

**On the use of common salt in the treatment of intermittent fever / by
Joseph C. Hutchison.**

Contributors

Hutchison, Joseph C. 1822-1887.
Royal College of Surgeons of England

Publication/Creation

[New York] : [publisher not identified], 1854.

Persistent URL

<https://wellcomecollection.org/works/svexsr4t>

Provider

Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>





(23.)

THE NEW-YORK JOURNAL OF MEDICINE

FOR MARCH, 1854.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*On the Use of Common Salt in the Treatment of Intermittent Fever.* By JOSEPH C. HUTCHISON, M. D., of Brooklyn, N. Y.

THE extensive demand for sulphate of quinia, and its consequent high price, and, indeed, the frequent impossibility of obtaining it, in the portion of Missouri where I have recently practised, induced me to subject to the test of experiment various remedies which have from time to time been proposed, as substitutes for that invaluable medicinal agent, in the treatment of intermittent fever.

Among others, a succedaneum, quite recently presented to the notice of the profession, by Drs. Scelle Montdezert and Piorry (viz., common salt), has claimed our attention, and forms the subject of the present paper. For a history of its use by these gentlemen, their mode of administration, &c., the reader is referred to a paper, by W. P. Lattimone, M. D., in the *American Journal of Medical Sciences* for July, 1852. Professor Herrick, of Rush Med. College, has also reported two cases, in the *N. W. Med. and Surgical Journal*, for Sept., 1851, which go to corroborate the success obtained by MM. Montdezert and Piorry.

Although the credit of introducing chloride of sodium, as a remedy for intermittent fever, to the notice of the profession generally, is undoubtedly due to the French physicians above mentioned, it appears that it was used for this purpose prior to that time. Soon after I had commenced experimenting with it, I mentioned the subject to a neighboring physician (a gentleman of undoubted veracity and professional skill), who informed me, that some years previously he had heard of its being used as a domestic remedy for fever and ague by the people in that neighborhood. I also learned, from a highly respectable lady, that her husband's grandfather, many years before, was in the habit of curing fever and ague among his negroes, by giving copious draughts of salt water from a large salt spring on his farm.

Notwithstanding the favorable reports which have been made, the remedy has been but little used in this country, because its antiperiodic influence was doubted. And it has been thought not inappropriate again to introduce the subject to the notice of the profession, with the hope that it may receive more general attention. The experiments were commenced for the purpose of determining, with some degree of accuracy, a knowledge of its value in intermittent fever, by exhibiting it in a large number of cases. And no better field could have been selected for the experiment, not even the far-famed Pontine marshes, whether we consider the very general prevalence of the disease, or the protean and obstinate forms it here sometimes assumes. In consequence however of my removal to this city, it was prescribed in but twenty-two cases, occurring in twenty individuals, a summary of which is now presented as they were recorded; there has, consequently, been no attempt at a selection of the cases. I was enabled to ascertain the permanency of the cures in but three patients, and the condition of the spleen in but one. It would have been very desirable to have observed its effect on the spleen, which, according to Piorry, is diminished in volume with marvellous celerity. These unavoidable imperfections in the history of the cases

arise from the fact, that most of the patients resided at a considerable distance from my office, and were prescribed for without having been examined; and, indeed, from the very general prevalence of the disease, most persons have become so familiar with the use of quinia (which is usually kept in the house, and prescribed as a matter of economy and convenience by the head of the family, when necessary), that a resort to the physician in ordinary cases is rarely thought of. But I think we may safely surmise, that hypertrophy of the spleen existed in every case, excepting, perhaps, in cases 13 and 16, which were recent cases, occurring in very young subjects; because, in malarious districts, this pathological condition exists almost universally, and can be readily detected by careful percussion, even in persons who have never had what are commonly termed miasmatic diseases (intermittent and remittent bilious fevers), and who enjoy apparent good health. It appears to be the direct effect of the malarial poison, and it is a fact well known to practitioners in miasmatic districts, that in all diseases occurring there, even in those not strictly of malarial origin, the morbid effects of this poison are more or less obvious, requiring for their treatment specific remedies, in addition to their ordinary therapeia.

CASE 1.—Elisha E., æt. 3 years, prescribed for April 28th, 1852. He had intermittent fever last spring, which was then checked, but returned the ensuing autumn, and has recurred at irregular intervals to the present time. Quinia, arsenic, &c., have been used. The present attack is of the tertian type. Skin pallid and sallow, and his general health is somewhat impaired. R. Chloridi sodii zij; mucil. ulmi f̄ij. M. A teaspoonful to be taken every three hours, commencing twenty-four hours before the next paroxysm is expected.

