

THE TREATMENT OF TYPHOID FEVER WITHOUT ALCOHOL.

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The purpose of the present paper is to give, briefly, an outline of the method of treatment of typhoid fever as used by the writer in a considerable number of cases.

A consideration of the pathology of this disease does not properly come under this head, but we wish simply to call attention to the well-known fact that typhoid fever is a germ disease. The germ which causes this fever has been generally supposed to be the bacillus of Eberth. More recent bacteriologic studies rather indicate that the bacillus coli may also cause the disease. These germs are usually carried into the body in food or drink, and lodging in the small intestines begin to grow and multiply, and by their life produce poisonous ptomaines which are absorbed and carried by the circulation to all the organs and tissues of the body. It is these ptomaines thus carried to all parts of the body that are largely the immediate cause of the pyrexia and attending symptoms. The organisms which produce these poisons for the most part remain in the intestines, although they have also been found in the spleen.

The indications for treatment are:

1. To remove or destroy the cause (to eliminate the germs and ptomaines from the body).
2. To sustain the vital and resisting powers of the patient.

If the patient is seen early in the disease, it has been my practice to immediately put him to bed and give a free dose of magnesium sulphate. This is preferably given in the morning or forenoon, and may be repeated once or twice on successive days. Beside this the patient should have a large enema of water at a temperature of from 75 to 80 degrees Fah. and this may be repeated daily, or even oftener, for some time, if necessary, to keep the bowels empty of poisonous substances.

The salines and enemas thus used, carry out bodily a large number of germs and ptomaines that are present in the intestines; and further, the salines, by producing an increased secretion of the mucous membrane of the intestines, tend to disentangle and set free many of the germs that have found a lodging place in the walls of the intestines.

For the elimination of the ptomaines which have been absorbed into circulation and carried to the tissues, nothing is better than the internal use of water. From three to five pints should be drunk during every twenty-four hours. It should be taken in small quantities, six to eight ounces every hour or two during waking hours, except when food is taken. We will refer to this point more in detail later.

A consideration of the general care of the patient properly comes under the second head of the indications for treatment as given above. The patient should be put to bed in a large, light, well-ventilated room. At least two sides of the room should communicate directly by windows with out-of-doors, in order that the room may be properly ventilated. All unnecessary articles of furniture, such as carpets, couches, upholstered chairs, pictures, etc., should be removed.

The room should be thoroughly cleaned before the patient is put in it. There should be two beds in the room for the use of the patient. These should be preferably narrow, and so placed in the room that there is a free approach to both sides of the bed, for the convenience of the nurse in giving treatment. Iron bedsteads are preferable to wooden. The bedding should be firm, yet soft and smoothly drawn. There should be just sufficient covering to protect the body. The patient should be changed from one bed to the other daily. This may be done by placing the two beds side by side and carefully moving the patient from one to the other. The sheets on the bed from which the patient has been taken should be washed and disinfected at each change of the beds, and all other bedding should be thoroughly aired and exposed to the sunlight.

The patient should have the care of a thoroughly educated, careful and competent nurse; one who understands perfectly the various methods of using water in the treatment of fevers.

There is no other single remedy that I consider so valuable in the treatment of fever as the internal use of water. As above stated, the patient should drink six or eight ounces every hour during the waking hours, except for about two hours after food is taken. The water should be thoroughly sterilized, and as a rule may be taken either cool or hot. Ice water is objectionable. Hot water is often preferable. This is a simple remedy, but nevertheless is efficacious. It should be given to the patient whether he calls for it or not, and should be considered an important part of his treatment. When water is taken into the stomach and absorbed into the circulation, it throws into solution the ptomaines which have been absorbed from the intestines and are present in the circulation and tissues, and thereby puts them in a favorable condition for elimination. It increases the activity of the kidneys, and thus hastens and increases elimination of the poisons in the system.

In the early stage of the fever, when the pulse is full and the action of the heart increased, it is best to give the patient cool water. Later in the disease, when the action of the heart is weak and the patient feeble, it is best to give the water hot.

Winternitz, many years ago, demonstrated that hot water taken into the stomach acted as a cardiac stimulant, and the increased heart's action is immediate, or at least before the water has time to absorb, which indicates that the hot water in the stomach acts reflexly as a cardiac stimulant. The water after absorption also increases the circulation by filling the blood vessels and increasing arterial pressure. The writer has frequently noticed a decided increase in the fullness and rapidity of the pulse after a patient has drunk a glassful of hot water.

The external use of water also forms an important part of the treatment. The patient should be sponged off with tepid water every hour or two when the temperature is 103 degrees or above. When the temperature is less than this, it is not necessary to sponge the body so frequently. Sometimes a hot sponge bath is more efficacious in reducing the temperature than the tepid or cool bath. The sponge bath reduces the temperature, relieves many of the distressing nervous symptoms, is refreshing to the patient, and promotes sleep. The temperature of the body may also be reduced by the use of cool compresses placed over the abdomen and changed frequently.

