UTICA OBSERVER, EXTRA.

PRACTICAL OBSERVATIONS

ON

EPIDEMIC DIARRHŒA,

KNOWN AS THE

EPIDEMIC CHOLERA, SPASMODIC CHOLERA, &c. &c.

WITH

A BRIEF OUTLINE OF ITS TREATMENT,

FOUNDED ON

THE PATHOLOGY OF THE DISEASE.

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PRACTICAL OBSERVATIONS, &c.

The pestilence has come. From the remotest bounds of Asia, it moves rapid as the clouds of Heaven, hovers over western Europe leaving the records of universal desolation. A hand unseen has slain its fifty millions. The destroying angel shrouded in the distant cloud, announces his approach by the voice of Heaven's artillery feebly rumbling in the distance. Hope rests upon the broad bosom of the Atlantic, as a barrier to his advance. Vain hope! His flight outstrips the swiftest canvass, and bursts like a tornado upon the inhabitants of the new world, devastating in his course, and by the play of his lightnings now and then flashing a transient gleam upon the pestilence walking in darkness. He alone can stay its progress, who can walk upon the agitated waters of the ocean, and say to the stormy wave, "peace, be still."

As was to have been expected, it has brought universal terror in its train, and this has contributed alike to the sufferings of the living and dying. In the hope of dispelling this terror and mitigating these sufferings, the following hasty prepared remarks are submitted to an anxious and indulgent public.

Preliminary propositions.

1. The prevailing disease in all its stages, now usually denominated 'Cholera,' 'Asiatic Cholera,' 'Cholera Asphyxia,' 'Spasmodic Cholera,' is the simple *Watery Diarrhœa*, called by medical authors Diarrhœa Serosa." If this be true, it will be perceived that the Medical profession have an old not a new enemy to contend with, and have the accumulated experience of ages to aid them in the conflict. This position once established, the profession will feel a returning confidence in themselves, and a coincidence of opinion among "Doctors," will greatly lessen the apprehensions of the community.

2. Its pathology or nature can be clearly demonstrated, accounting rationally for all its phenomena. This was done before I arrived at the conclusion that it was merely a Diarrhœa, appearing under an aggravated form, as an epidemic. After arriving at this result, it was discovered that the same deduction could be drawn from established facts in the history of the disease. The first method of proving it would be purely professional, of course somewhat unintelligible to the general community.

I shall therefore, in the sequel, only glance at the proofs from the second source, which can be easily multiplied by any one conversant with the history of the disease.

3. From this pathology can be drawn a rational mode of treatment leading to great certainty of success, except in its extreme stages, and these can generally be prevented, or treated with increased security to the patient.

4. Each member of the community can by a few simple rules, learn to detect the sly approaches of this enemy of the human race, and thereby become the sentinel of his own health and life.

5. All quarantine regulations throughout the globe should at once cease, that the universal panick may be stayed.

6. The path of duty is the path of most perfect security, and the rights of humanity should no longer be withheld from the sick and dying.

7. Those who die of this disease, will keep, and should be kept much longer than those who die of others.

8. There is great danger of burying alive.

Symptoms of the first stage.

The first symptoms are a furred white tongue, distress or faitness at the pit of the stomach, milky dischafge of the bowels, being unchanged chyme, the fluid thrown out of the stomach before it mixes with the bile. This soon changes to a watery Diarrhœa, which often continues several days, without announcing that it is insidiously undermining the constitution: there is gradual emaciation, seldom attended with uneasiness except debility and faitness at the pit of the stomach, and a sensation as if the whole bowels were going to be expelled from the body. During most of this stage, the food remains many hours unchanged upon the stomach, when sudden fright, grief, improper diet, but especially sudden exposure to cold ushers in the second stage. If in this stage it is checked by opiates and followed by cathartics, it soon returns. The pulse is somewhat accelerated.

The second stage.