I was informed by his father to-day (May 3d), that the paroxysms were at once arrested by the above mixture. There was no disturbance of the stomach or bowels. Thirst.

CASE 2.—S. M., farmer, æt. 30, prescribed for May 3d, 1852. He contracted intermittent fever last autumn, and

relapses have occurred, at intervals of a few weeks, to the present time, notwithstanding the abundant use of quinia, and other tonics and anti-periodics. The present attack has existed for several days, and presents the quotidian form. His complexion exhibits the appearance characteristic of the disease. R. Chl. sodii $\mathfrak{zj}$; mucil. ulmi. $\mathfrak{f}_3$ iv. M. Tablespoonful every two hours during the next intermission, as there is not now sufficient time to take the requisite quantity before the paroxysm is expected. On the 5th the chill returned at the usual time (although the salt was taken as directed), but in a much milder form; thirst; four dejections without pain, and no nausea.

This patient was accustomed to having his chills arrested immediately by sulphate of quinia, and was unwilling to risk again the prophylactic virtues of the chloride. But, from the marked diminution of the violence of the paroxysms, there is great probability that, if it had been continued, it would have arrested the disease. The disorder was suspended by liq. potass. arsenit. gtt. xv, ter in die.

CASE 3.—Elizabeth M., æt. 13, quotidian intermittent; prescribed for May 5th. The present attack has existed several days. She had the disease last autumn, and occasional relapses have occurred to the present time, sometimes assuming the quotidian form, and at others the tertian. Has been accustomed to use quinia to arrest the paroxysms. General health pretty good during the intervals of the attacks. She was ordered chl. sodii $\mathfrak{zj}$ in mucilage every three hours until six drachms were taken, commencing eight hours before the return of the paroxysm was expected. The disease was thus immediately arrested. She vomited once after taking the second dose, which was soon repeated and well retained. Four dejections, without griping; no nausea; thirst.

She was directed to take a drachm of the chloride night and morning for three or four weeks, as a prophylactic. The disease subsequently returned, but I could not learn with accuracy how long it was kept in abeyance. Her father

informed me, however, that it did not return so soon as it had formerly done, after the use of quinia.

CASE 4.—T. G. M., farmer, æt. 30, prescribed for 5th of May, for the tertian form of intermittent fever. He had the disease last September; it was then checked, and he has been free from it until three weeks since, when it returned, and was promptly arrested by sulph. quinia. Since then he has been using, as a prophylactic, bitters composed of bark, gentian and rhubarb, but a relapse occurred, notwithstanding, on the 21st day. His skin is pallid, but he feels pretty well during the intermission. He was ordered chloride of sodium ʒij in mucilage, every four hours, commencing fifteen hours before the paroxysm is expected to return, and to take four doses. Only six drachms (three doses) were taken, the paroxysm having occurred one hour after the last dose, and six hours earlier than it was expected. There was thirst, but no disturbance of the stomach or bowels. This patient objected strongly to the taste of the remedy; and, as he doubted its efficacy, and was very anxious to have the disorder *immediately* arrested, I prescribed sulph. quinia grs. x, aromatic powder grs. x, opium gr. j; to be taken five hours before the next paroxysm was expected. This promptly checked the disease.

The above case was very unsatisfactory in determining the value of the remedy. It cannot be counted a failure, nor, indeed, have we any positive evidence it would have produced the effect desired, if the quantity prescribed had been exhibited. I may remark, *en passant*, that I usually prescribe ten grains of quinia at a single dose, in intermittent fever, five hours before the accession of the paroxysm, combined with an equal quantity of aromatic powder, when there is a want of gastric sensibility, and sometimes with an opiate, or a purgative dose of calomel, when indicated. Given in this dose, a concentrated effect is developed at the proper time, which makes it more potent in arresting the disease, than if distributed over a long interval: a second dose is rarely necessary. It is preferable, also, as a matter of convenience to the patient.