The matter of diet is an important factor in the treatment of typhoid fever. The diet should be aseptic, easily digested, and should contain the necessary food elements. Probably no one article of diet meets all these requirements as well as sterilized milk. The patient should take from two to three pints daily. The milk is best taken four times during the day at intervals of four hours, taking eight to ten ounces at a time. Should the patient become tired of the milk, gluten gruel may be substituted at times for the milk. A new preparation known as malted gluten, manufactured by the Sanitarium Health Food Company, Battle Creek, Mich., would probably be preferable to gluten, as it is more soluble, and consequently more readily assimilated.

The diarrhea and bowel symptoms, when present, may be relieved by the application of hot fomentations to the abdomen, warm or hot enemas, and 20 grains of subnitrate of bismuth given every four hours.

The patient should be kept as quiet as possible, and should be turned in bed at intervals, to prevent hypostatic congestion and the formation of bed-sores. The bony prominences which are apt to become eroded should be sponged frequently with a solution of tannic acid in equal parts of alcohol and water; a drachm of the tannic acid to a pint of alcohol and water is about the proper strength to use.

By the methods outlined above, that is, by the free use of water internally and externally, by keeping the intestines thoroughly emptied of poisonous material, by the free and frequent use of enemas, by proper feeding and careful attention of a good nurse to the patient and his surroundings, the duration of the fever may be shortened, and the severity of the disease lessened; heart failure and other complications will seldom occur, and the patient will in nearly every instance make a good recovery.

The best method to pursue to prevent heart failure is to keep the poisons which are generated in the bowels and absorbed into the body, and which are the direct cause of the heart failure, eliminated from the body. Should the heart become weak, it may be effectually stimulated by giving hot water to drink, applying heat to the heart in the form of a fomentation, and the application of fomentations to the upper spine.

In the treatment of a large number of cases of typhoid fever, extending over several years' practice, the writer has never made use of alcohol internally to support the action of the heart or for any other purpose.

The number of cases of death from typhoid fever coming under the writer's observation, where the method of treatment pursued has been similar to that indicated above, have been very few, and a much smaller per cent. than in practice where alcohol has been used as a "cardiac stimulant." The writer believes that the use of alcohol in the treatment of typhoid fever is not only useless, but absolutely harmful.

More Oysters Called for in Chicago.—The poet, or song-writer, on the staff of the *Chicago Tribune* is manifestly and urgently observant of the fact that oysters may be eaten in September; he says:

"The oyster now is on our shore, Maryland, my Maryland. Li-tum-ti-tum-ti as before, Maryland, my Maryland. Ri-tooral-looral o'er and o'er, tra-la-la-la abundant store, hi-umpty bumpty send some more, Maryland, my Maryland."

REPORT OF THE TREATMENT OF SIX GRAVE CASES OF TYPHOID FEVER WITHOUT ALCOHOL.

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The use of any remedy empirically declines always in proportion to increased knowledge of facts and the approach to exactness in medical science in all its branches. When the treatment of disease consisted almost entirely of a medication of symptoms and no fixed rules or indications regulated the giving of drugs, many remedies were used because of precedent and without any other virtue to recommend them for the cure of disease. At the present, when rational ideas about the causes, course, and all other phenomena of disease are found, collected and classified from actual knowledge of these subjects, and the progressive medical mind is not satisfied with the therapeutics of the past, many remedies and methods of treatment, some of them very popular, have been superseded by other and more rational methods of dealing with disease. Preventive medicine has come to the front in many departments of healing, notably in surgery, obstetrics, and the stamping out of many contagious diseases, until we know just what result may be expected from a given, proven line of treatment. No surgeon of to-day would be satisfied with what made glad the hearts of the surgeons of thirty or less years ago. When the house surgeons reported a wound discharging laudable pus freely, it was taken as an evidence that all was well with the patient, and very satisfactory to physicians and nurses. To-day a ward full of laudable pus-discharging wounds would be a signal for sanitary investigation, and an inquiry as to who had sinned, the physician or nurses. What has been the violation of the law of surgical cleanliness in the matter of the preparation for the operation and the dressing of the wound? What, or who was unclean? Patient, attendants, instruments, air, or operating room or ward? And the signal also for a thorough cleansing and disinfecting of everything, and increased care and cleanliness to prevent further extension of the wound infection is indicated.

About a quarter of a century ago the visiting obstetrician of the obstetrical ward of a large city hospital directed the house physician in a case of puerperal septicæmia to give hypodermic injections of morphin until the patient was narcotized within an inch of her life, which inch slipped away within forty-eight hours, notwithstanding the house physician's faithfulness for the uterus and adnexa were exhibited to the students within that time. The uterine mucous necrosed in spots, shreds of decaying membranes and clots of blood all told the story of a toxic center from which floods of ptomaines and other morbid elements passed by way of the absorbents and blood currents to every part of the body, completely stopping all assimilation and arresting all functional activity. To-day a similar case would be treated by curetting, flushing and disinfecting, like any other abscess, getting rid of the morbid matter and microbes, and with them the heart failure and other dangerous symptoms for which the heroic doses of morphin or alcohol were given.

Now, latest investigations of the bacteriology of typhoid fever indicate that during the first ten or