The symptoms of the second stage are dizziness, deafness, difficulty of making water, and a violent agitation of the bowels, these announce the stage of *commotion*, which is an effort of the system to cure the disease. Vomiting and purging of a clear watery fluid, so transparent that you can generally see to the bottom of the vessel, with little flockula or mucus floating on the surface, attends this stage of the disease. This fluid is discharged in immense quantities in a short period. Sometimes the Diarrhœa precedes vomiting but a short period, and often has a urinous smell. At others, it doos not supervene at all; the patient sinking rapidly into the collapse almost without pain.

Spasms generally attend; but neither these nor vomiting always attend. When they do *not*, the patient sinks much more rapidly than when they do. The hands and surface are sometimes a dusky brown or purple. Rapid sinking and emaciated expression of countenance, giving no indication of pain except during the spasm. Profuse sweating sometimes takes place, producing the

shrivelling of the hands. Almost every gradation of pulse occurs in the different parts of this stage.

The third stage.

This is usually called the collapse stage, and is marked by shrivelled hands, a marble coldness of the whole surface of the body, the pulse a thread, frequently receding and returning, respiration slow, and afterwards the intervals gradually lengthening, but occasionally hurried, from the patients being roused by spasms.—While these continue, hope of recovery remains. The cold tongue, cold breath, and hot injections, soon coming away cold, indicate coldness of the internal surfaces. The muscular powers often remain to the last moment, enabling the patient to turn in, and even get out of bed. Reason also remains, and the last word he whispers is "water."

The fourth stage.

In the fourth stage we have fever of the low type, to which is often added the evidence of local disease. The head and body sometimes move at every pulsation of the heart, the pulse by no means beating strongly at the wrists, thirst intense, eyes suffused, tongue coated, mind sometimes composed, though feeble, delirium or coma.

Of diagnosis or distinguishing symptoms.

The Epidemic Diarrhœa has many symptoms of the common Cholera Morbus. A mistake in name has misled the world. In Cholera Morbus there is a redundance of morbid bile. Cholera means bile, hence the name. In Epidemic Diarrhœa no bile is secreted after the disease commences. During the prevalence of this epidemic, it has been demonstrated that diarrhœa always precedes the severe grades of this disease. Common cholera morbus commences with almost simultaneous vomiting and purging. It is a disease of hot weather, caused by changes from cold to heat.—Epidemic diarrhœa is a disease of all seasons, aggravated by changes from heat to cold, as its history fully proves.

In this epidemic many cases occur without vomiting, whereas in cholera morbus it is a uniform symptom. Diarrhœa is now almost an universal complaint, and this diarrhœa is watery.

Water is the principal discharge in all its stages. Which is the most probable opinion, that the disease suddenly changes its nature when vomiting comes on, or that it is an aggravated form of the same disease? The watery discharge, throughout, seems to demonstrate that its source is the same, and it is certainly discharged by the same outlet. The rice colored evacuations must be produced by the imperfectly digested food at the commencement of vomiting, or from chyme mixed with the water of the discharge.

It is important to distinguish the bilious diarrhœa, which is generally safe, from *watery diarrhœa*, which may drain the heart of the vital fluid in an hour.

But there are many striking resemblances between these two complaints. There are in both vomiting and purging, great emaciation of the features of the face, severe spasms, corrugation of the hands, when sweating is present, and watery discharges in the last stages of both diseases.—The sudden manner in which the epidemic has come on in different places, the division of medical opinion on its contagious or non-contagious character where it has prevailed, and the short continuance of the complaint, in its most aggravated forms, in any one place, greatly lessens the immense responsibility which would otherwise rest upon the medical profession for not sooner distinguishing the two disorders.

Where is the distinction between the prevailing epidemic and the watery diarrhœa? If they be two diseases the dividing line can be drawn, because the symptoms in both are now clearly ascertained. If there be a set of symptoms peculiar to each, then they should be called by distinct names; if not, they certainly should be regarded as identical.

