IN AUGURAL DISSERTATION,

ON

Simple Intermittent Fever

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

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Simple Intermittent Fever.

The paroxysm of an intermittent fever consists of three distinct stages or periods, each succeeding period being the immediate consequence of the one which precedes it. Frequent gaping and stretching, a feeling of uncomfortable lassitude of the whole body, aching pains in the loins and extremities, constitute the first manifestations of the approach of an intermittent fever. A person, who is on the brink of a paroxysm of afever, experiences a sensation of debility and distress about his epigastrium, becomes weak, languid, listless and unwilling to make any bodily or mental exertions. The soon feels chilly, particularly in the back along the course of the spine, the blood deserts the superficial capillaries, he grows pale, his features shrink, and his skin is rendered dry and rough, drawn up
into little prominences, such as may be produced at any time by exposure to cold. This is called by the learned, cutis anserina. Presently he feels very cold, he trembles and shivers all over as though he had been subjected to intense cold, his teeth chatter, his hair bristles slightly from the constricted state of the integuments of the scalp, his lips, face, ears, and nails turn blue, rings, which before fitted his fingers closely become loose, his respiration is quick and anxious, his pulse small, contracted, frequent and firm, his urine is scanty, pale and aqueous, his bowels are often confined, his tongue is dry and white. In many instances frequent and distressing vomiting occurs, particularly about the termination of the cold stage and the ejections are generally bilious, though occasionallyropy, transparent and insipid. She thirst
is always urgent, the mouth and fauces dry and clausping. There are cases on record, in which the cold stage commenced with violent vomiting and terminated speedily in stupor and partial insensibility. The duration of the cold stage is very various, ranging from a few minutes to four or five hours. Presently, however, it begins to abate; transient flushes of heat pass over the body, the chilliness hastily subsides, the flushes of heat become more and more frequent, until pari passu, it has gained the entire ascendancy. At this time, nausea and vomiting are usually most severe, both of which often continues until the hot stage is fully developed.

The hot stage is characterised by a full and flushed countenance, an intensely hot and dry state of the surface of the body.
great thirst and dryness of the mouth, great acuteness of the sensorial powers, a full, strong, and frequent pulse, the respiration is oppressed and more hurried than natural, though not so much so as in the preceding stage; cephalalgia, pain in the back and extremities, in some cases there is slight delirium, the urine is deep colored, sacry and without sediment. This stage is as various in its duration as the preceding one. It however always continues much longer than the cold stage. The temperature of the skin is always very considerably increased.

This stage is succeeded by the last or sweating stage. The skin which before was hot and harsh, now recovers its natural softness. At first, a gentle moisture is felt upon the face and arms, but presently a profuse
and universal sweat breaks forth, when the patient feels himself greatly relieved. The thirst, which before was very urgent, now ceases, the tongue becomes moist, the urine plentiful but turbid, the pulse regains its natural force and frequency, all the restlessness and uncomfortable feelings subside, and presently the sweating also terminates, and the patient feels nearly or quite as well as ever. This is called the stage of convalescence or apyrexia. During the intermission, the patient is entirely free from febrile phenomena, yet he cannot be regarded as, in a state of perfect health, for he usually feels some degree of languor, is easily tired, complains of a want of appetite and an indisposition to bodily or mental exertions. He is unusually sensible to the impressions of cold
air and his countenance exhibits a pale and sickly aspect. Intermittents assume various types according to the periods they occupy. A fever, which occupies twenty-four hours, from the commencement of one paroxysm to another, is said to be of the Quotidian type, whilst one which resolves every forty-eight hours, is of the Lentian type, one which occupies seventy-two, is of the Quintan type. I might mention the Quintan and Lentian, but deem it unnecessary as the three above named constitute the principal and primary types. Each of these has its usual hour of approaching and its relative duration and violence of stages. The Quotidian comes on in the morning, has the shortest cold stage but the longest febrile excitement; it continues about eighteen hours. The Lentian makes its ap-
proach about noon, continues about twelve hours.
The Quatrain comes on in the evening, continues rarely more than nine hours.
These are the original types, but they are subject to various complications. We have double Sextians and triple Sextians. Double and triple Quatrain are also mentioned by some authors. The premonitory symptoms of a paroxysm are characteristic of languor and a dejected state of the nervous system. There are the same sensations of exhaustion, when these symptoms are present, as may be produced at any time by fatigue. The pallor of the surface, the contraction of the skin and the collapse of the features, are all produced by the retirement of the blood from the superficial capillaries.
It is said that Boerhaave assembled from numerous writers, all the symptoms which had been noticed in fever; he then subtracted from the whole number all those which are not invariably present, retaining such only as were found by authors and his own experience to be present in all cases of fever. The consequence was that only three remained viz. a sense of chilliness in the commencement, a quick and frequent pulse, preternatural heat of the surface of the body. But says Doctor Eberle, "He might have struck from his list these symptoms also, for it is quite certain that cases of fever do occur, in which there is neither preternatural quickness and frequency of the pulse, nor increased temperature of the surface of
the body, and is a sense of chilliness, though perhaps the most constant of all febrile symptoms, universally present in the initial stage of fever. Thus you see, if these statements be true, which we have no hesitation in believing, that it is very difficult if not impossible, to give a strictly unobjectionable definition of fever, since there is not even one symptom, which is found to be invariably present and which can be considered as essentially necessary to its existence. Yet the series of phenomena, which this condition of disease exhibits, under all its forms, offers a character sufficiently clear and exact for easy recognition.