CASE 5.—Leonard W., æt. 6 years, prescribed for May 8th, 1852. He contracted intermittent fever last November, and relapses have repeatedly occurred during the winter and the present spring. He has now had two paroxysms, occurring on alternate days. Skin pallid and sallow, but he complains of no particular disorder during the intermission. R. Chloridi sodii, ʒijss. To be taken in mucilage, before the next paroxysm is expected. The chill returned on the 10th, at the usual time, and the following mixture was then ordered: R. Chloridi sodii ʒiv; mucil. ulmi f ʒij. ; tablespoonful every four hours, commencing fifteen hours before the next paroxysm is expected. This increased quantity of the salt promptly arrested the disease. No nausea or purging; thirst. From the readiness with which the second paroxysm was arrested by four drachms of the salt, it seems not improbable that the first might have been prevented, if as large a quantity had been given. Of this, however, we can only surmise.

CASE 6.—A negro woman belonging to Mrs. S., æt. 20. She has been subject to the tertian type of intermittent fever for several months, it having been from time to time suspended by quinia. The present attack (May, 1852) has existed four or five days. Her general health is somewhat impaired. R. Chl. sodii ʒix; mucil. ulmi f ʒiij, M. A tablespoonful every three hours, commencing eighteen hours before the next paroxysm is expected. The above dose promptly arrested the disease, nor had there been a relapse up to May, 1853 (one year from the time the salt was prescribed), as I learned from Mrs. S. There was thirst, but no disturbance of the stomach or bowels followed the use of the remedy.

The promptness and permanency of the cure in this case is very remarkable, when we consider the length of time the patient had been subject to the disorder, and the frequent relapses which occurred when it had been suspended by the use of quinia. So well pleased was Mrs. S. with the effect

of the remedy in this case, that she subsequently wrote me from Virginia, where she had gone to visit her daughter, requesting the recipe for the "invaluable prescription," for the benefit of her friends there.

CASE 7.—Ellen B., æt. 4 years, prescribed for August 1st., 1852. She had intermittent fever for the first time last summer, and since then the paroxysms have recurred at irregular intervals to the present time. They have been suspended sometimes by quinia, and at others by liq. potass. arsenit. The present attack has existed for several consecutive days. Skin pallid and icterode, and her general health is considerably impaired. *R.* Chloride sodii 3iv; mucil. ulmi f3ij. *M.* A tablespoonful every three hours, commencing twelve hours before the next paroxysm is expected. The disease was thus at once arrested. Thirst; no disturbance of the chylopoietic viscera.

CASE 8.—Mary B., æt. 6, sister of last patient, was prescribed, at the same time, for a like form of the disease. She has also been subject to occasional attacks of intermittent fever for the last twelve months, which have been checked from time to time by the usual remedies. Her aspect and general health is similar to that of the last patient. She was also ordered the same prescription, which had the effect of at once suspending the disease.

CASE 9.—Anna B., æt. 9, sister of the last two patients, was prescribed for August 4th. She has also been a victim of intermittent fever for twelve months or more, the paroxysms recurring every few weeks. The present attack, which has existed several days, offers the quotidian variety. Skin pallid and icterode, and her general health is much impaired. *R.* Chloridi sodii 3v; mucil. ulmi f3iiss *M.* A tablespoonful every third hour, commencing fifteen hours anterior to the time for the next paroxysm. By this treatment, though the disease was not checked, the paroxysm was postponed two hours. The same plan of treatment was directed for the next day, that had been pursued the day previous, which completely arrested the disease.

We may very justly infer from the history of the last three patients, that there was considerable visceral derangement and impairment of the general health. The cases had proved exceedingly rebellious to the ordinary remedies, and even when under the potent influence of sulph. quinia, the paroxysms often persisted for several days *seriatim*. The strongly marked. I regret that the permanency of the cure antiperiodic effects of the chloride here was certainly very was not reported to me.

CASE 10.—A negro girl belonging to Mr. C., æt. 15, prescribed for August 5th. She had intermittent fever last autumn, and the ensuing spring, but has been free from it for several months, until to-day. Her general health is moderately good. As it was uncertain what type the disease would assume, she was ordered chl. sodii ʒvj dissolved in mucilage, to be taken in divided doses at suitable intervals, before the hour for the chill to-morrow, anticipating it might prove to be of the quotidian type. The paroxysm returned on the next day, notwithstanding the treatment, and for two consecutive days without any obvious amelioration. Mrs. C. then gave a teaspoonful of corn meal mixed with water, every two hours during the next intermission, after which the disease did not return. There was thirst, but no disturbance of the stomach or bowels from the chloride.