Watery diarrhœa is often attended with vomiting. While it continues, emaciation, more or less rapid, ensues. When it is one of the symptoms in other disorders, the same things are observed as in hectic or typhus fevers. In intermittent and remittent fevers, when attended with diarrhœa, the patient will not unfrequently be walking his room in the morning and be a corpse at night.—In these cases large watery stools, marble coldness, profuse sweating, shrivelled hands, and occasionally, though rarely, spasms are the attendant symptoms. The watery diarrhœa and the profuse sweating, by suddenly emptying the blood vessels, are the immediate cause of death.

It may be objected that spasms so rarely attend these cases, as by no means to be a distinguishing symptom of common watery diarrhœa. This is admitted. But spasms occur in many diseases, and can therefore be regarded as a distinguishing symptom in none. What physician, who has often carried bleeding to the extent of full fainting, has not occasionally observed spasms. Are these a distinguishing or accidental symptom in fainting? It may be said that vomiting is by no means a distinguishing, nor indeed a very common symptom in watery diarrhœa. This is also true. Nor does it always occur in this epidemic, and it occasionally attends almost every disease, and therefore can distinguish none. If then, there can be found no symptoms in the prevailing epidemic, which do not attend the watery diarrhœa, why are not the two identical? When should physicians report cases diarrhœa, and when cholera? Shall it be called cholera when vomiting and spasms attend? If so, these should uniformly be present. The whole history of the disease contradicts this, and the patient sinks far more rapidly in their absence than when present. Should a full pathology of this prevailing disease ever be presented to the profession, it will be found that these two prominent symptoms, when present, come like ministering angels to save the sinking powers of life.

Whenever a disease becomes epidemic it puts on an aggraveted form. This is peculiarly the case with the present epidemic. The insidious manner of its attack, giving warning by scarce a pain in any of the organs, and its rapid waste of

the system, render it one of the most terriffic epidemics the world has ever witnessed.

Causes and Preventives.

The first moving cause of this universal epidemic is known alone to Him, who can, by some general law of nature, breathe forth pestilence for the punishment of the sins of men and nations.—From the history of the scourge with which the American people are now afflicted, it is evident that although some of all ranks, ages and conditions, have been its victims, yet its principal fury has been spent upon the filthy, the intemperate and the profligate. We may therefore safely rank among the prominent exciting causes, filth, intemperance, profligacy, eating crude vegetable substances, exposure to cold, fear, fatigue, grief, despondency. All then can see that the important preventives are cleanliness, temperance in eating and drinking, warm clothing, moderate exercise and a quiet composed mind.

Pathology or nature of the disease.

The stomach becoming weakened in its functions, communicates by sympathy its own want of energy to the liver, suspending its function, the secretion of the bile. This, being necessary to prepare the food for nourishing the body, nearly suspends nutrition. Between the skin and bowels, and between the bowels and the kidneys, there is an intimate sympathy by which the perspiratory and urinary dircharges usual in health, are drained from the bowels, rapidly emptying the blood vessels of their contents. By the skin, bowels and kidneys, the waste parts of the body are constantly discharged. The proper balance of all these functions is essential to health. When from any cause the discharge from one of these functions is checked, the sudden increase from the others saves the system from dangerous disease.

The collapse is the healthy balance of all the functions of life feebly glimmering in its socket.

Treatment of the first stage.

When the stomach is slightly indisposed attended with the furred tongue and oppression at the pit of the stomach after eating, a blue pill at night followed by a few grains of rhubarb and cream tart. in the morning as a laxative, or equal parts of aloes and soap made into pills given in moderate doses and these followed by some vegetable bitter, may afford relief. In the progress of the disease if symptoms should at any time appear demanding the use of opening medicine, the mildest laxatives should be used. After diarrhœa commences, altho' many might recover without, there is no security short of an emetic.

