Rules

FOR THE

TREATMENT OF EPIDEMIC DIARRHŒA AND CHOLERA.

BY

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THE following directions for the treatment of diarrhoea and cholera are given in compliance with the wish, which has frequently been expressed, that I would set forth somewhat more in detail than I have hitherto done what, in my opinion, it is right to do, and what to avoid doing, in the treatment of these diseases. In giving these directions, I shall carefully endeavour to act upon the golden rule which should always guide us in the treatment of disease—*Ne quid nimis*.

Diarrhoea during an epidemic season is in many, but not in all instances, an early stage or a mild form of cholera; and in the great majority of cases of actual cholera, an attack of bilious diarrhoea marks the onset of the disease. A diarrhoea, when it is not the actual beginning of cholera, will weaken the patient, and so may predispose him to suffer from the more serious form of disease. *Diarrhoea, therefore, ought not to be neglected even for an hour.* That plan of treatment for diarrhoea is obviously the best which most speedily and completely puts a stop to the disease, without subsequent ill effects.

It may be stated as a general proposition, that the immediate cause of diarrhoea or looseness of the bowels is the presence of offending materials in the alimentary canal. These offending materials are of various kinds in different classes of cases. In one case, unwholesome and undigested food is the exciting cause of the purging; in another case, a large and unnatural accumulation of the feculent contents of the bowel; while, in another class of cases, offending materials are poured from the blood into the bowel, in consequence of the action of a morbid poison upon some of the ingredients of the blood. To this last class of cases belongs what is called *choleraic diarrhoea*.

The most rational theory of choleraic diarrhoea is, that a morbid poison enters the blood either with the air through the lungs, or with the food and drink through the alimentary canal; and that this poison excites certain changes in the blood, in consequence of which some blood-materials are spoiled, and thus rendered not only useless, but noxious. These morbidly changed blood-materials are then discharged from the blood-vessels through the mucous membrane of the stomach and bowels, and are ultimately ejected by vomiting and purging.

Various as are the remote and primary causes of diarrhoea, this one condition is common to all classes of cases; viz., that the contents of the bowel are unnatural and offensive. These offending materials are the immediate cause of the purging; and

they must be expelled from the bowel before the diarrhoea can come to an end.*

From the above considerations we deduce one important and guiding rule of treatment, which is this—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. It is certain that these offending materials must be cast out from the bowel before the diarrhoea can permanently cease. The effect of an opiate at this stage is to prolong the disease, and to increase the risk of mischief from the retention and reabsorption of the morbid contents of the bowel. If the opiate have the effect of retaining within the blood-vessels some of the morbidly changed blood-constituents, this astringent action will probably be more injurious and even deadly than the retention of morbid secretions within the bowel.

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 the 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 cure 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 gripping 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

* We need not here take into consideration those cases of diarrhoea which result from ulceration or other local disease of the bowel itself.

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.

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.

Thirst may be allayed by drinking cold water, which may be acidulated by the addition of lemon-juice or a few drops of dilute sulphuric acid. *Care should be taken that the water for drinking is pure.* Organic impurities, such as result from the admixture of sewage, are especially to be dreaded. If the water be of doubtful purity, it should be carefully filtered through sand and charcoal, and then boiled. Impure water is a common exciting cause of cholera.

While the diarrhoea continues, the diet should consist mainly of rice or arrowroot, gruel or broth.

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

If the purging continue, if the stools become colourless and watery (the purging being of the kind commonly called rice-water purging), and if the surface of the body become cold and blue, the disease is now passing, or has actually passed, into the stage of collapse.

This state of choleraic collapse results from a peculiar arrest of the flow of blood through the lungs, occasioned by a morbid poison. It is not a condition of mere exhaustion. It is not relieved by the remedies for exhaustion; and it is made worse by opiates and by spirituous stimulants, which must, therefore, be avoided. The patient should be strictly kept in the recumbent position; he should be allowed to drink pure water freely; and should be abundantly supplied with fresh air. Hot flannels, or bottles, or bags of sand, should be applied to the feet and legs.

Cramps may be relieved by rubbing the affected parts with the warm hand.

Hot baths, whether of water or of air, have been found to be, on the whole, more distressing and exhausting than beneficial.

