proper remedies to be resorted to on the occasion; inasmuch that it is to the attention and treatment of these symptoms, when professional assistance is so seldom called for or deemed necessary, that success with any confidence can be anticipated.

The symptoms of Cholera, commensurate with the circumstances of the case,—the previous state of health and constitution of the individual,—the length of exposure to the epidemic or other immediate exciting cause of the attack,—its nature and virulence,—the state of the atmosphere as to humidity and temperature, and other modifying circumstances,—may therefore come on suddenly, or stealthily, and thus may the sufferer be suddenly seized with giddiness and prostration of power, attended with watery purging and oppression about the stomach and bowels; succeeded by vomiting, coldness, and cramps in the extremities. Or these latter classed symptoms, preceded by and coming on insidiously as simple diarrhoea or indigestion, may be progressively developed—involving a period of several hours or some days' duration before they become alarming in their character.

To treat these symptoms successfully, we must have a clear perception of their cause and nature, and this will soon teach us that it is not by arresting the evacuations, which are rather of curative tendency than otherwise, by chalk mixture and opiates, but by removing or superseding their cause that we can hope to benefit the patient. It will, however be said, that many have recovered who have been so treated; but as the immediate cause is some polluted and malignant condition of the blood, internally engendered by arrest of the secretions, or externally derived

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from the atmosphere, by the inhalation of malaria, or other malign influence of it; or from the stomach by the reception into it of unwholesome food or beverage, or rather perhaps by a combination of these causes; and as this really poisoned condition of the blood may be little or much, so may the attack be formidable or otherwise; the recovery taking place in despite of the chalk mixture, or other improper remedy, which has been so frequently vaunted as specific.

The cause, then, it will be perceived, I assume to be a poisoned condition of the blood, operating as a sedative or powerfully depressing agent upon the functions of the several organs of life—through the medium of their capillary or organic structure; by virtue of which, the heart primarily, the great circulating organ of the blood, becomes so enfeebled or reduced in power, that congestive accumulation or stagnation of blood takes place in the veins, and is more especially discernible in those organs or parts the most remote from the heart's influence, and in which accordingly the circulation is the most languid; and as this, from reasons I cannot stop to explain, is unquestionably the veins of the liver, stomach, and bowels (the so called portal system); hence the symptoms so early experienced of distention and oppression in these organs, attended not unfrequently in the first instance by constipation, but followed soon after by diarrhoea—which is consequent on, or occasioned by, the effusion or oozing out of the serous or watery part of the blood into the bowels, from the engorged or preternaturally distended vessels of these organs. From the same cause, effusion into the stomach, vomiting likewise is so frequent a symptom, and occasionally occurs before, or without diarrhoea. So long as the evacuations from the bowels are fæculent, the disease is called diarrhoea; when they become like rice-water or colourless *cholera*. Now mark, it is the secretion of the liver, bile that imparts colour to the evacuations, or principally so; hence the evacuations being without colour, evinces that the liver has ceased to fulfil its duty.

And be it observed, that not only the liver, but the kidneys also, are now found to have ceased to fulfil their duties, and there is accordingly an arrest likewise of the secretion of urine. As the liver and kidneys are the principal purifying organs of the blood, and as these have ceased to fulfil their offices, the disease has become now of very formidable magnitude—aggravated seriously by the retention in the blood of those really poisonous elementary constituents of

bile and urine which it is the office of these organs to remove, in addition to such other matters, if any, which may be at the same time deteriorating it. More than this, the blood now or soon after becomes so incrassated or thickened by the loss of its serum, that its passage through the capillary or smaller vessels of the lungs and brain is sadly impeded; from which cause, combined with that so large a portion of it has been withdrawn from general circulation—by consequence of the excessive congestive accumulations which have now taken place in the abdomen and venous system in general—that little is circulating through the lungs and heart; from which defective aëration of the blood necessarily ensues, with the coldness of the breath, the smallness of the pulse, the lividity of the surface, and general collapse which now follow. It is then this depressing agency of the contaminated blood, upon the action of the heart principally, and powers of the system generally, from which the symptoms successively arise, and to which they are severally to be referred. And the indication of treatment therefore, holding this in view, obviously is, or principally so, to divest the blood of its poisonous contamination; and as this can only be done through the instrumentality of the natural outlets and purifying organs of the body—the liver, kidneys, and skin; to impart and restore action to these organs is the chief and fundamental object to be pursued in the treatment of the disease, and in every stage of it.