Give a gentle emetic of ipicac or thoroughwort, followed by warm diluent drinks, and for a time keep up a moderate perspiration. At a more advanced part of this stage perspiration should be copious. Follow this with some bitter drink, as columbo root, quassia or chamomile flowers to restore the tone of the stomach. In this stage cathartics should generally be avoided, as tending to re-produce the diarrhœa. The thoroughwort, from its emetic, sweating and strengthening properties is admirably adapted to the cure of this disease.

In condemning the use of cathartics in this disease no favorite theory is to be regarded. I have in several instances witnessed their fatal effects under my own prescriptions, and observation. Rely upon it, if cathartics are exhibited and the patient recovers, it is in spite of, not in consequence of the remedy. It is entirely nugatory, nay, worse than useless to think of acting upon the secretions of the liver with calomel in this rapid disease.

Of the second stage.

Change the inward currents of the fluids to the surface. How? By strong emetics. Why? For the purpose of giving a centrifugal direction to the fluids. And by sudurifics. By cathartics? No. As long as watery diarrhœa continues not a drop of bile is secreted by the liver. Wait a few hours and the bile, the natural physic of the system, will act as a cathartic and the patient will be safe. In the first part of this stage give a full dose of emetic tartar and ipicac, followed by copious draughts of thoroughwort or chamomile tea, and keep the patient vomiting till he sweats profusely. Generally, laudanum should not be administered, as it tends to interrupt the secretions of the urine.

Let the patient be put in bed for three or four hours, cover him well with bedclothes, and see that no part save the face is exposed to air. Let him take a wine glass of hot sweetened water, mingled with a few drops of champhorated spirits every half hour or hour, at the end of this period wipe off the sweat with hot chalk and flannel under the bed clothes, which should be gradually lightened, and exposure to cold cautiously avoided for several hours. After which give gum arabic water and the spirits of nitre, to restore the secretions of urine.

In the latter part of this stage white vitriol and ipicac, compose the better emetic, being more rapid in their operation, and may save the descent to the next stage. The sweating should by no means be carried to the same extent in the latter part of this stage as in the fore part, obviously contributing to unload the blood vessels.

From what has already been said it will appear that the leading object is to restore the secretions of the skin and kidneys. Every remedy should be directed to its attainment. The analogy between this disease and bleeding from the nose, stomach or bowels, would seem to indicate that bleeding may be serviceable; experience having demonstrated its utility in those diseases. The pathology of this disease indicates that this remedy may sometimes be proper. It should never be used in the advanced part of this stage, nor in collapse.—When used, it should be to the full extent of fainting, from which the patient should not be too suddenly roused. In the use of this remedy, I have reason alone, nothing of experience, to guide me. Sugar of lead and vegetable astringents may

be valuable auxiliaries in the latter part of this stage, both internally and as injections. Plug the rectum with oil cloth or bee's wax, if necessary to arrest the discharge.

It is wished here again to enforce upon the medical profession the idea that this stage of universal commotion, is nothing more or less than a wonderful combination and simultaneous action of all the organs of the body, as if by instinct to repel the invasions of the enemy, that has made his approaches unobserved during the first stage, almost to the citadel of life. By giving timely aid to her efforts the patient is comparatively safe. All the reasons for this opinion may be developed in a more extended view of the pathology, which to draw up in all its bearings is a work of considerable labor, to which the necessary time cannot at present be devoted.

Of the third stage.

Give neither emetics nor cathartics. The patient tells you what to give. "Water" is his only entreaty. Take that as your principal guide. It should be the chief drink and should generally be warm or hot, unless it produces vomiting or sweating. He may be indulged with an occasional draft of cold water. Rice water, crust water or chicken tea being mildly nourishing are also proper. Either of these or thin starch combined with Port or Madeira wine or brandy may be administered in the form of hot injections every half hour or hour. Keep the patient lightly covered with clothing. Diffusible stimulants, such as ether or camphor, may be carefully administered from time to time to sustain the powers of the system if the patient sinks too low. Stimulants should always be accommodated to the habits and constitution of the patient. But if given, they should be cautiously withdrawn as the system rallies; for otherwise a dangerous if not fatal commotion of the blood vessels would ensue, bringing the patient to the fourth stage of the disease. The less stimulants are given the better if sufficient to sustain life.