Five grains of sesquicarbonate of ammonia, or a teaspoonful of spirit of sal volatile, may be given in an ounce of camphor mixture every two or three hours as a diffusible stimulant.

The discharges from the bowels, and the condition of the abdomen, should be carefully observed. The discharges always continue, more or less, during the stage of collapse and until reaction has set in. One of the earliest and surest signs of reaction is the reappearance of bile in the vomited matters and in the stools. When vomiting and purging entirely cease during the stage of collapse, the disease is nearly always fatal.

One of the main objects of treatment during this stage is to facilitate the escape of the morbid secretions from the alimentary canal. This may be done partly by the copious use of diluent drinks, and partly by an occasional dose of castor-oil. If we carefully observe the condition of a patient in collapse, we shall often find that the intestines are more or less distended with liquid, and this, too,

while perhaps there is general torpor and little or no effort at expulsion. Again, it has often been found that, although there has been copious watery purging during life, the small intestines contain after death a large amount of a peculiar viscid dirty white material, having a very offensive odour. An occasional dose of castor-oil—a tablespoonful every three or four hours during the stage of collapse—may be useful in removing both these conditions; namely, over-distension of the bowel by liquid, and accumulation and retention of offensive viscid semi-solid secretions.

The object and the effect of this treatment is not to increase the amount of liquid which is poured from the blood into the stomach and bowels, but simply to assist and to quicken the expulsion of the morbid secretions from the alimentary canal.

After reaction has occurred, an occasional laxative dose is required—about once in the twenty-four hours during the first two or three days.

It is worse than useless to attempt to feed a patient during collapse. The secretions of the stomach are utterly deranged; and the power of digestion is suspended. The mildest nourishment administered at this time only adds to the feeling of oppression and general distress, from which the act of vomiting often gives immediate relief.

After reaction has occurred, and when the normal secretions are restored, the mildest nourishment should be given frequently, but in small quantities—such as milk, gruel, or rice, or arrow-root with a small quantity of brandy, soup or beef-tea or chicken-broth. After an attack of cholera, the stomach is sometimes long in recovering its tone and the power to digest solid food. When this is the case, a grain of quinine, with ten or fifteen drops of dilute hydrochloric or sulphuric acid and an equal quantity of chloric ether, may be taken with each meal. The same combination, too, often relieves that distressing sense of uneasiness, with flatulence in the stomach and bowels, experienced by many persons who are not otherwise ill during an epidemic of cholera.

Venesection has often afforded great relief during the stage of collapse. The symptom which appears especially to call for this remedy is rapid breathing, with a feeling of impending suffocation. When, with these symptoms, there is a cessation of vomiting and purging, which is probably a result of the almost entire arrest of the circulation through the lungs, I believe that venesection affords the only hope of saving life. It is difficult to obtain a stream of blood in these cases; not, as many suppose, because the blood is too thick to flow, but because, in consequence of the block in the lungs, the blood in the veins is nearly stagnant. The bleeding appears to be beneficial, partly by relaxing spasm and partly by lessening the distension of the right cavities of the heart, and so increasing their contractile power. Repeated doses of ammonia may help to quicken the circulation.

Consecutive Fever. Reaction from collapse is sometimes followed by a febrile condition—a hot skin, quick pulse, coated tongue, hurried breathing, often a scanty secretion or even a complete suppression of urine, with drowsiness tending to pass into coma. These unfavourable symptoms are more common when, during the earlier stages of the disease, opium and alcoholic stimulants have been freely given; but

they may occur when no such means have been employed.

The best treatment consists in a scanty diet without alcohol, copious diluent drinks, with saline effervescing draughts, an occasional aperient, castor-oil, or sulphate of magnesia or a Seidlitz powder; counterirritation over the lungs and kidneys, and sometimes local bleeding to relieve congestion of those organs.

In some cases, there is complaint of pain in the region of the stomach during convalescence. This may be relieved by the application of a few leeches over the seat of pain. If, after reaction, the stomach remain irritable, with frequent vomiting, iced water is an agreeable and efficacious remedy.

Preventive Measures. The choleraic discharges from the bowels should be looked on as highly poisonous, and they should be disinfected and got rid of as soon as possible. Every vessel and article of clothing or bedding soiled by the discharges should be carefully cleansed and disinfected. The attendants on the sick should be warned of the necessity for extreme personal cleanliness. The hands should be frequently cleansed with the aid of disinfectants, and always immediately before taking food.