Corn meal, I may remark, is a domestic remedy for ague and fever, often used by this family, and others in that neighborhood, and it is said, in most instances, to check it at once. It would *seem*, in the above case, to have been efficacious. At any rate, the salt was here considered a failure.

CASE 11.—A negro girl belonging to Mr. S., æt. 12, prescribed for August 6th. She has had the tertian form of intermittent fever four or five days. Never had the disease before, although it has prevailed extensively in the family. General health good. As the paroxysm was expected in nine hours from this time, she was ordered chl. sodii, ʒi, dissolved in mucilage, *every hour*, until she takes six doses. On the 7th, the disease returned at the usual time, each dose of

the chloride having been soon followed by emesis. She was then directed 3ss doses at sufficient intervals to allow 3vij to be taken during the next intermission. On the 11th, I learned that the vomiting continued, though less frequently, and that the paroxysms still recurred, but in a milder form. Quinia was then prescribed, and the disease immediately subsided. Thirst, but no nausea or dejections.

In consequence of the emetic effect of the salt in the above case, it cannot be considered a fair test of its anti-periodic virtue, as it is probable a very small portion of the amount taken was retained. The paroxysms, notwithstanding, became milder, but this may have been owing to the influence of the vomiting *per se*.

CASE 12.—A negro girl, æt. 18, the property of Mr. D., prescribed for, August 20th. Her master informs me that she has had the tertian form of intermittent fever for three months, it having been suspended from time to time by quinia, &c., to return again on the 7th, 14th, or 21st days. She has now had two or three paroxysms, occurring on alternate days. Her general health is somewhat impaired, R. Chl. sodii 3ix; mucil. ulmi f3ij. M. A tablespoonful every three hours, commencing eighteen hours before the next paroxysm is expected. Nine drachms of the salt were taken, which immediately arrested the disease; nor did it return until Nov. 1st, as will be seen by referring to Case 20. No nausea or purging; thirst.

CASE 13.—Child of Mr. D., æt. two years; prescribed for August 23d, 1852. It has had the quotidian form of intermittent fever six or seven days; never had the disease before. R. Chl. sodii 3iss; mucil. ulmi f3ss. M. A teaspoonful every three hours, commencing twelve hours before the time for the next paroxysm. This patient subsequently had several paroxysms; the chloride, as I learned from its father, having produced no obvious benefit and no disturbing effects. It was not repeated. Sulph. quinia was then prescribed which at once suspended the disease.

The parents of this child were of the lower order of Irish,

who, as is well known to physicians that prescribe much for them, are not in the habit of rigidly following directions in the administration of medicines; and I have reason to suspect that the mixture was not exhibited properly in this instance.

CASE 14.—Joseph M., æt. 16; prescribed for August 28th. He contracted intermittent fever last autumn, and since then he has suffered with frequent attacks of the disorder, which have been suspended by the preparations of bark, &c. The present attack, which commenced five days since, offers the tertian form. Skin pallid and icterode; but he feels very well during the intervals of the attacks. *R.* Chl. sodii 3vi; mucil. ulmi f3ij. M. A tablespoonful every three hours, commencing twelve hours before the next paroxysm is expected. He had a paroxysm at the usual time, on the day he took the above prescription, but none subsequently, although nothing more was taken to arrest the disease. Free vomiting of bilious matter occurred soon after the cold stage subsided.

CASE 15.—Elizabeth M., æt. 12; sister of last patient. She was also prescribed for on the 28th for the same form of intermittent, which had existed with frequent suspensions since the preceding autumn. Skin pallid and sallow; general health impaired. *R.* Chl. sodii 3vi; mucil. ulmi f3ij. M. A tablespoonful every three hours, commencing twelve hours before the time for the next paroxysm.

This prescription had no obvious influence in mitigating the disorder, and was not repeated, because the patient lived some distance from me, and did not again apply until she had had four or five additional paroxysms. Quinia was then prescribed at her request, which at once checked the disease. Copious bilious vomiting also occurred in this case soon after the algid stag of the paroxysm, which immediately succeeded the use of the chloride, had subsided.

CASE 16.—Son of Mr. J. S., æt. 2½ years; prescribed for Sept. 17th, 1852. He has had the quotidian form of intermittent fever for several days; has never had the disease before. Health always perfectly good anterior to the present

indisposition. The following mixture was ordered: R. Chl. sodii $\mathfrak{z}$ iss; mucil. ulmi $\mathfrak{f}\mathfrak{z}$ i. M. Two teaspoonfuls every three hours, commencing twelve hours before the period for the return of the paroxysm. The disease was thus at once arrested. No nausea, but some alvine discharges; thirst.

