A LECTURE ON CHOLERA AND DIARRHŒA.

BY
SIR THOMAS WATSON, BART., M.D., F.R.C.P., F.R.S.

[THE following note from Sir Thomas Watson accompanies the MS.—16, Henrietta Street, Cavendish Square, W., July 9th, 1868.—Sir,—Being engaged in revising, for a new edition, my *Lectures on the Practice of Physic*, I find it necessary to modify considerably some advice that I formerly gave my auditors as to the treatment of a disorder which appears to be again increasingly prevalent throughout the country. It will be a favour and a relief to me if you will permit a short portion of my re-written lecture on Cholera and Diarrhœa to appear in your JOURNAL, where the same subjects have heretofore been much and ably discussed.—I am, sir, your faithful servant, THOMAS WATSON.]

The form and features, then, of this dreaded pestilence have been the same in all its visitations to this country. Must we still, as heretofore, make the mortifying confession that our art is unable to cope with it successfully? Not so, I trust. Among the many and discordant expedients which have been brought forward, and fairly tried, for the cure of cholera, one, long since suggested, and almost scornfully rejected, has emerged of late into clearer significance and more intelligible and ascertained value. I mean the method—recognised as legitimate and reasonable in various other maladies—of “elimination.”

There are two conflicting theories as to the pathology of cholera; and there are two conflicting principles—which accord with and flow from these theories respectively—as to its proper treatment. Upon this momentous problem of treatment, the final appeal must clearly be made to experience; but the verdict upon that appeal has not as yet been very widely recognised or confidently accepted. Let us set the whole question plainly before us.

It is acknowledged on all hands that the primary and special danger in cholera lies in its period of collapse. Now it was a very natural and plausible theory which attributed this state of collapse to the drain of fluid matters from the blood by the profuse and repeated fluxes from the stomach and bowels; and the practice suggested, as a direct corollary to this theory, was that of endeavouring to arrest the destructive flux by astringent drugs and by opium, and to restore the spent strength and the lost animal warmth by alcoholic and other stimulants.

It is affirmed, on the other hand, that the condition called collapse is not due to the excessive discharges from the body; that those discharges are really eliminative of the poison, or of the products of the poison, which caused the disease, and are to be permitted, or even encouraged, rather than checked; and, therefore, that astringents and opiates can do no good, but are, on the contrary, positively hurtful.

Were the first mentioned theory true, there must be a discernible relation between the alleged cause and its effect. The greater the amount of the intestinal discharges, the more certain and the more decided should be the resulting collapse. But no such proportion has, in fact, been observed. Nay, the very reverse so seldom obtains. The most hopeless cases are those of collapse after very scanty discharges, or with no discharges at all.

Again, if the collapse were indeed owing to the drain upon the blood effected through the intestinal discharges, it would be prolonged, deepened, and rendered more perilous, by the continuance of those discharges; whereas it is notorious that patients emerge from the state of collapse while the evacuations go on, and that the cessation of the evacuations during collapse is a fatal sign.

Tested, then, by the evidence of acknowledged facts, this theory must be pronounced a failure, and the treatment founded upon it a mistake.

In truth, a fallacious analogy has been assumed between the collapse or exhaustion arising from a drain upon the blood and the collapse in cholera. In one single point—namely, the smallness and weakness of the arterial pulse (in other words, the defective circulation of the blood)—the two may seem to touch each other. In almost every other point, they differ widely. A person exhausted by loss of blood, or by a long continued drain upon that fluid, is in a state that is very near to syncope. When the exhaustion is extreme, if he assume the erect posture, he faints outright, and becomes unconscious. To walk, to stand, or even to sit up, is simply impossible; whereas, in the collapse of cholera, syncope is well-nigh unknown. The patient, with death stamped

