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SOME
OBSERVATIONS
ON THE
BILIOUS FEVERS
OF
1797, 1798, & 1799.

By RICHARD PEARSON, M. D.

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OF THE LONDON COLLEGE OF PHYSICIANS.

Birmingham,
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1799.

CONSERVATIONS

IT IS THE DUTY OF EVERY MAN

TO BE A GOOD CITIZEN

AND TO OBEY THE LAWS

OF HIS COUNTRY

AND TO DEFEND ITS LIBERTIES

AND ITS CONSTITUTION

AND TO SUPPORT ITS GOVERNMENT

AND TO MAINTAIN ITS ORDER

AND TO PRESERVE ITS HONOUR

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Advertisement.

IT has fallen to my lot to see the Fever described in the following pages, throughout all its stages, and under a vast variety of forms, in this town and neighbourhood. Observing something anomalous and peculiar in its character, I was induced to watch it with close attention. I here offer such facts relative to its history and treatment, as my experience has hitherto furnished. They are but the prelude of a more complete set of observations, which I hope to communicate hereafter. In the mean time, I flatter myself this small Pamphlet will be of some use, by calling forth the attention of Medical Practitioners to the true nature and proper treatment of the present epidemic.

It was my intention to have subjoined an Abstract of the Cases of this Fever, which have fallen under my care during the three last years; but finding this would take up more time than I could spare, I have reserved the account of them for another occasion.

BIRMINGHAM, DEC. 2, 1799.

Advertisement

OBSEKUTIONS

WHOLEVER has been much engaged in the practice of physic in this country during the last three years, and has had the opportunity of seeing a great number under certain circumstances, as particularly by contagion, in which persons exposed generally, in very short time to the disease, and described as a fever, but which from its leading symptoms, and the nature of the disease, is certainly a different kind. It is however, the form of a contagious disease, however it is of a compound type, from the fact, and in itself, and is a form of disease during its progress, it is a highly dangerous and as the patient advances, the disease becomes more and more dangerous. It is now to be followed by the following observations.

A person sometimes after a slight cold, sometimes without cause, for a cold, sometimes without

OBSERVATIONS,

Ec. Ec.

WHOEVER has been much engaged in the practice of physic in this country, during the last three years, must have had frequent opportunity of seeing a fever, which, under certain circumstances, is propagated by contagion, in many places prevails epidemically, is very irregular in its type, and diversified in its symptoms ; but which, from its leading phenomena, may be termed a *Bilious Fever*. It commonly appears under the form of a *remittent* ; sometimes, however, it is of a continued type, even from the first ; and in most instances it is more or less so during its height. In its mildest degrees, and as the patient advances towards recovery, its form is intermittent. It answers to the following description :

A person (sometimes after a slight indisposition which passes for a cold, sometimes

B

without

without any previous ailment) is seized with a chilliness and shivering, which after an hour or two are succeeded by a great heat and burning over the whole surface of the body, accompanied by a quick pulse*, head-ach, and flushing of the face. This hot fit continues for several hours, during which the patient vomits up a thick slimy yellow or green fluid, which has a bitter taste. After this evacuation of the stomach, the head-ach and fever abate, but only for a short time; for in about twelve hours (more or less) from the first cold fit, another rigor comes on, or at least a diminution of the external heat, with a hurry and confusion of spirits, and a sense of terror and distress; followed, like the former, by an evolution of heat, and by a more violent head-ach and sickness. If the first seizure happened about noon, this second paroxysm comes on at midnight, or at one

* The pulse is not always increased in frequency; in some instances it is not quicker than natural, in some it is even slower. This variation of arterial action depends upon difference of age and constitution, diversity of pre-existing and concurring causes, &c. Whether quick or slow, the pulse is always more or less tense during the first stage of the fever. It is sometimes full, but more commonly contracted. In the worst cases it intermits.