CASE 17.—A sister of the last patient, *æt.* 5 years; prescribed for also on the 17th, for the same form of the disease. This too is a recent case, and the patient's general health is pretty good. The paroxysms have now recurred for five consecutive days. R. Chl. sodii $\mathfrak{z}$ ij; mucil. ulmi $\mathfrak{f}\mathfrak{z}$ ij; to be taken in tablespoonful doses every three hours, commencing twelve hours before the next paroxysm is expected. The direction was misunderstood, so that but half the quantity prescribed was administered, which, however, had the effect of promptly arresting the disease. Several dejections; no nausea or vomiting; thirst.

CASE 18.—Reuben D., farmer, *æt.* 40; prescribed for Sept. 17th. He contracted intermittent fever about twelve months ago; and since then, it has continued to recur at irregular intervals, although quinia has been freely used, both to arrest the disease and as a prophylactic. Complexion pallid and slightly sallow; but he feels pretty well during the apyrexia. R. Chl. sodii $\mathfrak{z}$ ix, mucil. ulmi $\mathfrak{f}\mathfrak{z}$ ij; to be taken in tablespoonful doses every three hours, commencing eighteen hours before the time for the next paroxysm. This treatment failed to arrest the paroxysms, nor were they postponed or rendered milder. Twelve drachms of the chloride were then directed during the next apyrexia, in $\mathfrak{z}$ ij doses every three hours, beginning eighteen hours before the disease is expected to recur. This increased quantity of the remedy had the effect of suspending the paroxysms at once, and most likely it would have done so in the first instance. There was no disturbance of the chylopoietic viscera; thirst.

CASE 19.—Emma H., *æt.* 5; prescribed for Oct. 30th. She contracted intermittent fever about a year since, which has continued with irregular intervals of exemption to the present time. It has sometimes assumed the tertian and at

others the quotidian form. She has used for it both quinia and arsenic. The present relapse recurred four days since, and is of the tertian type. Her complexion is pallid and sallow, and there is a feeling of general *malaise*. R. Chl. sodii ziv , mucil. ulmi fziss ; half tablespoonful every three hours, commencing eighteen hours before the next paroxysm is expected. This treatment suspended the disease at once. Thirst; no nausea or vomiting; no dejections.

CASE 20.—Negro girl, æt. 18, belonging to Mr. D.; prescribed for to-day, (Nov. 1st.) This is the same patient whose case was described in No. 12. She has been free from intermittent fever from that date (Aug. 20th) to the present time, when the disease again appeared in the tertian form. General health improved. Chl. sodium was again prescribed, 3x , during the intermission, at suitable intervals, which immediately suspended the disease.

By referring to Case 12, it will be observed, that there was a much longer immunity from the disorder, after it had been checked by the salt, than had existed at any time since the disease was first contracted, notwithstanding the *magnum remedium* had been previously repeatedly used to arrest the paroxysms.

CASE 21.—The master of the patient (Cases 12 and 20,) called again to-day (Feb. 4th, 1853) for the “salty mixture” which had previously been prescribed for his negro girl with such happy effects, the disease having again returned, after an interval of more than three months. Ten drachms of the chloride were ordered, in divided doses, during the next apyrexia, which checked the paroxysms as promptly as it had formerly done. Nor had there been a relapse up to July 5th, (five months.) No disturbance of the chylopoietic viscera, but thirst as before.

A striking fact will be observed in the history of this patient. The paroxysms were not only at once suspended in every instance, but the disease was kept much longer in a state of temporary extinction, when checked by the chloride, than when quinia had been used for the same purpose. This

may be an accidental circumstance, occurring independently of the greater remedial or prophylactic influence of the chloride in this instance; but to justify such an inference would require pretty clear evidence, when we remember the much more frequent occurrence of the relapses after the use of quinia.

CASE 22.—Miss Matilda G., æt. 20; prescribed for April 27th, 1853. She contracted intermittent fever about twelve months ago; since then it has continued to recur at irregular intervals, sometimes assuming one form and at others another. She has used arsenic, quinia, &c., which produced a temporary suspension of the disease. The recent paroxysms of fever have been accompanied by frontal neuralgia, which begins and subsides with them; and sometimes the neuralgia occurs alone, apparently as a substitute for the intermittent fever. They have occurred simultaneously for the last four consecutive days. Her skin is pallid and sallow, and she complains of general debility and *malaise*. The following mixture was prescribed to-day: Chl. sodii ʒiix; mucil. ulmi fʒ iij. M. To be taken in tablespoonful doses every second hour, commencing twelve hours before the time for the next paroxysm. From some cause or other she omitted one dose, so that but viissʒ of the salt were taken.