The disordered condition of the nervous system, constitutes the first link in the chain
of abnormal actions, which appear in the development of fever. The languor of mind and body, the universal and unpleasant sensations, the pain in the loins and extremities, the depression and insobriety of temper, the electorate and weakness of the intellectual powers, which generally usher in the febrile affections, afford indubitable proof of pervading derangement of the nervous system. Intermittent fever is produced and supported, by causes, which create a general abnormal state of the system, without being dependent on local inflammation, or fixed irritation. The existence of such a fever, is denied by many distinguished pathologists, who argue, that all fevers are essentially dependent on pre-established local irritation or in-
flammation. "Inflammation," says Doctor Armstrong, "cannot exist in the cold stage of fevers, all the phenomena of which are directly opposed to it." The course and phenomena of intermittent fevers present us with insurmountable objections to this doctrine. The periodicity of these fevers, proves very clearly to our mind, that they cannot depend on inflammation. An inflammatory affection, which observes a perfect periodicity in its attacks, must be, sui generis. The nature of the remedies which have been found most potent in subduing intermittent fever, is contrary to the idea that gastro-enteritis constitutes the proximate cause. Who would think of prescribing Quinine, Arsenic, black pepper and similar rem-
edies to cure inflammation of the mucous
membrane of the alimentary canal? Yet, these
are the very remedies, which are found to
be most efficacious in the cure of inter-
mittent fever. Fever is a general disease,
the sanguiferous, being principally and
prevalently disordered. In stating that fe-
ver is a general malady, it is not our
purpose to convey the idea, that every struc-
ture of the organization is in a state of
actual disease, but when we consider the
intimate relation which exists between the
nervous and sanguiferous systems, both
in the composition and functions of
every part of the body, we are very cor-
rectly lead to the conclusion, that if these
two systems are in a diseased condition,
as they evidently are in fever, every other
sensible structure must suffer more or less functional derangement. A morbid derangement of the capillary functions is indispensable in the production of fever.

An unhealthy condition of the sensibility of the heart and arteries is also very necessary in its production, though not essentially so. For we read of cases of a very malignant character in which there was no perceptible deviation from the normal action of the heart and arteries, yet there was indubitable manifestations of capillary derangement. I deem it unnecessary to extend my remarks on the pathology of this disease, as it has been given up by most practical writers on the subject, that in an uncomplicated case of simple intermitting fever, there is no organic lesion,
but merely a morbid excitement of the various functions.