or two o'clock in the morning*. A moisture, either partial or general, now breaks out upon the skin, the previous restlessness abates, and the patient is inclined to doze; sometimes, however, he continues wakeful. In the course of a few hours he feels relieved, relishes his breakfast tolerably well, and is able to sit up. He has no head-ach, but only a giddiness and noise in the ears, with languor and weakness, or universal foreness of the limbs. The skin, however, is still hot and harsh, the tongue white, and generally there is very considerable (sometimes excessive) thirst. The tunica albuginea of the eyes is more or less tinged with yellow. The urine has a natural appearance†. The evacuations by stool are

* In some cases there occurs only one paroxysm in the course of twenty-four hours; and in many instances the rigors are very slight during the two or three first periods, and become more strongly marked in the succeeding ones.

† The appearance of the urine was different in different periods of the disorder, and in different constitutions. Just before the paroxysms it was sometimes pale, but generally as high coloured as in health, sometimes higher coloured. Towards morning, when the febrile symptoms remitted, it was sometimes turbid. When the remissions were more perfect, it deposited a sediment; but this seldom happened before the eleventh or fourteenth day. In most instances this sediment was lateritious, or of a pinky red; in several it was white and slimy, probably owing to an increased or morbid

yellow, and more or less liquid or pulpy. A bleeding from the nose sometimes happens in young subjects. Towards the afternoon, the patient's sensations become very uneasy; in the evening there is a manifest exacerbation of fever, with great restlessness, and in the course of the night, more or less delirium*.

To this succeed, as before, in the course of the morning, some partial perspiration, or some evacuation by stool or urine, with an abatement or cessation of head-ach, and a tendency (but not always) to dozing. The skin is still hot; the pulse sometimes quick, sometimes languid; the tongue (which at first was only white) is now covered with a dirty white or yellowish mucus, and there is a clamminess and bitter taste in the mouth. In addition to these symptoms, the patient complains of a forenness at the pit of the stomach, and fre-

secretion of the mucus which lines the inner surface of the bladder. Once or twice this thick white sediment had the appearance of pus. In one case the urine was black, and greenish black, from blood and bile dissolved in it; yet the patient recovered.

* In this delirium the patient talks incessantly, imagining some strange or frightful object to be present; yet on being spoken to, he recognizes persons, and for a moment gives pertinent answers.

quently

quently of sharp cholicky pains in the lower part of the abdomen. Sometimes there is a dry irritated cough.

After this period (unless the fever is checked by the timely application of medicines, or by spontaneous evacuations from the stomach, intestines, and skin) the paroxysms become less distinct, and the exacerbations in the evening and during the night more violent, with increased anxiety and restlessness. There is a manifest determination to the head, with a flushed, and often turgid countenance, eyes keen and glistening, delirium more constant, and sometimes of the phrenitic kind, and great sensibility of the stomach, which often rejects both food and medicine. Thus is passed the night. In the morning, or about noon, the patient is seized with an apprehension of dying, accompanied by spasms or deliquium. In women these attacks resemble hysteria; in children and young persons they often resemble a fit of epilepsy*. This obscure kind of cold parox-

* In some adults they were attended with violent spasms, or convulsive twitchings of the muscles of the upper and lower extremities, or of the upper extremities only. In one case these paroxysms began with a violent cramp of the calves of the legs

yfm is, like the genuine rigor, followed by heat, head-ach, restlessness, vomiting, &c.*

If the fever does not terminate in recovery or death† before the eleventh or fourteenth day, it proceeds to its second stage, in which its remissions are scarcely observable. In this stage the patient is low, weak, and desponding; or drowsy, deaf, and stupid‡. In some cases there is, on the contrary, an increased degree of sensibility, with great restlessness. The tongue is more foul and less moist; the skin hot, dry, and harsh; the pulse small and frequent. Sometimes costiveness, but more

* These paroxysms are very alarming to the friends and assistants about the sick, and are termed by them "struggles with death;" yet, excepting aged people, and persons previously in a bad state of health, the majority escaped from such sort of struggles.