On the 28th, the paroxysm returned in a much milder form, having been postponed three hours: repeat same prescription. On the 29th, the disease recurred in a more severe form than yesterday, but was again postponed (one hour). The suffering arising from the combined influence of the two disorders was so great, that the patient was unwilling again to rely on the chloride to arrest the succeeding paroxysm. Twenty grs. of chinoidine were accordingly prescribed, which at once arrested the disease. The salt produced thirst, but no disturbing effects.

Notwithstanding the above case was one of long standing, the general health considerably impaired, and the complication of neuralgia existing, the remedy exercised so favorable an influence, as to induce me to believe it would have

been efficient in suspending the disease, if it had been used perseveringly.

RECAPITULATION.—*Age*.—9 were under ten years of age, 6 between twelve and twenty, 4 between twenty and forty, and 1 at forty.

Sex.—7 were males, 12 females, and 1, sex not known.

Race.—16 were white, and 4 black.

Proportion of Cases cured, benefited, &c.—Of the 22 cases reported, in 12, or 54.5 per cent., viz., Nos. 1, 3, 6, 7, 8, 12, 14, 16, 17, 19, 20, 21, the paroxysms were immediately suspended. Nos. 12, 20, 21, occurred in the same patient.

In 3 of the cases, or 13.6 per cent., viz., 5, 9, 18, one paroxysm only occurred after the remedy was commenced. It was completely successful, therefore, in 15 cases, 68.2 per cent. In cases 2, 11, 22, the paroxysms were postponed or moderated. No. 11, it will be remembered, vomited after each dose, so that the salt was not returned in sufficient quantity to have produced any marked antiperiodic effect. For No. 2, 4, 13, and 15, the remedy was not prescribed a second time, the patients objecting; an increased dose might have arrested the disease. Case 4 did not take all that was prescribed. In one case only (No. 10), after fair trial, was there no obvious good effect from the remedy.

Permanency of the Cures.—In three of the patients only, for reasons which have been elsewhere stated, was I enabled to ascertain with any degree of accuracy the permanency of the cures. Cases 12, 20, 21, which occurred in the same patient, had longer intervals of immunity from the disease each time when checked by the salt, than when quinia had effected the same purpose; and when last heard from, five months had elapsed without a return of the malady. It was said of No. 3, that the disorder did not return so soon as it had previously done when checked by quinia; and of No. 6, it will be remembered, that the patient had not relapsed twelve months after the paroxysms had been checked by nine drachms of the salt, although they had previously returned quite frequently after the use of quinia. So far as the evidence goes,

therefore, (which, however, is too limited for a general conclusion,) it indicates the superiority of the chloride of sodium over the usual remedies in the permanency of the cures effected by it. And here we should not lose sight of the favorable influence that *may* have been exerted by the quinia before the salt was prescribed.

The difficulty of effecting positive cures of intermittent fever by any remedy or course of treatment, however rigidly pursued, is very great, and sometimes impossible, even though prophylactics be continually used, as long as the individual remains exposed to the cause which developed it. The writer can here speak emphatically, because he has, on two different occasions, been compelled to "fly his country" in order to get rid of this harassing pest. In a number of cases, and among others now distinctly remembered are No. 6 and 7 detailed above, the paroxysms *would* recur every two or three weeks, notwithstanding quinia with Vallet's mass and other remedies to relieve the disordered viscera, including counter-irritation over them, were diligently plied.

Duration of the Disease, and general Health of the Patients.—In a large proportion of the patients the disease had existed a very long time. Of most of them it is noted, that they had been its victims from six to twelve months. By this it is not to be understood that the disorder then commenced *de novo*, but that it had recurred more regularly and with shorter intervals during that period than previously; for many of them had been its victims for a much longer time, and indeed a few could scarcely remember any period of their lives when they were not from time to time subject to the disease. In four cases (11, 13, 16, 17), the patients had never had the disorder before; and in most of them (all but the very recent ones), there was of course more or less impairment of the general health, with visceral obstructions.

