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ON THE USE

OF

SULPHATE OF CINCHONIDIA

IN PARTS OF THE STATES OF

ILLINOIS, INDIANA, MISSOURI, KENTUCKY,
AND IN THE MISSISSIPPI VALLEY,

IN 1875.

From Medical Journals, Societies, and Individual Physicians.



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THE CHEAPER CINCHONA ALKALOIDS.

From Jas. S. Whitmire, M. D., Metamora, Ill., in the Chicago Medical Journal, August, 1875.

For several years we have been convinced that it would be to the material interest of the medical profession, everywhere, to pay more attention than has heretofore been done to the use of the cheaper cinchona alkaloids, and this should be the case, more especially, with that portion of the profession who reside in the rural districts and country villages, where they are compelled, almost from necessity, to furnish their own medicines. There are several reasons why this should be done, among which is the well-known fact that the forests of the different valuable species of the cinchona tree are becoming greatly decimated; and though there is still an abundance of the bark for the world's supply, yet the time is not far distant when the States of South America, where the tree is indigenous, will institute measures for its preservation, and this will necessarily shorten the supply of the bark. We understand that such measures have already been instituted in Chili and Bolivia. It is true that the Dutch in Java, and the English in the East and West Indies, have been successful in acclimatizing some of the most valuable species of the cinchona tree, and have already begun to make the bark from their plantations a commodity of commerce; yet, with the wholesale destruction of the tree in its native mountain wilds, for the procurement of the bark for the purposes of commerce, it must, sooner or later, be decimated to the minimum amount, so that the supply will necessarily cease to be equal to the demand. This may not prove to be the ultimate result in our day, but we, the profession, who claim to be humanitarians, should look with a jealous eye, not only to our

own pecuniary interests and physical well-being, but the welfare of those who are to come after us, and fill our places for a brief period, should be kept constantly in view. Another reason why we should pay more attention to the use of the cheaper alkaloids, is that either or all of them are relatively cheaper than quinia, even though two of them have to be used in larger doses than the latter drug to accomplish the same results; besides, so far as our experience has been connected with their uses, we have not the least question of their utility as a substitute for quinine under nearly all circumstances where the use of the latter drug is indicated.

With the above prefatory remarks, we now desire to state that we have used all of them, excepting cinchonidine, in our practice for several years. We first used sulph. of cinchonia, next sulph. quinidia, and third, the sulph. of cinchonidia; and even the residue—chinoidine—which is evaporated to dryness from the mother-waters after the crystallizable salts have been separated, has been utilized in our practice, as a prophylactic against the recurrence of intermittents. We seldom make use of the sulph. cinchonia—which we have used for the longest period—as an antiperiodic, or antipyretic, because of its tendency to nauseate the stomach; but, nevertheless, we are convinced that it possesses valuable febrifugal and antiperiodic properties, and may be advantageously utilized for such purposes in the absence of either of the other preparations of the bark. Notwithstanding its nauseating qualities, we usually make it available as a general tonic in connection with the mur. tinct. of iron, especially at times when a chalybeate is indicated—a condition which is seldom absent after an attack of intermittent or autumnal fever; and we find it to be, to the full, as efficient in this respect as quinia, or any of the bitter tonics; besides, it has the advantage of acting as a prophylactic against the recurrence of a chill. Our usual prescription, under the circumstances just mentioned, is this:—

R. Cinchon. sulph.,	ʒj-ij
Ferri. mur. tinct.,	ʒj
Syrup simp.,	ʒiij.

Sig. One teaspoonful, in water, at each meal.

This is an admirable tonic, and may be used with advantage in anæmia and other debilitated conditions. The sulph. of cinchonia, in bulk, costs about thirty-five cents per ounce.