The causes of Intermitting Fever.
Malaria is the principal cause. The medical profession, for a long time past, has had an eye single to miasmatic fever, and in latter days, Chemistry and the Kindred sciences have examined matter, even down to its elementary principles; atoms, much smaller than a grain of sand, and yet science has thrown but little light on the subject of miasms, and we are left, pretty much, as the ancients, to our own observations. Malaria abounds in localities where the soil is low, flat, humid and filled with organic matter in a state of decomposition. Dead-water lakes, mill-ponds, marshes and all alluvial soils, much timber suffered to decay, after being killed or cut down
are supposed to be its sources. Some districts, which do not themselves contain any of the elements of unhealthiness, and under ordinary circumstances, remain free from periodic fevers, become at times, the seat of such diseases by receiving from infected districts, through the agency of the wind, the pectiferous, orsmate evolved from their marshy surfaces. Each locality has its favorable and its unfavorable winds. With the latter, fever abounds, with the former, it diminishes or disappears—and it is ascertained that this difference depends on the position of the marshy surface, relatively to that locality, and on the circumstances, that in the one case, these winds pass over the source of the effluvia before reaching the infected place, while in the other, they take a contrary course. Malaria is most virulent where heavy
rains or inundations are succeeded by dry, hot weather, and the standing water evaporates until the mud and vegetation appear at the bottom.

The stench, at such times, on riding through low lands, especially at night, is almost intolerable, indeed you can almost taste it. Malaria is produced by the disintegration of volcanic eruptions, or the action of heat and moisture on vegetable decomposition.

Heat and moisture are essentially necessary in the generation of this disease. It is not necessary that moisture be present to any considerable extent. Low lands, completely covered with water, emit very little if any of this deleterious effluvia. Malaria is abundantly precipitated to the earth during the night. Hence the greater liability of contracting
miasmatic diseases from exposure during the night, than after the sun is considerably above the horizon. The most dangerous period in the twenty-four hours, is that which accompanies the setting, and that which immediately precede the rising sun— and the least critical, is supposed to be when the sun is at the highest point above the horizon. It is difficult to ascertain the precise manner in which Malaria impresses the system.

But the hypothesis, which receives the sanction and support of the most eminent physicians of our country, is this: that the foul exhalations from putrid soil, are received into the lungs, and through that medium impart a
predisposition to the whole body. The heart, blood vessels, digestive apparatus, and the secreting and assimilating functions, being so intimately united by nervous connexions with the lungs, receive the impression of the febrile agent and experience the effects which flow from that influence. This state of incubation, (as it is termed) may continue for a considerable length of time, without any perceptible deviation from health, and provided the system be guarded against the exciting cause, it may gradually abate, without producing fever. But upon the application of some exciting cause, it may be ushered in with its usual symptoms. Exposure to the sun or night air or undue indulgence of the appetite
or over-exertion, either mental or corporeal, are some of the exciting causes, which usually bring on an attack of fever. Men are more obnoxious to this disease than women, from the reason that they are usually more exposed to the exciting causes.

Treatment. In the beginning of the chill, use warm applications to the spine and extremities, avoiding copious draughts of cold water. Give the patient the following dose: Laudanum, from 25 to 40 minims. Sacs Nitre, one teaspoonful. Antimonial wine, Essence of Peppermint each, 10 or 15 minims, in water quantum sufficit, which will shorten the cold stage, and prove beneficial in hastening the sweating stage.
As soon as the chill is fully off, allow liberal draughts of cold water, pour freely on the head, free and frequent sponging of the whole body, and in many instances, the cold bath is not only beneficial, but grateful to the patient. In robust patients, V.S. is sometimes, (though rarely) required, which, when resorted to, may be profitably followed by an anodyne or the prescription above in perhaps lighter doses. On the decline of the fever, withhold the cold water applications, and allow palatable teas, with or without simple diafiltric. On the intermission, the use of Quinine is well worthy of confidence in doses of from 0 to 2 grains, every two or three hours, until 15 or 20 grains...
have been taken, which I would prefer being taken an hour or two before the expected chill. Should the bowels be loose, combine a quarter or sixth of a grain of Morphine with the Quinine.

Camphor or Piperine is sometimes of service in combination with Quinine in cases advanced in years or debilitates. After the prevention of the chill, an aperient or cathartic should be administered if indicated.