Too much may be done in this stage. If vomiting and purging are both arrested, all the functions of life are *healthfully* though feebly performed. Profuse perspiration in this stage will unload the blood vessels as rapidly as a discharge from the bowels. Great caution should therefore be used to avoid its excessive continuance. Coldness of the surface is one means of throwing the blood to the heart which now acts feebly principally for want of the stimulus of distention. The skin being less essential to life than the internal organs, coldness, if vitality continue, does not endanger the patient. Hot frictions or flannel are here proper if the patient does not sweat too copiously, but they should not be carried to the extent of occasioning fatigue. If the patient sleeps do not frequently disturb him. Injections of powerful astringents as oak bark or sugar of lead should not be omitted if the running of the bowels returns or continues. Never despair while the patient breathes or swallows.

If the diarrhœa has for some time ceased and this stage threatens to terminate in fever, a full cathartic of calomel and rhubarb or calomel and oil should at once be exhibited. Venous injections should always be the last resort. They may be advisable when all other remedies seem hopeless. They act principally by the stimulus of distention, and it is believed that water alone is the safest. When introduced let it be done slow, carefully, avoiding the introduction of air. After respiration is suspended, it would probably in some instances resuscitate the patient at least for a time.

Of the Fourth stage.

Every exertion should be made to save the vital fluid and to promptly relieve the fever or death almost inevitably follows. If the skin becomes hot and dry, a pail of cold water should be poured upon the patient placed in a sitting posture; he should then be wiped dry and wrapped in hot flannel. Should the powers of the system be to feeble to bear the shock of cold water, the tepid may be used. Follow this by a few grains of ipicac and strong thoroughwort tea to act as a mild emetic and throw the fluids to the surface. When there is evidence of local disease of the head, hot skin is rarely present; a circumstance which should by no means deter from using the cold affusion. Should these not relieve the fever and head, doses of emetic tartar, ¼ grain, crem. tartar, 20 to 30 grains, and calomel 1 to 2 grains, should be given every two hours.

The writer does not claim the light of much experience in the treatment, since these principles have been developed and this practice pursued. About thirty cases have been treated with uniform success. This has restored confidence to the community where he resides. All idea of contagion has ceased, and the sick receive the most cheerful and devoted attention. If it be asked is there any one remedy? or are these all the remedies? I answer, No. It is intended in this production to advance general principles not universal directions, which it is evident, cannot be done. Each case must after all, present its own indications, which the skillful physician alone can follow. From all which, it will appear, that this like all other diseases, should be treated by a rational induction from present symptoms, and that a remedy proper in one stage may produce certain death in another.

It is not contagious.

Few people would apprehend danger of common diarrhœa being communicated by contagion; yet as it has assumed a dangerous aspect during its prevalence as an epidemic, it may be proper to mention a few of the evidences of its being merely epidemic. It is a common remark that previous to, and during the prevalence of great epidemics, inferior animals are often affected in a similar manner. This has been strikingly the case in respect to this epidemic so far as my observation extends. They are never affected with contagious complaints. This disease is strictly analagous to nose bleeds, bleeding from the stomach or bowels; and death is produced in the same manner by the sudden emptying of the blood ves-

sels. The same appearances are found on dissection; the membranes from which the discharges take place, remain unchanged in structure. No one is apprehensive of catching these disorders.

Epidemics take the place of other diseases.—This has been the case with the prevailing complaint, as is evinced by the concurrent testimony of the medical profession. It is a general law of contagious diseases, that they never recur. Every one knows that diarrhœa is liable to recur as often as a sudden check is given to perspiration, or from other exciting causes. Contagious diseases attack in small scouting parties, while epidemics like immense armies spread death and desolation over immeasurable tracts of country. To this it may be objected that the disease attacking whole families seems to indicate its spread by contagion. To this, I answer that the universal panic drives every neighbor from the family; the friends who remain are worn down by fatigue, incessant watching and having no regular meals. If we add to this catalogue of exciting causes fear and even the despair of remedy in case of attack, is it astonishing that the disease should be produced in this epidemic state of the atmosphere?