The sulph. of quinidia we have used to a greater or less extent in our intermittent and remittent bilious fevers ever since it was first thrown upon the market. This alkaloid, though, in fact, but little cheaper than quinine, we have found equally efficacious as an antiperiodic and antipyretic as the quinia sulph., though it must be used in a little larger dose than the latter drug. As an evidence of its value in some of the periodical neuroses, such as that commonly known as sun-pain, we have frequently administered it with as prompt relief to our suffering patients as we have ever known to be produced from the use of our sheet-anchor—quinine. As an example, my wife for many years has been subject to this distressing intermittent or periodical neuralgia; she was greatly opposed to taking quinine on account of the tinnitus aurium and other distressing symptoms it produced. Now, under these circumstances, while twenty-five to thirty grains of quinine may have been sufficient to interrupt the paroxysms of pain, I administered to her forty grains of the quinidia sulph. in the course of twelve hours, which completely warded off the attack, and did not subject her to the disagreeable after-effects to that extent that the use of quinia is wont to do. This drug (quinidia) costs in the market about \$1.63 per ounce, but the dose required being nearly or quite one-fourth larger to produce the same febrifugal effect as that of quinia, it makes the expense but very little less than the latter drug. But if its febrifugal and other qualities be equivalent to that of quinine in proportional doses, why not use it more extensively, especially in our milder malarial fevers, so that the demand for quinia will not be so great, thus cheapening the article of quinine, and, at the same time, preventing the wholesale destruction of the bark that has been going on for years for the production of a sufficiency of quinine to supply the world's demand?

The last of the alkaloids—sulph. of cinchonidia—

though *not the least*, comes up for our consideration. This article has not been so long upon the market as the latter alkaloid; in fact, it has not till within a few months been brought more than casually to the notice of the profession; but because its introduction has been of but recent date there is no reason why those who have seen fit to test its medicinal virtues, and give it a fair and impartial trial, should be treated so cavalierly when they attempt to call the attention of the profession to its value as a remedial agent. It is our object in this paper to call the attention, especially, of country practitioners to the unqualified value and merits of this drug as a tonic, febrifuge, and antiperiodic. So far as our experience has gone with the use of this alkaloid—cinchonidia sulph.—we are disposed to attribute to it very nearly, if not quite, an equivalent therapeutic value with that of the sulphate of quinine. We have used it in the same doses—ten to twenty-five grains—with complete success, in interrupting the paroxysm of intermittents; we have administered it, in connection with morphia, to dispel the malarial complications that sometimes occur in pneumonia, with satisfactory results; and, in acute rheumatism, we have substituted it for quinia, whenever the latter drug seemed to be indicated, with unequivocal benefit. We have had this spring (1875) in this vicinity more than a usual amount of malarial or periodical diarrhoea and neuralgia, both among children and adults, for the relief of which we have been in the habit of prescribing the sulph. cinchonidia, with other appropriate remedies. In these cases the same amount was given as that of sulph. quinia under similar circumstances—we seldom or never had to repeat the dose—and its administration was attended with the most complete and satisfactory results.

This article—cinchonidia sulph.—can be obtained by the quantity for from seventy-five to eighty cents per ounce, and, therefore, we would respectfully ask the question: If the value of this agent as a tonic and febrifuge is equivalent, or nearly so, to that of quin. sulph., and its commercial value is only one-third of the latter, is it of no concern to the country practitioner, who has to furnish,

at great expense, annually, his own drugs, not only to the wealthy, but to the indigent from whom he never expects to receive one farthing for his services, and for whom he labors solely for the sake of suffering humanity, for the answer of a good conscience, and the gratitude of his beneficiaries?

We would not use these cheaper remedies merely for mercenary motives; no one could conscientiously do so; but we would, and do, prescribe and use them because we believe them, in equivalent doses, to be of the same therapeutic value as that of quinia, and that they may be safely used as a substitute for it; and, in so doing, we are treating our patients well, and, in not a few instances, we are not only contributing our medicine and our services to the poor, but we are rendering good service to the general health and comfort of our patients, and saving to ourselves the difference in the cost of the drug used, which would amount to no mean sum in the course of the year, and which the country physician so much needs, because, at best, his life is a hard one, and few there are, indeed, who make any more than enough, from year to year, for the economical support of themselves and families.