Modus Operandi.—We have seen that chloride of sodium *does* cure intermittent fever, and now the interesting question arises, What is its *modus operandi*? Upon this subject there is a variety of sentiment. It is the opinion of M. Scelle Mont-

deziert "that paroxysmal fevers arise from the presence of fibrin in the venous blood," and that the salts of quinia, and also *chloride of sodium*, "owe their efficacy as antiperiodics to the fact that they dissolve the fibrin abnormally present, thus restoring the venous blood to its normal conditions." (See Dr. Lattimore's paper.) I suppose he means *excess* of fibrin, or of colorless corpuscles (which, as Mr. Paget remarks, cannot, by any mode of analysis yet invented, be separated from the fibrin of mammalian blood),* or of both, constituting the disease which Prof. Bennet, of Edinburgh, calls, very significantly, *leucocythemia*, and which he has recently described as occurring in cachectic states of the system, attended with organic disease of the lymphatic glandular system, and more particularly of the spleen, which he includes in that class. Not having seen the memoir of Montdezert on this subject, which was presented to the French Academy of Medicine, I am unable to say how his conclusions were arrived at; whether they are the result of a carefully conducted analysis of the blood, before and after using the remedy, or merely a conjecture. It would be necessary, in order that his views be generally adopted, that they should be based on very satisfactory evidence. The enlightened state of medical science at the present day, and the rigorous exactness to which it is aspiring, demands that all its facts should rest on the most indubitable evidence of their truth.

It is believed by M. Piorry (who was one of the committee appointed by the Academy to report upon the memoir of M. Scelle Montdezert), that enlargement of the spleen is the cause of all paroxysmal fevers, and that chloride of sodium cures intermittent fever, like the sulphate of quinia, by acting on the spleen and diminishing its volume, and this sometimes in less than a minute. We are prepared to admit, that the spleen, when of abnormal size, *tends* to keep up the disease when once contracted, and that it is diminished in volume by sulphate of quinia and chloride of sodium (but not *pari*

* Kirkes & Paget's Manual of Physiology.

passu) with the fever; for we feel quite sure that the fever is often cured, whilst the spleen remains moderately enlarged. And the fact which he announces, that "whenever the spleen has a greater length (measuring in a line from the middle of the axilla to the anterior superior spinous process of the ilium) than from 31 to 33 lines, intermittent fever exists," is certainly *not* true in the malarious districts of this country, if it is otherwise in the field of Piorry's observation. If this were a fact, there are very few of the denizens of *our* miasmatic regions who would not be doomed victims of the disease; because, as has been already stated, enlargement of the spleen (often to the extent of 31 or 33 lines in its longitudinal diameter) exists almost universally in such localities, in persons who have for some time resided there, even though they may never have had intermittent fever, and *a fortiori* in those who *have* had the disease, but have for a long time enjoyed an absolute immunity from it.

A theory of its mode of acting, which, it occurs to the writer, is more consistent with reason and established truth, is, that chloride of sodium (being an antidote to the poison which produces intermittent fever, in certain doses) enters the circulation by means of absorption, and neutralizes the miasmatic effluvia which probably operate on the system through this channel; or, in other words, that it develops a condition of the system which is inconsistent with the existence of malarial disease.

We know that bark is an antidote to the miasmatic poison, because, in most instances, its constant use will keep off such diseases from individuals who have been subject to them, and that they return when the remedy is omitted, if the individual continues exposed to the cause which produces them. We can have no better illustration than this of the sequence of cause and effect. Our experience with chloride of sodium in paroxysmal fevers has not yet been sufficient to determine accurately its value, in preventing a recurrence of the attacks when constantly used; but there is every reason to believe

it will prove not much inferior to the preparations of bark, and for the same reason.

Common salt may also act beneficially in intermittent fever by increasing the quantity of red globules in the blood, thereby removing the anemia which is one of the most constant concomitants of the disease. According to the experiments of M. Plouviex, made upon himself at intervals during twenty-five months, a saline regimen has the effect of *increasing the weight and strength of the body*. He began with a teaspoonful daily, which he increased to a tablespoonful, continuing to take this dose on several occasions, for a period of three or four months. The regimen appeared to produce *plethora*. The blood, analyzed while under the full effects of the salt, was found to contain more of the *globules* and salts, but less of the albumen and water.—*United States Dispensatory*.