† Life is terminated in the first stage of the fever either by syncope, asphyxia, or convulsions in one of the cold paroxysms, in persons previously debilitated; or by apoplexy in the hot fit, in plethoric and corpulent subjects. This may happen in the first attack, before the fever is formed, and will in great part account for the extraordinary number of sudden deaths during the last twelve months.

‡ Persons of a full and corpulent habit, especially when advanced in years, sometimes fall into a lethargy or carus from the beginning of the attack, and continue so for seven or eight days, when they die. In other cases, especially in young subjects, after the drowsiness and deafness have continued for some time, a purulent discharge from the ears has taken place.

commonly

commonly a diarrhœa*. Often there is a dry, irritated cough†; at other times a troublesome afflux and accumulation of viscid phlegm in the trachea and about the fauces. Aphthæ and ulcerations frequently appear on the edges of the tongue. In many instances the abdomen is considerably distended, and sore upon pressure. Strangury (where no blisters were applied) and a suppression of urine, occurred in some cases. In the worst forms of the fever there is incessant vomiting, with hiccup. This stage of the fever is commonly protracted to five, six, or eight weeks, and even longer, in case of relapses, which often happen. In the course of this stage, many sink under debility and exhaustion, especially if there be

* The stools which in the first stage were of a pale yellow or green, are, at this period, generally dark coloured, sometimes almost black, and then exceedingly fœtid. Frequent watery dejections, accompanied with tormina and tenesmus, so as to constitute a dysenteric affection, occurred in some instances. In two cases the stools were bloody. They both terminated fatally. One of them was a case of hepatic diarrhœa. Blood from the hæmorrhoidal vessels sometimes comes away with the stools. An hæmorrhage of this kind was followed by death in an aged subject.

† This cough was sometimes symptomatic of hepatitis; but in nine cases out of ten, it occurred without any inflammatory affection of the liver. In a few instances it seemed to be produced by irritation in the stomach and intestines, without any inflammatory condition of the lungs.

profuse diarrhœa* or dysentery, or considerable hæmorrhage; others die of suffocation, in consequence of mucus accumulated in the bronchia and trachea; others in a more lingering manner, in consequence of suppurative and gangrenous inflammation in the lungs, liver, or intestines. In young persons, this fever sometimes ends in hydrocephalus. In subjects predisposed to phthisis, it terminates in hectic.

When the termination is favourable, and as the patient advances in recovery, the fever, which had been continued at its height, has evident remissions, and at length intermits, putting on a tertian type†. During this period, the patient often complains of restless nights, is generally teized with an irritated cough, sometimes with griping pains in the bowels, sometimes with an hæmorrhoidal affection, and sharp pains about the

* A moderate diarrhœa is salutary.

† I have before remarked, that under its mildest forms, it intermits from the beginning, being either quotidian or tertian. In one case under my care, towards the end of last winter, it appeared under the form of hemicrania, which observed a well marked quotidian type. During the prevalence of the epidemic, there have been numerous instances of gastrodynia, under a quotidian form.

os sacrum, and not unfrequently with profuse nocturnal perspirations. The stomach and bowels become easily disordered by food taken in too great quantity, or of an improper quality; hence from this cause, as well as from exposure to cold, bodily fatigue, or uneasiness of mind, relapses are common, and occur more than once in the same individual.

Such are the most prevailing phenomena of this fever. In many instances, however, only a single rigor occurs on the first attack, and the evening exacerbations are not preceded by any of the above-described paroxysms, and the remissions are less distinct. In many instances it is complicated with other diseases. Thus, there is sometimes an anginous affection* from the beginning; sometimes it is combined with violent rheumatic pains, and rheumatic swellings of the limbs and joints†;

* When this happened, there was commonly a good deal of soreness in swallowing, and on looking into the throat, the tonsils, uvula, and parts about the fauces, were seen to be considerably swelled, and of a dull red colour. It might be termed an erysipelatous angina. Here and there a case of scarlatina occurred.