Chinoidine, the residual product of the mother-waters, we have used for more than twenty years as a prophylactic against the recurrence of intermittents. The most eligible form in which we have been able to prepare it for use, is to finely powder the resin, and then add a sufficient quantity of calcined magnesia to prevent the powdered resin from running together, then thoroughly rub them in a mortar, and afterward bottle. Of this powder we give from three to four grains, after each meal, for one day; on the next, we administer ten drops of Fowler's solution, in water, after each meal; and so continue alternating the medicines for four or five weeks, when every vestige of malarial influence will be found to have vanished. Of course, we always first interrupt the paroxysms by the use of one or the other of the salts of the cinchona alkaloids.

In case these directions are strictly carried out, there will not be three per cent. of relapses, while there are

more than thirty per cent. where the prophylaxis is not used. Chinoidine, used in this manner, is by no means a disagreeable medicine, because it is but slightly soluble in either saliva or water; hence it may be given in syrup to children with but little or no complaint.

From the St. Louis Medical and Surgical Journal, September, 1875.

Extract from the Minutes of the Allen County, Indiana, Medical Society, on the Use of Sulphate of Cinchonidia.

A spirited discussion on this subject was participated in by Drs. J. R. Beck, Jas. S. Gregg, D. S. Linvill, G. S. Brueback, and C. Sihler, during the course of which several of the gentlemen spoke in most favorable terms of their experience with sulphate of cinchonidia, and all agreed that the investigation of the merits of the drug was important.

From the Indiana Journal of Medicine, September, 1875.

Extract from the Minutes of the Wabash County Medical Society, on the Use of Sulphate of Cinchonidia.

The subject was taken up and discussed by the members, who gave a very favorable report of the sulphate of cinchonidia. So far as they had used the medicine it had answered equally the purpose of quinine in intermittent fevers, etc., and in some instances, where there was an idiosyncrasy against quinine, it acted much better.

From the American Practitioner, October, 1875.

Dr. Theophilus Parvin, in Notes of Practice at the Indiana Reformatory for Women and Girls, writes as follows:—

SULPHATE OF CINCHONIDIA IN INTERMITTENT FEVER.

Nearly two months ago I commenced the use of sulphate of cinchonidia. It was administered in a solution*

* Since writing the above, some three weeks ago, many new cases of intermittent have occurred at the Reformatory, and they have been characterized by greater gastric disturbance and greater obstinacy to the action of remedies. For the former reason I have replaced the solution mentioned by pills of the sulphate of cinchonidia, tartaric acid, and water (this is an admirable way of

made by adding to one ounce of the salt two fluid ounces of aromatic sulphuric acid, and fourteen fluid ounces of water. A teaspoonful, or one fluid drachm, of this solution would therefore represent three and three-quarter grains of the sulphate.

The number of cases of intermittent fever treated with this preparation was twenty-four—two quotidiens, one quartan and the rest tertians. Immediately upon the manifestation of the disease two teaspoonfuls of the solution previously mentioned were given, and continued three times—adults four times—a day for three days; then, in order to prevent a relapse, two teaspoonfuls twice a day for one month. In no instance did it fail to promptly arrest the disease, and in no case has there been a recurrence, save when there was a failure to take the remedy as directed. In a case of Wood's *pernicious fever*, I did not think it right to risk the cinchonidia, but gave quinia; nor have I yet tried it in malarial neuralgia, having had such long-established confidence in the value of quinia, with morphine and the English extract of belladonna, in this disorder; but, with these exceptions, the sulphate of cinchonidia is almost the sole reliance as an antiperiodic in my practice at the Reformatory.

From the St. Louis Medical and Surgical Journal.