Now, as it is through the blood alone that we can influence these organs, it is obvious that we can only do so by introducing into it some remedy antagonistic in character to that which has occasioned the symptoms of general depression of power and its consequences—congestive fullness of the abdominal veins and arrest of the secretions. Have we such a remedy? Yes, with certainty we have, and that remedy is—Calomel, the best of the preparations of Mercury. Universal experience testifies that a grain or two of calomel will, with almost unerring certainty, under ordinary circumstances, excite the liver and occasion one or more bilious evacuations; and it not only does this, but as its influence is general on the system when received into the blood, it excites all the secretions, and not only these, but the brain, and all the functions. If so, the high stimulating quality of mercury is here apparent; and as such, it is obviously the remedy we require, not only let me add, in the treatment of the symptoms, when they have assumed the choleraic character from suppressed secretion, but I

repeat, in that also of the stage of oppression and diarrhoea that precede them; inasmuch that this is but a minor degree of the same affection, having its source in the blood's defectively stimulating healthily exciting quality as before explained. It will be said, I have no doubt, by many—well, yours is a very pretty theory; but how is it that it has so frequently failed in practice? To which I would reply, for these very plain and obvious reasons, that calomel has seldom been given sufficiently early—that is, before the evacuations have become choleraic or colourless, and then not in sufficiently large doses and with these specific views.

For be it observed, in the first place, to introduce anything from the stomach into the blood, it must be in a state of solution; fluids only are admitted into the blood-vessels, sucked in as it were or imbibed through the coats of the vessels; and secondly, as experiment has proved, that the power or capacity the vessels have of imbibition, is in the inverse proportion to their fulness; or, in other words, the emptier they are the more they absorb, and the converse; the fuller they are the less so; and as we have previously pointed out that these vessels are now in that state of preternatural distention or fulness, that the aqueous portion of their contents is exuding or passing through them into the bowels, it necessarily follows that their absorbing power is at a perfect standstill, or nearly so. In addition to which, as calomel is a very insoluble substance, it is apparent, to benefit the patient, it must be given early, while the vessels possess any power of absorption; and again in the advanced stage of the disease in large quantity, and frequently, would we hope to get any absorbed into the blood. It is to this circumstance, the non-absorbing power of the stomach and bowels, from distention of their blood-vessels, thus preventing our influencing the system, when the disease has made any progress, and not to the want of a suitable remedy, that I believe the disease has been so lamentably destructive; and this not being so considered or understood, the reason why calomel has not been sufficiently appreciated; or otherwise, when administered, it has too generally been in combination with opium—a remedy which is contra-indicated in this disease, and annuls the benefit which might have been otherwise derived from the calomel had it been given alone. Admitting what I have said to be true,—and let me add, that it is the fruit of my very lengthened experience, which has been great in this disease, and is further supported by the evidence of

success which so generally attended the administration of calomel, though seldom given as it should have been, in the treatment of the last epidemic visitation of the disease in England.

It will now be asked, how would I recommend it to be given? Well, then, in the earliest symptoms of the disease, evinced by feelings of languor, oppression in the region of the stomach and liver, and not unfrequently attended by constipation—but whether this be the case or not, let the sufferer take two grains of calomel immediately\*, and continue one grain night and morning, till the evacuations it excites, which are often first dark and of green spinach-like character, become abundant and yellow. Should diarrhœa have commenced, let the patient take two grains three times a day; but if of some hours' duration, let the same quantity be taken every three or four hours; or if the evacuations are becoming of the choleraic or rice-water-like character, every hour. Should vomiting take place without diarrhœa, let the patient take four grains, and an hour after a teaspoonful of the effervescing citrate of magnesia in half a tumblerful of water or half a Seidlitz powder: repeating the calomel whenever rejected, and the saline draughts every hour or so till the bowels are relieved. Of the mode of administration, it is important to notice, that the best and only proper one in the advanced stage of the disease, is to put the calomel in powder on the patient's tongue with a grain or two of salt, directing him to gargle it about the mouth, and then to swallow it, washing it down with a spoonful of water; the object being to diffuse it over a large portion of the stomach's surface. And now with reference to stimulants, seeing that I have directed the calomel to be washed into the stomach with cold water. Of all stimulants, I am of opinion calomel is the most powerful and only proper one, and it will be found that the skin, which before was cold and damp, will become under its influence, that is, when received into the circulation, warm and dry, the pulse increased in force and volume, and the eyes sparkling. As such no other stimulant than calomel is required—seeing how frequently inflammation becomes developed in the stomach and bowels when the diarrhœa is checked, or is insufficient for the

\* As cold, checking the secretion of the skin, is a frequent exciting cause of the disease, it is highly desirable that the sufferer in all cases should immediately repair to a warm bed, and, an hour after taking the calomel, have a cup of weak wine-whey, or a cup of tea with a teaspoonful of brandy in it, repeating it every hour or so to encourage perspiration.

relief of the congested vessels—evinced by pain and heat in the part, with constant desire for cold water. Though my advice is in all cases to attend to and respect the dictates of nature,—that should the patient desire a little wine or weak brandy and water let him have it, and the same with reference to a few spoonfuls of light broth, arrowroot, or the like as he gets better; but don't give it without it is desired, as the stomach is not in a condition to digest food till the evacuations have become bilious.