Dose and Mode of Administration.—The quantity given varied from eight to twelve drachms during the apyrexia. At first, eight drachms were given, but the amount was subsequently increased to nine, ten, and even twelve drachms in one instance, with obvious benefit. Children required somewhat larger proportional doses than adults.

Mucilage of elm was selected as the vehicle, on account of its convenience, and because it sufficiently disguised the remedy, which was deemed a matter of importance; for it would have lost much of its efficacy, or have been repudiated altogether, had the patients known they were taking simply common salt; as it is well known to physicians that the influence of the mind upon this disease is very considerable. The following was the formula used:

R. Chloridi sodii ℥ij.
Ulmi pulv. ʒij.
Aq. bullientis fʒviii.

Infuse two hours and strain. This forms a saturated solution. Dose, a tablespoonful every two, three, or four hours, so that five or six doses may be taken during the apyrexia. It was not deemed necessary to precede its employment by evacuates, because the patients had recently used such remedies during their former attacks; and moreover, I preferred to

use the salt alone, because its real value could thus be better determined. When it is necessary to precede the use of the salt as an antiperiodic, by emetics or cathartics, perhaps there is nothing better for the purpose, in ordinary cases, than the same remedy administered in emetic doses, which will usually produce also moderate catharsis.

Disturbing Effects.—In most of the cases the remedy was well tolerated by the stomach, nausea or vomiting having occurred in but four (3, 11, 14, 15). Four cases also (2, 3, 15, 17,) had moderate alvine evacuations, unattended with pain. There was considerable thirst in every case; no other unpleasant effects. When given in the above manner (dissolving it in as small a quantity of water as is possible), it is less likely to disturb the stomach, than the same or even a less amount would in a larger proportion of the solvent. The taste was objected to by some, whilst others disliked it much less than quinia.

Conclusions.—From our experience of the antiperiodic virtues of chloride of sodium as detailed above, we think the following conclusions may be legitimately deduced:

I. Although inferior to cinchona and its preparations, it yet forms a *very good substitute* for them in intermittent fever, having failed, as we have elsewhere seen, to produce a speedy suspension of the paroxysms in 31.8 per cent. of the cases only: in a majority of cases therefore it may be substituted for quinia.

II. It may be used instead of, and indeed *preferably* to quinia, first, in cases not unfrequently met with, where the latter remedy is forbidden by the very unpleasant nervous and cerebral symptoms it produces (delirium, tinnitus aurium, cephalalgia, faintness, &c.), an example of which I have recently seen in the New-York Hospital, when sulph. copper was substituted. Secondly, where quinia, from frequent repetition, has lost its effect in ague. Thirdly, it is commended on the *score of economy*, which is a consideration of importance to the poor especially, who are now in a measure debarred from the use of quinia by its high price. And

fourthly, it is always at hand, whilst quinia sometimes cannot be obtained.

III. It has been found to be *more energetic* in curing ague than any of the vegetable or mineral tonics commonly used for that purpose, excepting bark, and should therefore be preferred to arsenic, which has been ranked by M. Andral, Prof. Wood, and indeed most other authorities, next in value to quinia. And moreover, I think arsenic should never be used until after quinia and *common salt* have failed to do good, on account of its unpleasant and sometimes disastrous consequences to the general system and stomach, and the increased facilities it affords for using the remedy as a toxicological agent.

Green Ave., January, 1854.

ART. II.—*Case of Perforation of the Rectum, followed by an Extensive Fæcal Abscess of the Nates.* With Illustrations. By LEWIS A. SAYRE, M. D., Surgeon to Bellevue Hospital, etc., etc.

ON Saturday, 23d July, 1853, I was called about 11 P. M. to see the Rev. Dr. B., who was said to be dying with what was called "Neuralgia of the Rectum." He had had a severe rigor about 4 o'clock that afternoon, which lasted about three hours, and left him in a state of great prostration.

I found him bolstered up in bed between two persons, who were fanning him, chafing his temples, and endeavoring to make him swallow some stimulants; his surface was cold and clammy, bathed in perspiration—mouth partially open—lips almost bloodless—pulse 140, very feeble and intermittent—constant hiccough, and complaining of intense pain in the rectum and nates, with an inability to pass his urine. Upon placing my hand upon his nates, I distinctly felt crepitation, and heard gurgling of air, deep underneath the glutei muscles, which were hard, firm to the touch, and distended in all directions to such a degree as to make his nates much too large to correspond with his legs, arms,