apparently upon his features, with no pulse to be felt at his wrist, with a blue and icy-cold skin, is not faint, but able to walk about the room, and to perform many of his usual functions. The exhausted man, if he recover, recovers slowly; the repair of his impoverished blood is necessarily a gradual process. The cholera patient rallies from his collapse at once, if at all. He may be in full collapse to-day, and convalescent the day after to-morrow, and apparently but little the worse for the terrible disorder through which he has so recently passed. “I have seen,” says Mr. Grainger, “a man stand at his door on Wednesday, who on Monday was in perfect collapse.” Again, the way in which remedies tell upon the two contrasted conditions is totally and instructively unlike. The coldness and faintness of exhaustion are relieved at once by a glass of wine or of brandy; the pulse instantly acknowledges the virtue of the stimulus. But alcoholic stimulants do not warm or invigorate, even for a moment, the patient in choleraic collapse: rather, they seem to make matters worse. On the other hand, bloodletting has often brought marvellous relief under collapse; while to draw blood from a person who is fainting from exhaustion would probably ensure his death, and would certainly aggravate his danger. Take the following instance, recorded by Sir Ranald Martin, of the effect of venesection. “On visiting my hospital in the morning, the European farrier-major was reported to be dying of cholera. I found that during the night he had been drained of all the fluid portion of his blood. His appearance was surprisingly altered; his respiration was oppressed; the countenance sunk and livid; the circulation flagging in the extremities. I opened a vein in each arm; but it was long before I could obtain anything but trickling of dark treacly matter. At length the blood flowed, and by degrees the darkness was exchanged for more of the hue of nature. The farrier was not of robust health, but I bled him largely; when he, whom not a moment before I thought a dying man, stood up and exclaimed, ‘Sir, you have made a new man of me.’ He is still alive and well.”

The question has naturally been put, “Is it possible to reconcile facts of this kind with the theory that the collapse of cholera results from the loss of the liquid constituents of the blood? If Sir R. Martin’s hypothetical statement that his patient ‘had been drained of all the fluid portion of his blood’ were an accurate expression of facts, can we conceive it possible that he could have ‘made a new man’ of him by abstracting largely the blood which remained in the vessels?”

The main advocate in this country, and, as I think, the triumphant advocate, of what may be called the evacuant or cleansing practice in cholera, is your present able Professor of Physic, Dr. George Johnson. To him is justly due the great merit of having established, by his persevering efforts in the face of much opposition and discouragement, the worth and efficacy of that practice; although he was not the first to recommend or to adopt it. It was in fact tried, with favourable results, nearly half a century ago, by English practitioners in India; its professed object being that of getting rid of offensive morbid secretions. The practice thus vouched for by Dr. Johnson is directly in accordance with, and serves to confirm, that view of the pathology of cholera which, by a methodical display of numerous facts, and by a process of close and conclusive reasoning, he may fairly challenge as his own. Briefly, he holds, as many before him held, that the phenomena of cholera result from the entrance of a peculiar poison into the blood, where it probably undergoes, like that of small-pox, a rapid process of self-multiplication, and spoils certain of the blood-constituents, which are then ejected through the mucous membrane of the alimentary canal; that the copious discharges are expressive of the efforts of nature to throw off a noxious material, and really form, therefore, a necessary part of the process of recovery; and that, if the pouring forth of the vascular excretion be checked (as it can, perhaps, be by opium), the risk of fatal collapse is thereby increased. He declares that the results of his own practice, founded on these views, have amply justified them; and a considerable body of other evidence has now been furnished in support of the same plan of treatment. Whatever may have been his earlier purpose, he does not now propose to *excite* discharges from the mucous surface of the digestive canal; but simply to facilitate the removal of matters lodged there. And this he would do by emetics, by draughts of tepid water or other diluents, or by castor-oil, of which the action is both speedy and gentle.

It is plain that, if “elimination” be a condition of recovery, the method of elimination is Nature’s method, which Art may help or hinder—help by the cleansing method, hinder by the astringent.