Fear has slain its thousands. This very epidemic has often attacked the duellist on his stand and the soldier on the battle field. The disease more frequently attacks during the night than the day. This may be accounted for from increased cold and exposure to the loss of covering, giving a sudden check to perspiration. During sleep the voluntary operations of the mind are suspended. Fear keeps man half awake; imagination, an involuntary operation of the mind, makes him believe he has the Cholera. Dreams are always realities, and the patient who has labored under diarrhœa, wakes with the extreme symptoms.

Miscellaneous propositions.

1. Simple bilious diarrhœa characterized by yellow or dark colored stools and griping pains in the bowels, should only be stopped when it becomes severe. It shows a present exemption from the epidemic.

2. Milky or watery discharges call for prompt attention, being always liable to terminate in severe disease.

3. Artificial diarrhœa produced by drastic cathartics is equally dangerous with natural, being at present liable to run into the extreme symptoms of the epidemic. These cathartics should therefore be avoided as the rattle snake and hyena, during the present state of the atmosphere.

4. In a sudden and severe attack when no physician is at hand, it may be checked with laudanum until he arrives, when emetics and sudurifics are the proper remedies.

5. It may be remarked that this variety of diarrhœa constitutes the danger in typhus fever. In intermittant and remittant fevers complicated with this diarrhœa, collapse is often as sudden as in the present epidemic, and is frequently attended with a similar train of symptoms.

I have written what I have myself observed. I have studied at the bed side of the patient and amidst the terrors of the epidemic. The nature of the disease was unravelled, and its interesting phenomina developed before arriving at the conclusion that it is *diarrhœa*. In prosecuting this inquiry, the strictest method of induction has been observed, drawing conclusions from established demonstrations of anatomy and settled principles of physiology [science of life] and pathology.—This method is of universal application in the investigation of disease. In conducting this inquiry some beautiful principles of physiology and pathology have been developed which seem almost to demonstrate the correctness of the opinion entertained by some distinguished writers, that the stomach is the centre of that infinite play of sympathies by which the whole machinery of man is balanced in health; and by which the operations of nature are so skilfully directed in their efforts to throw off disease.

Those principles may at some future period enable the skilful physician to look through the human body as if transparent, to determine what symptoms are the result of the efforts of nature to cure disease, and coming to their timely aid, to apply the remedies with almost unerring certainty.

The manner in which one organ after another is drawn into action in the final struggle for life, which I have called the stage of *commotion*, is truly astonishing. In this investigation a hope has been indulged that the desideratum in medical logic may ere long be attained, "whether if our patients recover, it results from our remedies, or the salutary operations of nature? or whether in case of death they fall by the hand of man or the visitation of God?"

But a brief outline of the pathology of this epidemic is as yet written out. Its results have by no means been fully developed. It is however believed that it will throw some light on the pathology of fever, and lead to more certainty in its treatment, in abler hands and combining the intellectual labors of the world place the science of medicine upon a more certain basis, gradually unravel the whole arcana of diseases, and unfold a system of medical practice which shall assign to each new discovery its appropriate place; not unlike the copernican system in astronomy, which enables each succeeding discoverer to assign his planet an appropriate position and calculate its revolutions without interrupting the harmony of the whole. Such expectations are so often entertained and so unfrequently realized by medical men that it is with great diffidence I announce them to the world.

It is impossible for me in this hasty sketch to do justice to the many distinguished physicians, who by their indefatigable research have done more than myself towards unravelling this mysterious disease and led me to the very threshhold of discovery.

I will close this communication by offering an acknowledgment to several medical gentlemen who have favored me with their interesting communications on the prevalent epidemic, and invite them to receive this as my answer.