† This combination of rheumatism with the bilious fever was often accompanied and followed by paralysis of the limbs, which, however, generally yielded in a short time to the usual remedies.

and

and in a great number of instances, it is joined with pleurisy and peripneumony; often with hepatitis. In some instances it appeared under the form of cholera. Its combination with dysentery has been before noticed. In many instances, mania supervened, and continued for a longer or shorter time after the fever was removed. When eruptions appeared, they were either of the papulous kind, viz. the red or white miliary*, or phlegmonous, viz. common boils, which were exceedingly painful. Petechiæ rarely occurred. These eruptions were chiefly observed in the winter months. They came out at very uncertain times.

This fever has been very prevalent (during the last autumn) among children† and young persons; but it has been less fatal to them than to adults, and particularly than to persons advanced in years.

Large evacuations of bile from the stomach and intestines, occurring spontaneously

* The miliary eruption is classed by many nosologists, with the pustulous eruptions; yet, as *Plenck* (*Doctrina de morb. cutan.* p. 54) has remarked, the former does not contain pus, but a watery or sanious fluid.

† Its symptoms are much more violent than, and readily distinguishable from, those of the worm-fever, or infantile remittent fever of some medical writers.

at the beginning of the disorder, and succeeded by a free perspiration over the whole body, generally proved salutary. In numerous instances, the fever has been thus extinguished on the second or third day. After passing through its first stage, it sometimes went off by an expectoration of frothy phlegm, or sharp mucus. Deafness (with or without a discharge from the ears) and rheumatic swellings of the limbs, or abscesses in those parts, were commonly favourable. So was a moderate diarrhœa, in every stage of the fever.

On the other head, if the skin continued hot, dry and harsh during the first seven days, and if at the same time there were incessant restlessness, vomiting (without diarrhœa) with a brown and dry tongue, and distended abdomen, death supervened on the ninth, tenth, or eleventh day. Much peripneumonic affection denoted great danger; so did a comatose state (especially in children and young persons) when not relieved by stools and blisters. Suppurations of the liver, or other viscera of the abdomen, were generally fatal. It was a bad sign if the patient's pulse was (in the same minute) elevated or depressed in a remarkable

markable degree, by the words or looks of the person who felt it. It was still worse if the pulse intermitted. Bloody stools occurring in the advanced stage of the disease, especially when joined with a jaundiced condition of the body, were almost always fatal.

This fever was most prevalent during the autumnal months, especially in the autumns of 1797 and 1799, both which (and particularly the last) were remarkably wet*. The quantity of rain which has fallen in the months of August, September, October, and the beginning of November, of the present year (1799) has been immense, and the consequent inundations in various parts of the kingdom, have greatly exceeded all those which have happened for a long series of years. During these rains, the prevailing winds have been westerly and southerly, chiefly the former, with a gloomy and clouded sky. Hence, a cold summer and autumn;

* In the autumn of 1798, the quantity of rain which fell was by no means equal either to that of 1797 or of 1799. Yet, excepting some dry weather in August, the general state of the season was humid. July and November were rainy; and September was close and foggy.

hence,

hence, too, a great crudity of the summer and autumnal fruits, as well as a failure and spoiling of a considerable proportion of the crops of wheat, and other produce of the soil. It is obvious, that such a constitution of the atmosphere must have had no small influence in producing, fostering, and rendering epidemic, the fever we have been describing. It seems to be properly of autumnal origin, and is only kept up in the winter and spring months by a favourable, that is, a more or less humid, constitution of the weather.