For a full appreciation of Dr. Johnson’s very novel and interesting, and to my mind satisfactory, disquisitions as to the general pathology of cholera, I must refer you to his paper in the fiftieth volume of the *Medico-Chirurgical Transactions*. What we are now concerned to ascertain is the comparative result of the two conflicting methods of treatment. Upon this point there is, in the same volume of *Transac-*

tions, a most instructive communication from Drs. McCloy and Robertson. They show that, of 375 cases of cholera admitted into the Liverpool Parish Infirmary in the last epidemic, 161 proved fatal—a gross mortality, under all the modes of treatment adopted, of 42.93 per cent. Of these cases, 91 were treated with astringents and stimulants, camphor and iced water, applications of ice, and hypodermic (opiate) injections; and the mortality per cent. of these cases was 71.42. 87 cases were treated with castor-oil, and with a liberal use of food and alcohol; and the mortality was 41.37 per cent. 197 cases were treated with castor-oil only, and the mortality was 30.45 per cent. The authors of the paper declare that “recovery never occurred without the continuance of the intestinal discharges, or their restoration, if previously arrested.”

When I last spoke on this subject in these Lectures, I stated that the few recoveries which I had witnessed had all taken place under large and repeated doses of calomel, but that I could not venture to affirm that the calomel cured them. At present, I am much disposed to believe that, by its cleansing action, the calomel may have helped the recovery; and, after all that I have since seen, heard, read, and thought upon the matter, I must confess that, in the event of my having again to deal with the disorder, I should feel bound to adopt, in its generality, the evacuant theory and practice.

Now, if this theory and practice in respect of cholera be true and right, the practice ought to be right in respect of the associated diarrhoea also; and it is strongly affirmed by those who have largely tried it, that it is right, inasmuch as it is eminently successful. Dr. Johnson avers that he has found it so.

Hear the concurring testimony of Drs. McCloy and Robertson. “Our experience of diarrhoea was very extensive. Several thousand cases came under our observation in the different dispensaries connected with the West Derby Union and in the Liverpool Parish Infirmary. Among these were doubtless many which would have recovered under any mode of treatment, or by the *vis medicatrix nature* alone. But there were many, too, of a most severe choleraic type. The treatment adopted was generally evacuant in its nature; and consisted in the administration of castor-oil, calomel, rhubarb, or magnesia. In every case, relief was afforded ‘pleasantly, quickly, and safely.’ It was but seldom that more than two or three doses of oil were required.” The medical officers of the Bootle Dispensary depose to the same effect: “We certainly had less trouble with the evacuant mode of treatment. Our patients seldom gave us a third visit; two doses of castor-oil or rhubarb mixture being generally sufficient to cure the disease.” We never saw a diarrhoea patient, treated with evacuants from the commencement of his attack, require subsequent removal to hospital. In a large proportion of our cases there was ‘premonitory diarrhoea’ which had been treated, often for four or five days, with astringents. Diarrhoea patients undoubtedly recover when treated with astringents; but the recovery is not consequent upon the arrest of the discharges, as these are invariably restored before the patient feels well.”

In the face of this and of much similar evidence, I feel bound to say that the rules laid down by Dr. Johnson for the treatment and prevention of diarrhoea and cholera, seem now to me safer and better than the less discriminating advice which heretofore I gave you; “whenever a suspicion arose that cholera was present in the community, not to try, in cases of diarrhoea, to carry off the presumed offending matter, but to quiet the irritation and to stop the flux as soon as possible, by astringents, aromatics, and opiates.”

No doubt, the true indication of treatment is, “to stop the flux as soon as possible”; but this may sometimes be best effected (as also in capricious diarrhoea, and in the summer cholera of Sydenham), “by carrying off the offending matter.”

In language chiefly his own, but partly also mine, Dr. Johnson writes as follows.

“Diarrhoea ought not to be neglected, even for an hour.”

“One important and guiding rule of treatment is, ‘not to attempt by opiates, or by other directly repressive means, to arrest a diarrhoea, while there is reason to believe that the bowel contains a considerable amount of morbid and offensive materials.’