The chief disinfectants are—chloride of lime, Burnett's liquid, Condy's liquid, and a solution of carbolic acid. The medical attendant should give directions for the use of these agents. Condy's fluid is well adapted for cleansing the mouth and hands before taking food; and carbolic acid for cleansing bedding and clothing, which would be damaged by mineral disinfectants.

Great moderation both in food and in drink is essential for safety during an epidemic of cholera. A single act of indiscretion has been followed by a severe attack. Intemperance at such a time is fraught with extreme danger.

Unwholesome articles of food, more especially tainted meat and fish and decayed vegetables, are to be carefully avoided. Ripe fruit and fresh vegetables may be taken in moderation with safety and advantage.

Special attention should be paid to ensure the cleanliness and thorough ventilation of dwelling-houses. All vegetable and animal refuse should be removed as speedily as possible. Care should be taken to prevent the escape of sewer gases into the interior of dwellings.

The purity of the water employed for drinking and cooking should be most carefully provided for. A few drops of Condy's fluid may be used as a test for the purity of water. Organic impurities soon decolorise the fluid; which is not only a test, but also a purifying agent by oxidising the organic impurities.

No unnecessary medicines of any kind should be taken. When opening medicine is required, the mildest should be selected, such as castor-oil or rhubarb. Saline purgatives, such as Glauber's salts and Epsom salts, are objectionable, on account of their tendency to cause profuse watery purging. The common belief that prolonged costiveness should not be interfered with during the prevalence of cholera is an error. An accumulation of offensive materials within the bowel may be itself a source of irritation and of danger. I repeat, however, that *no unnecessary medicine of any kind should be taken, and, as a rule, none without medical advice.*

Illustrations

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

BIRMINGHAM GENERAL HOSPITAL.

EPILEPTIFORM ATTACKS APPARENTLY INVOLVING
THE MEDULLA OBLONGATA ONLY.

Under the care of JAMES RUSSELL, M.D.

THE following case is of interest in connexion with the general subject of epilepsy. The analogy of the attacks is plainly with the epileptic group; but the symptoms differ from those usually understood to be included under the term epilepsy, and seem to connect themselves with the medulla oblongata exclusively, the cerebral lobes being unaffected. We are thus led to question the grounds upon which our classification of epilepsies is based.

If, in the present state of our knowledge, we found our classification upon a particular group of symptoms alone, we not only neglect the analogies of cases such as the present, but are forced to draw an arbitrary line between the numerous diversities we observe among admitted cases of epilepsy, and other modifications, which, however, cannot be proved to possess specific differences. The want of certain information respecting the tissue-changes on which the epileptic paroxysm depends is, of course, at the root of the difficulty. Where groups of symptoms are not based upon recognised morbid changes, it is very difficult to assign to them their appropriate significance. There is great danger, on the one hand, of grouping diverse disorders too indiscriminately; and, on the other, of forming arbitrary distinctions between disorders specifically allied. Of the former, the use of the term asthma down to a late period is an instance; of the latter, the arrangement of the so-called apoplexies.

Hence Dr. Brown-Séquard rejects the distinction between idiopathic and symptomatic epilepsies altogether; and Dr. Hughlings Jackson has more recently (*Medical Times and Gazette*, April 28) proposed to use the term epilepsy to designate certain tissue-changes acknowledged at present to be imperfectly understood pathologically, but indicated clinically by sudden and temporary loss of nerve-function. Thus, by adding Dr. Jackson's highly important suggestion of the existence in the brain of definite arterial regions, we are enabled to bring into connexion with each other various forms of nervous derangement, all alike characterised by sudden and temporary loss of nerve-function, which appear to differ from each other in no other respect than in the region of the brain which is the seat of the morbid action. It is sufficient to cite various forms of defect of vision, smell, or taste; certain paralyses and disorders of common sensation, and mental derangements; these occurring singly or variously combined, sometimes in close alliance with the epileptic paroxysm, sometimes alternating with such paroxysm; sometimes, again, presenting themselves alone, but under circumstances which are a direct copy of those attending the epileptic attack. Nor is any argument needed to prove the importance of recognising the pathological and clinical connexion between these different disorders, should such connexion exist.