In its first stage, this fever did not appear to be contagious; but it was evidently so after the eleventh or fourteenth day, when the typhoid state was induced. At this period it spread, in many instances, through whole families. The contagious nature of this fever, has procured it, very generally, the name of Typhus; from which, however, it differs (1st) in being accompanied, during its first stage, with little muscular debility; (2dly) in being accompanied with a more tense pulse; (3dly) with more violent headache, vomitings, and sensibility of the stomach; and (4thly) in being, for the most part, of a remittent or intermittent type. Unlike typhus,

phus, it not only bears, but requires large evacuations upwards and downwards, and some loss of blood. A diarrhœa, so frequently hurtful, and even mortal in typhus, is, in this fever, for the most part salutary. Further, this fever has prevailed amongst the country people, and those employed in labouring out of doors, as much (proportionately) as among the inhabitants of towns; and among the last, it has frequently appeared in the houses of tradesmen of the better class, whose diet, as well as that of their servants, is very substantial. It is of great moment, in relation to the treatment of this epidemic, that it be not confounded with low fever*.

If it were generally of a more regular and continued type, it might be referred to the Synochus of some nosologists; and, according to its various modifications, might be distin-

* In the winter and spring, typhus was intercurrent with the bilious fever; and when those who are seized with it, happen to be placed in the crowded rooms of hospitals and workhouses, it will have less inflammatory action, and may quickly assume a typhoid form. The small-pox, dysentery, and other inflammatory diseases, will, under similar circumstances, do the same. If the dearth of provisions should go on increasing, it is to be feared that this fever may, among the poor, degenerate into, or be succeeded by, one of a more malignant nature.

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guished into *SYNOCHUS gastritica*, when accompanied with gastritis; *SYNOCHUS choleric*, when accompanied with cholera; *SYNOCHUS dysenterica*, when accompanied with dysentery; *SYNOCHUS pneumonica*, when accompanied with inflammation of the lungs, &c. Under its late and present forms, however, it seems to be nearer allied to the Intermittents. But it is of more consequence to trace its progress, to mark its symptoms, and to observe the effects of different modes of treatment—and thereby to determine its real nature—than to find out the name and the class under which it is placed in the systems of physic. It is sufficiently known by the common appellation of *Bilious Fever**.

I have already mentioned, that this fever not only bears, but even requires, some loss

* I fear it will be long ere the wish, or rather the expectation, expressed by *Sauvages*, at the end of the Prolegomena to his great work, shall be fulfilled. On the difficulty of referring some species of fever to the genera hitherto established by nosologists, *Dr. Currie* has thrown out some sensible remarks in his Treatise on the "Effects of Water." If the anomalous fever described at p. 44 of the last-mentioned Treatise, had been accompanied with a more strongly marked stomach-affection, and with bilious vomiting, I should have considered it as a variety of the fever which is the subject of the present pamphlet.

of blood. On this point, we must be more explicit. Relative to the treatment of this, as well as of other fevers, all general rules must have their limitations and exceptions. Bleeding must be limited in respect to quantity and repetition, and it must be restricted in respect to the period of the disorder. Before the fourth or fifth day, one bleeding from the arm (to the quantity of eight ounces) and afterwards (if the head-ach should be acute, and the eyes vivid and shining, with a hot and dry skin) a topical bleeding by leeches, applied to both temples, will be proper in most cases. Where pneumonic symptoms come on early, and to a considerable degree, and also where the rheumatic pains are violent, with swelling, heat, and immobility of the limbs*, a repetition of the bleeding from the arm (to the amount of five or six ounces) will be useful and necessary. But, howsoever proper venesection may be under the circumstances just mentioned, and especially in plethoric subjects, who are attacked with this fever, it may ge-

* Although one or two moderate venesections may be proper in these cases of rheumatism combined with bilious fever, yet, they will not bear those large and repeated abstractions of blood, which the simple inflammatory rheumatism requires.

nerally

nerally be dispensed with in the case of infants and children*, as well as of aged persons. It will in like manner be improper in cases from among the necessitous class of the community, whose diet is not sufficiently nourishing. Yet, even in these instances, topical bleedings (in the first stage of the disorder) have always afforded relief. It is further to be remarked, that phthical and gouty persons attacked with this fever, bear the lancet ill.

After the fifth day, the period for general bleeding is (with very few exceptions) over. Topical bleeding, however, will still be proper in a great number of cases, and this, as long as the head-ach continues in any considerable degree†.