“The purging is the natural way of getting rid of the irritant cause. We may favour the recovery by directing the patient to drink copiously any simple diluent liquid—water (cold or tepid), toast-water, barley-water, or weak tea; and we may often accelerate the recovery by sweeping out the alimentary canal by some safe purgative, and then, if necessary, soothing it by an opiate. Castor-oil, notwithstanding its unpleasant taste, is, on the whole, the safest and best purgative for this purpose. It has the advantage of being very mild and unirritating, yet withal very quick in its action. A tablespoonful of the oil may be taken, floating on cold water, or any other simple liquid which may be preferred by the patient. A mixture of orange-juice or of lemon-juice with

water forms an agreeable vehicle for the oil. If the dose be vomited, it should be repeated immediately; and the patient should lie still, and take no more liquid for half an hour, by which time the oil will have passed from the stomach into the bowels. Within an hour or two, the oil will usually have acted freely. Then a tablespoonful of brandy may be taken in some thin arrowroot or gruel; and, if there be much feeling of irritation, with a sense of sinking, from five to ten drops of laudanum may be given in cold water. These means will suffice for the speedy arrest of most cases of choleraic diarrhoea. If the patient have an insuperable objection to castor-oil, or if the oil cannot be retained on the stomach, ten or fifteen grains of powdered rhubarb, or a tablespoonful of the tincture of rhubarb, or a teaspoonful of Gregory’s powder, may be substituted for the oil.”

“If the diarrhoea have continued for some hours, the stools having been copious and liquid; if there be no griping pain in the bowels, no feeling or appearance of distension of the intestines; the abdomen being flaccid and empty, and the tongue clean—we may conclude that the morbid agent has already purged itself away. There will, therefore, be no need for the castor-oil or other laxative; and we may immediately give the brandy in arrowroot, and the laudanum, as before directed. The rule in all cases is, *not to give the opiate until the morbid poison and its products have for the most part escaped; not to close the door until ‘the enemy’ has been expelled.* While there are some cases in which the evacuant dose is not required even at the commencement of the attack, there are many more in which the opiate is unnecessary in the later stage. In some cases of severe and prolonged diarrhoea, it may be necessary to repeat the oil and the laudanum alternately more than once at intervals of three or four hours. Practical skill and tact are required to discriminate these cases. It must be borne in mind that, when the choleraic secretions are being actively poured out from the blood-vessels, the bowel, though it may have been completely emptied by a dose of oil, may quickly again become filled with morbid secretions, and hence the need for an occasional repetition of the evacuant dose.”

“If the diarrhoea be associated with vomiting, this should be encouraged and assisted by copious draughts of tepid water. The vomiting affords relief, partly by the stimulus which it gives to the circulation, but mainly by the speedy ejection of morbid secretions.”

“If there be nausea without vomiting, and more especially if the stomach be supposed to contain undigested or unwholesome food or morbid secretions, an emetic may be given—either a teaspoonful of powdered mustard, or a tablespoonful of common salt, or twenty grains of ipecacuanha powder, in warm water.

“In all cases of severe diarrhoea, the patient should remain in bed.”

THERAPEUTICAL MEMORANDA.

TREATMENT OF EPISTAXIS BY SIMPLE COMPRESSION OF THE NOSTRILS.

By R. P. B. TAAFFE, M.D., M.S. Lond., Surgeon to the Brighton and Sussex Infirmary for Diseases of the Eye.

A FEW days ago, I was called to a case of severe epistaxis of an active character. The patient, a middle-aged man, had been the subject of a good deal of hard brain-work. He had suffered from severe epistaxis on several occasions, for which he had been variously treated, locally and constitutionally. The local treatment, hitherto found successful, was the injection of iced water.

When I saw the patient, he had been bleeding from the nose for some time, and on the day previous had lost so much blood that he fainted. On the whole, the loss having been so considerable, I felt justified in interfering. The thought struck me to try what simple compression of the nostrils close to the nasal bones between the thumb and forefinger would do. I first tried the compression myself, then the patient used his own fingers, first of one hand, then of the other; in the course of about twenty minutes the bleeding was completely arrested. The simplicity of this plan of treatment, when compared with plugging the nostrils, must be apparent. In no medical or surgical work, as far as I know, is mention made of this method.

The situation of the bleeding vessels has generally been supposed to be rather high up in the nares, but here was a case in which the bleeding vessel (or vessels) was either situated below the hard parts, rendering compression comparatively easy of application; or if situated high up, the compression caused a clot to be formed, having a firm basis of support, and so plugged the bleeding points. In all cases of epistaxis requiring interference, to which I may in future be called, I shall certainly first try what simple compression of the nostrils between the finger and thumb will do before proceeding to further treatment.