Again, the patient must be kept sedulously in the recumbent posture when the disease has made much progress; many a life has been lost by rising to relieve the bowels. In this case, cloths or a blanket should be put beneath the patient, and he should be directed on *no account to restrain for a moment* any desire that may be felt to relieve the bowels, otherwise vomiting will come on, and the calomel will be rejected. Should vomiting nevertheless occur, it is best remedied by keeping the bowels excited, by the occasional use of a clyster, of half a pint of warm gruel in which a teaspoonful of Epsom-salt has been dissolved; and to which, if there is much exhaustion, two tablespoonfuls of brandy may be added. We are now alluding to the more advanced stage of the disease; the stomach is not only kept tranquil by the bowels being thus put in motion, but the calomel is then passed along their lengthened surface for absorption, to the benefit of the patient. Should the patient require drink, let him have cold water, two or three tablespoonfuls at a time every half hour or so, but not more, as it might provoke vomiting. Should a craving for cold water, with other symptoms of inflammation, be present, and the evacuations scanty, let a teaspoonful of glauber or Epsom salt, or half a Seidlitz powder be dissolved in the water and given occasionally.

Should the patient not come under treatment till the choleraic symptoms, meaning thereby the rice-water-like colourless stools, have set in, the calomel, commensurate with the urgency of the symptoms, should be given in largely increased doses—from six grains to twenty every quarter or half hour; considering that it is not the quantity of a remedy, but the effect produced, which should govern us in its administration. And for reasons I have pointed out—the non-absorbing condition of the stomach and bowels in the advanced stage of the disease, and the little solubility of calomel,—it is obvious that we must give much to effect but little; and as such I have often given as much as two or three hundred grains in the above doses without incon-

venience of any kind, but with the best effect; and I now believe that I have lost many others because I did not double the quantity. Many have I rescued from the jaws of death by this remedy,—when the skin has been cold and damp, the breath and interior of the mouth cold, the pulse scarcely perceptible, the eyes glazed, and the voice sepulchral! No fear of salivation or other inconvenience need be apprehended, as the presence of calomel in the system becomes immediately manifest by its exciting influence upon the skin, pulse, and countenance, when, nevertheless, it must be continued until both bile and urine are abundantly secreted; when this takes place it may be given in much less quantity, but not before, conjoined with an occasional dose of castor oil or Epsom salts, till the evacuations are of healthy bilious appearance. I have now to add, that with persons of a full habit, or others who may complain of pain in the stomach or head, or oppression of breathing, a free bleeding in the early stage of the disease is an *indispensable requirement*; and with much oppression I have often had to repeat it afterwards even more than once, and have done so with signal benefit, its tendency being to remove congestion, prevent inflammation, and facilitate the absorption of the calomel.

Spasms in the extremities are not unfrequently very painful and troublesome symptoms, dependent, I believe, principally on spinal irritation, or that of the bowels; an occasional clyster with rubbing and shampooing the parts affected are, I believe, the best remedies. The application of heat or other appliance, save in the early stage, is seldom of any benefit. In the early stage a mustard plaster to the region of the stomach and bowels, or, better, fomentation with hot water, may be also beneficially employed; and an emetic, consisting of a tumblerful of warm water in which a teaspoonful of table-salt is dissolved, repeating it, if necessary, till it operates, where there is much oppression of the stomach, or a tendency to sickness, is another very useful remedy.

In conclusion, I have to add by way of suggestion, addressing myself now to the Profession exclusively, that seeing the difficulty of introducing calomel into the circulation in the advanced stage of the disease through the ordinary channel of the stomach, and how desirable it is to influence the system by it, if this be, as I sincerely believe it, the only really efficient remedy for the disease, I would beg leave to recommend to their notice what I have frequently before done—its introduction by fumigation, or by

that of adding to a clyster a solution of the bichloride, in the quantity of a quarter of a grain, and repeating it every hour; or by giving it with the calomel, in still smaller quantity by the stomach, in doses—say of the eighth part of a grain. The fumigation, I think, might be readily effected by making a piece of tile or brick red hot, or nearly so, and then dusting over its surface, when placed in a plate beneath the bed-clothes, a mixture of calomel with four times its bulk of fine sand, and allowing the patient, by putting his head beneath the clothes, to inhale its vapour, and repeating it if necessary. This or other mode of accomplishing the object will readily suggest itself to any of my professional readers.

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P.S. Castor oil and emetics, as remedies in cholera, have lately been very strongly advocated and urged upon the attention of the profession;—they are both good to a certain extent, as there can be no doubt that the evacuations attending the disease are rather curative than otherwise, and accordingly these remedies, which have had a full and fair trial long ago in India, were found to be much more successful than those of the opposite class—Opium and stimulants—which arrest the evacuations; but nevertheless were soon abandoned, as falling very far short of fulfilling the requirements of a successful treatment—as they bear little or no relation to the antecedent condition, or that which occasions not only the diarrhoea, but the arrest of the secretions, the general prostration, and the rest of the phenomena of the disease. But which, if there be truth in what I have said, in relation to calomel as a stimulant, it goes directly and immediately to remove, and thus cure the disease.

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