* It is otherwise with young persons who have passed their fifth year.

† It is of great consequence to distinguish between *real* and *apparent debility* in febrile diseases. In *real debility*, arising from exhaustion or a diminution of the vis vitæ, the pulse, whether full or small, is soft and yielding to pressure, the muscles subservient to loco-motion, betray an inability for action, and the erect posture aggravates all the morbid symptoms. In *apparent debility*, or that state of the system in which the vital movements are oppressed from congestion and obstructed circulation, the pulse, though small and contracted, manifests some degree of hardness—some

The advantages resulting from the use of the lancet (under the restrictions above mentioned) are, that the febrile action throughout the whole system is moderated, visceral, and other local congestions and consequent inflammations are lessened or prevented, a determination to the skin is promoted, and a more perfect remission is obtained. *Cleghorn* has remarked the same of the remittents of Minorca.

In another point of view, bleeding has a very beneficial effect, viz. it renders the operation of emetics and cathartics more easy and effectual; though it must be confessed, that these remedies are often sufficient of themselves for removing the fever, under its milder forms, and particularly in the case of infants.

Tartarised antimony, joined with ipecacuanha, and given in a full vomiting dose, seems to answer better than the solution of the antimonial salt, administered in divided and resistance to pressure, and the erect posture is at least supportable, if it be not alleviating. It is this semblance of debility which is made the ground of objection by many practitioners, against bleeding in bilious fevers. See some excellent remarks on this subject by *Stoll* Rat. Medendi II. 201, and IV. 411.

frequently

frequently repeated portions. Of all purgatives, calomel and the neutral salts (aided by plentiful dilution) are best adapted to these cases. The former (viz. calomel) should be prescribed at first in powerful quantities* ; as it is a main step towards the cure, to evacuate the bowels briskly and freely in the beginning. Afterwards, this mercurial preparation should be occasionally repeated in smaller doses. To abate thirst, and promote the fluid excretions from the body by the skin and kidneys, the common combinations of the alkaline salts with the vegetable acid, may be employed. During the first two days, while the principal indication (next to bleeding) is to bring away the bilious contents of the stomach and intestinal canal, the combination of the vegetable fixed alkali with the before-mentioned acid, generally answers best, and the more so as it promotes the urinary evacuation ; but when this object—the cleansing of the first passages—has been accomplished, and another indication arises, viz. the promoting of the cutaneous discharge, then the combination of the volatile alkali with vinegar, is a

* An equal or double proportion of antimonial powder joined with the calomel, has often an excellent effect.

more suitable medicine. To this may be added, a due proportion of antimonial wine, or of the vinous infusion of ipecacuanha*.

This mode of treatment is to be persisted in (more or less, according to its effects) during the first four, five, or six days, interposing an opiate joined with an antimonial, and applying a blister, as occasion may require. Of opiates, however, it is to be noticed, that they very rarely agree during the first stage of this fever, and that when they are required, in consequence of spasms, colicky pains, or profuse diarrhœa, they are best administered in glysters. Before the seventh or eighth day, they seldom fail to increase the restlessness and disturbance of the head; but after that period they may in most instances be employed with good effect. It is with blisters, as with opiates, they do not succeed well during the first week, excepting those cases in which drowsy and lethargic symptoms come on as early as the fifth or sixth day. At whatever period these symptoms appear, blisters are of admirable use, espe-

* Camphor, so useful in many febrile disorders, seldom agreed in the first stage of this fever. It seemed to irritate the stomach to a great degree.

cially

cially if due evacuations have been previously made. Their application should be renewed after a few days, or the blistered parts should be kept constantly open, as their good effects depend upon the discharge of serum and the inflammation and ulceration produced on the surface.

