

conclusions as to the symptoms produced by febrile poisons, and always remember that *one-half, at least, of their natural history, is entirely unknown.*

If, then, when the cholera is epidemic, you have a patient with slight diarrhoea, but especially with rice-water stools, act as if the enemy were upon him. Now I don't think you should instantly check the diarrhoea, for I suspect it is an effort of nature to carry off the poison—not the diarrhoea, but that the poison is passing out by the intestinal canal, and irritating it as it passes. Moderate the irritation by gentle opiates; set up other excretions, as by the skin and kidneys; give your patient plenty of demulcent drinks, and of free pure air; charge him, as he values his life, not to irritate the gastro-intestinal mucous membrane, and, as an antidote to the poison in the blood, give a few doses of quinine, or the vegetable acids. The best formula perhaps would be, a grain or two of amorphous quinine with two or three grains of tartaric acid and a few minims of *landanum* every six hours.

But suppose your patient have already disorder of the excretory organs, so that the blood is not depurated in the ordinary course of events, you have then a dangerous state of things, and one which will demand all your skill, if the greatest can be of any avail. If your patient have chronic disease of the intestinal mucous membrane, or of any of the principal viscera, but especially of the liver or kidneys, his exposure to the poison will most probably be followed by a violent if not fatal attack. You must therefore warn him to adopt all possible means of avoiding contagion. Patients with chronic disease of the liver and intestinal mucous membrane, and especially with Bright's disease of the kidneys—drunkards belong to this class—will suffer far more than any other class; and I am inclined to think few such receiving the poison will recover.

The exemption of persons engaged in chanderies and tanneries from the disease, points out their atmosphere as being prophylactic.—why, I cannot say. Persons highly predisposed, from the causes elated, might avail themselves of this hint. I am assured that the emanations from tallow are obnoxious to insect life, and therefore they have some virtue or activity as yet unknown to us, and are widely different in their nature from mere putrid emanations.

Now you may have all the functions going on with tolerable regularity, or at least without any marked irregularity, further than the sort of ill health which deficient diet, defective supply of atmospheric air, and the presence of malarious poisons, may excite, and yet such person be highly predisposed to disease. Any thing which lowers the tone of the system will give the poison activity: thus a great number of persons may have already received the poison into the blood, and it remains latent until the depression which precedes a heavy thunder-storm, or a fatiguing journey—as a march of troops, or the want of a meal, or excess in a meal after a long fast, will at once develop the morbid action of the poison. Those examples in which a number of persons have been exposed to the poison at the same time, and then to such an exciting cause as the preceding at the same time, have presented great difficulties to a sufficient explanation, and have been called “nuts for contagionists” to crack; but you will, I think, find no difficulty in them whatever, if you have a clear comprehension of the whole subject.

The miasmata given off from *feculent debris*, as from privies or accumulations in the sewers, act as a poison, as I have previously shewn, on the intestinal mucous membrane; and, consequently, persons breathing air impregnated with such emanations, are peculiarly liable to be rapidly affected by the poison of cholera. The reception of the latter is but the application of the match to a train already laid. I need not, I think, observe, that the removal of *feculent accumulations*, and of animal and vegetable debris, is an important point in prevention.

All the depressing emotions enable the poison, when received into the blood, to conquer the re-action of the organism against it, and to overcome the *vis conservatrix*. You will hear of people taking fright at the cholera hoarse, or something of the kind—hardly suffering from diarrhoea perhaps—and go home, lie down, and die in all the agonies of the disease. Now such persons, if they had not had their vital powers so depressed by terror, would have resisted the action of the poison; for rest assured that when a person dies of Asiatic cholera, he must have received a specific poison into his blood, however difficult it may be to account for the communication or reception of it. You might as reasonably

say, that a person with small-pox had never received the contagion of small-pox.

What are the circumstances that lead to the decline of the epidemic? In the first place, all persons who have had an attack do not seem *immediately* liable to a second: then the highly predisposed have either died or had it; so that, like a fire, it dies out for want of fuel; or, thirdly, an atmospheric change may conjoin with the preceding, and the air becoming very cold and dry, puts a stop to the development of predisposing miasmata, and the more ready transmission of the poison. It is in this way all epidemics whatever come to a close, whether arising from miasm or contagion.

The grand object, then, in the prevention of cholera, is to remove as many of the pre-disposing causes as you can. Many of these are entirely within the power of man—indeed, all the most important: I mean those emanations which arise from overcrowding or decaying debris, &c. With regard to cachectic and visceral disease, you can do little.—*Medical Gazette*, Oct. 27, 1848, p. 636.

Dr. W. G. MAXWELL, Calcutta:—

*The Progress of Symptoms.*—What is cholera? is a question that has been asked a million times.

Cholera is the first stage of fever; the fever of a particular locality—the endemic fever, or the epidemic fever.

Fever is made up of various stages: the collapse stage, the shivering stage, the hot stage, and the sweating stage. All or each of these may be morbidly increased, constituting apparently different diseases, but in reality linked together in inseparable union. It is the morbid increase of the first of these, that I have now briefly to consider, viz., cholera morbus.

Here the fever never rises higher, it never reaches the shivering or the hot stages; if it does, it is no longer cholera; the fever has passed from the collapse into the other stages. Those who have had ague will comprehend the term “collapse of fever.” They will recollect having had the paleness of the hands, feet, and countenance (and these generally tipped with blue); they will recollect the cold smooth feeling of the hands, the nervous sensations about the chest and stomach, and extending over the system. These, all or partly present, constitute what I call the “collapse of fever;” and this collapse of fever (in excess) is cholera morbus.

During the prevalence of the epidemic constitution, if an individual sojourn in a locality notoriously febrile, he will imbibe (what I will call for the easier comprehension of the reader) the epidemic leaven or ferment. Now, this ferment will take some time to display its full action, varying according to the quantity taken into the system; but it is generally in the middle of the night following that the effects are displayed; and it is an equal chance whether the individual sinks in the first or collapse stage, or rises from it into fever; hence the explanation of those cases, found in the morning in a high state of fever, which had been first reported as instances of cholera.

The development of the stages of fever entirely depends on the changes the leaven has effected. If this change has been such that the blood has become too thick to flow through the lungs, then, as a matter of course, the collapse stage is developed in excess; in other words, cholera asphyxia is exhibited. The blood, unable to pass through the middle passages into the arteries, collects and swells out the veins, giving that deadly or blue color to the skin. When the vomiting and spasms come on, this mass of blood in the veins is squeezed with great force, and hence the clammy moisture that is forced from every part during these fits. There is no pulse, because there is no blood in the arteries. There are also lethargy and languor, and oppression in breathing, caused by the blood being all collected in the veins. These make up the principal links of the chain of mechanical symptoms. The other train of symptoms and associate symptoms arises directly from the stomach and bowels. I cannot say which are the most important; the neglect of either may be fatal. They, like the former, spring from the influence of the epidemic leaven. When the blood begins to thicken, that same moment all the functions begin to go wrong. The most important of all the functions, digestion and assimilation, are the first to feel the influence; in fact, it is difficult to define priority; the influence must be immediate, being part of the same circle. The derangement of these functions and the deprivation of the blood advance mutually, as a matter of course; neither the one furnishing secretions to the bowels, nor the other nutrition to the blood. The inevitable, invariable con-