Among other remedies in these fevers, glysters deserve to be mentioned with particular commendation. They are applicable in every stage of the disorder; but they come in with best effect after the first six or seven days. To children they may be administered earlier. Nothing relieves the colicky pains and spasms in the bowels, or restrains the vomitings when too violent, or abates the restlessness, so effectually as glysters. Next to bleeding and blistering, nothing relieves the head so much. The simplest are the best. An ounce or two of vinegar added to ten or twelve ounces of gruel, or chamomile-tea, I have found exceedingly useful. This should be injected at night (with or without an opiate, according to circumstances) and be repeated every ten or twelve hours. Where the glysters are intended to act purgatively, some of the cathartic salts, with tincture of senna, may be added to them.

On the other hand, where they are wanted to serve merely as a diluent and fomentation, a mucilaginous decoction alone, without the vinegar, will often be preferable.

While these remedies are resorted to, pediluvia should not be omitted. They relieve the head, abate the restlessness, and render the skin more perspirable. This operation should be continued longer (for twenty minutes, or half an hour) and with a great quantity of water (so as to reach almost up to the knees) than the common practice directs.

I never tried the effects of spunging or washing the whole surface of the body with water, as recommended by *Dr. Currie*, of Liverpool; but I have frequently directed the face, arms and hands to be bathed or washed with a towel dipped in warm water and vinegar, and afterwards rubbed dry, once in twelve hours, and have always observed the patient to be relieved and refreshed by it.

When by these means the remissions are rendered more distinct, the Peruvian bark would, *à priori*, naturally be looked to as the proper medicine for bringing the
fever

fever to a regular intermittent type. Experience, however, shews the contrary. Under every form and combination, this drug has invariably disagreed, until the fever has been reduced, by other remedies, to a true tertian; or until it has fairly spent itself, and nothing but mere debility and its concomitant, nocturnal sweats, remained.

It was not so with the columbo-root, a light infusion of the angustura bark, and some other bitters. By giving these, and especially the former, during the remissions, much benefit was obtained. They agreed best when combined with vitriolated kali, or with an alkaline salt, such as soda. The mineral acids had an irritating effect upon the stomach and bowels, and seldom failed to aggravate the febrile symptoms. It was only at the end of the disorder, when the night-sweats were considerable, that they produced any good effect; and even then they could not be borne by some patients. In several cases, myrrh joined with soda, and given in a state of solution, answered better than the columbo.

Tone being restored to the stomach and intestinal canal, by these remedies, the pa-

tient's appetite, strength and spirits were daily improved; so that with the assistance of fresh air, exercise, and chearful society, the fever was at length entirely subdued.

During the recovery, which was generally very tedious, new accumulations of bile, with a return of the original symptoms in a greater or less degree, often took place. When this happened, emetics, calomel-purgatives (but in smaller doses) and the combinations of alkaline salts with the weaker acids, and sometimes opiates, again became necessary. After this, the columbo, angustura gentian, or myrrh, were employed as before.

In the first stage of the fever, the diet consisted chiefly of infusions of tea and other vegetables, with the common mucilaginous decoctions. Toast and water was drunk largely and greedily by many*. It was almost the only diluent that children would take. After two or three days, when the first passages had been well cleansed, weak

* A table spoonful of oatmeal added to a pint of toast and water (the toast being previously taken out) made a very pleasant and useful beverage. Persons who loathed gruel or barley-decoction, would drink this. The toast should remain at least a quarter of an hour in the water before it is taken out.

broths (of chicken or lean beef) were allowed, either by themselves, or mixed with an equal quantity of barley-decoction or gruel. Coffee generally disagreed.

Afterwards, when the febrile symptoms remitted more distinctly, and the tongue appeared clearer, a draught of fresh small-beer was directed (at least once in the day) in place of broths, which at this period were little relished by the sick, and indeed seldom did any good. An increased heat of the skin, with clamminess in the mouth, and more or less head-ach, sometimes came on very soon after taking them. Along with the beer, the patient was directed to eat the toasted bread which had been soaked in it, and sometimes a small portion of meat. According to its effects, this last was repeated, or withheld, the following day.

As the remissions became still greater, and the patient advanced towards recovery, the diet was rendered more substantial. The proportion of meat was increased, and instead of small-beer, porter was prescribed, or port wine and water, and a glass or two of pure wine itself.

Throughout

Throughout the whole course of the fever, the patients were advised to sit up as long as they could bear it; to keep but little fire in their rooms, and to admit the fresh air, by having the doors opened, and at times the windows. A hot and close room always increased the fever.

AFTER this account of the general mode of treatment, it is proper to take some notice of the management of particular symptoms.

Delirium and Head-ach. After taking away some blood (see p. 16) these are most effectually relieved by pediluvia, glysters, and vesicatories applied, not to the head, but between the shoulders. Should they not speedily yield to these remedies, towels dipped in cold water should be wrapped round the temples, and be kept constantly moist, until relief is obtained.

Incessant

Incessant vomiting. Effervescent draughts, so useful in the vomitings of some fevers, seldom availed much here. Neither did opiates. Mucilages, and pepper-mint water, succeeded best. A desert spoonful of mild ale to children, and something less than a wine glassful to adults, sometimes checked this distressing symptom better than any thing. Sometimes the testaceous powders had a good effect. After resisting all other means, it was more than once suppressed by a blister applied to the pit of the stomach. Where a moderate diarrhœa was kept up from the beginning, by means of calomel-purges, this symptom seldom occurred.

Cough and Oppression of the Breath. A decoction of feneka with liquorice-root, is of eminent service against these distressing and urgent symptoms. More or less expectoration soon follows its use. A large proportion of liquorice should be boiled with the feneka; and where there is great heat, with a dry skin, two ounces of water of acetated ammonia, should be added to six ounces of the decoction. At the same time, a blister may be applied to the sternum or side. The
blistered

blistered part should be kept open for many days.

Sharp, colicky Pains of the Bowels. These were often removed by a draught of pepper-mint water, and a few drops of spirit of hartshorn. Sometimes they required opiate-glysters.

Spasms, with Chilliness or Delirium. Here also pepper-mint water, with the volatile alkali, afforded immediate relief. So did a small quantity of any spirituous liquor, diluted with hot water. At the same time the feet and legs were well rubbed and fomented with hot flannels.

Profuse Diarrhœa. It has been already remarked, that the alvine discharge, when moderate, was always salutary in this fever. In the advanced stage, however, it was sometimes profuse, and then it became necessary to restrain it. This was effected by giving testaceous powders, joined with mucilages and small quantities of ipecacuanha. Grain doses of rhubarb had sometimes a good effect,

So

So had camphorated* glysters. Opiates were not much employed.

Night Sweats. These occurred during the convalescence. They were easily checked by giving the tincture of cinchona, joined with the vitriolic acid, in cold water. The mineral acid had none of those irritating effects at this period, which it was observed to produce while the fever was running its course.

Restless Nights during the Decline of the Fever, and throughout the Period of Convalescence. These were remedied by moderate doses of tincture of opium, joined with æther, and given in a draught of some of the distilled aromatic waters. Opiate-glysters were also exceedingly useful.

Costiveness. This sometimes happened during the recovery. It was easily counteracted by the occasional use of pills composed of aloes, myrrh, and soap.

* Camphor administered by the stomach, was likewise beneficial at this time, though it almost always disagreed in the first stage of the disorder.

Aphthæ and Ulcers on the Tongue. After cleansing them with a collutory made of the common infusion of rose-petals, acidulated with the vitriolic acid, or port wine and water acidulated with lemon-juice (with or without the addition of alum) the forenefs was best counteracted, and the disposition to heal best promoted, by washing or moistening the tongue and mouth frequently with some mucilaginous liquor; in which a little camphor was sometimes dissolved.

FINIS.

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2

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IN ITS APPLICATION TO

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THE SCURVY

AND OF THE

HYDROPHOBIA

BY

JOHN HENRY CLARK

OF THE UNIVERSITY OF

EDINBURGH

IN TWO VOLUMES

THE SECOND VOLUME

CONTAINING THE

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AND OF THE

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