ST. LOUIS, Mo., November 15th, 1875.

MR. EDITOR:—In answer to your inquiries, there were treated at the City Dispensary, from August 13th to November 3d, seventeen hundred and eighty-eight cases of malarial disease; of this number, five hundred and ninety-six took sulphate of cinchonidia, instead of sulphate of quinine. The quantity given was the same that we give of quinine. It was quite as efficient, and in some cases I thought more efficient than quinine.

I have tested it, I think, pretty thoroughly. The condition upon which the patients receive their medicine,

making pills); and, for the latter, I have given the sulphate in larger doses; in one instance, forty grains within twelve hours. The general result has been still quite satisfactory. In the few instances where the remedy failed to arrest the disease, it was not given in sufficient quantity, or was rejected by vomiting.

after proving their poverty, was, that they report to me, promptly and regularly, their progress.

They did thus report, and the results and facts thus obtained were convincing to me. My usual plan of treating the cases was as follows:—

If the bowels were not already in a soluble condition, they were rendered so by a free use of sulphate of magnesia. Sulphate of cinchonidia was then administered (even though the fever had not yet disappeared), in five to eight-grain doses, every two or three hours, until forty grains had been taken, then continued in two-grain doses, every three hours, until twenty grains had been thus used; it was then discontinued until the seventh day from the day of the last paroxysm, when it was again resumed, two grains every three hours during the day. This resumption on the seventh day was repeated as far as the fourth seventh day; on the intervening days a pill was given, compounded as follows:—

R. Sulphate of cinchonidia,	gr. j
Ferri. pulv. (per hydrogen),	gr. j
Strych. sulph.,	gr. $\frac{1}{10}$
Acid arsenious,	gr. $\frac{1}{10}$.

Out of the five hundred and ninety-six cases, there were six cases of failure on the part of the cinchonidia to break and prevent the paroxysms. These I attributed to the patients failing to follow instructions. (This report does not include imbeciles and dead-beats, to the number of about thirty; wherein there was failure, the cause of failure was too palpable.) About fifteen relapses occurred at the end of the third or fourth week; some of these were dependent, I thought, upon leaving off the medicine too soon. We have, then, I think, in sulphate of cinchonidia a substitute for quinine, cheap, efficient, and easy of administration, not followed by the disagreeable tinnitus aurium peculiar to quinine. Yours, truly,

J. U. LOVE, M. D.,

Dispensary Physician.

From the St. Louis Medical and Surgical Journal.

Cinchonidia is one of the alkaloids of cinchona. We have used its sulphate, with success, in this asylum, as a substitute for quinine.

It has been given in a large number of malarial affections, and in no case has it failed to do all that could have been expected of quinine. We have used in the last seven months thirty-five ounces of sulphate of quinine; thirty-four ounces cincho-quinine, and forty ounces of sulphate of cinchonidia.

I have tabulated, from the records, 100 cases of intermittent fever which were treated with cinchonidia. The average length of treatment was 4.3 days; the average amount taken, 83.7 grains, or at the rate of 19.5 grains a day.

The general plan pursued was to give a mild purgative, and follow it with ten or fifteen grains of the cinchonidia, with a malarial pill twice a day. Very few had the second chill, but the treatment was continued for several days as a precautionary measure. In some of the weaker patients it was followed by tonics. There were only two or three relapses. The drug was generally well borne by the stomach.

Observation of its effects has tended strongly to convince me that, while fully as effectual as quinine, it is much more gentle in its action, rarely producing the tinnitus aurium, deafness, roaring in the head, etc., etc., which make the latter drug so obnoxious to many patients. As the statements of the insane cannot always be relied on, I am not in a position to speak positively on this point.

I have myself taken fifty grains in two days, without any head symptoms whatever. On me its effect is simply charming. I shall never take another grain of quinine if cinchonidia be procurable.

The malarial pill spoken of above is made according to the following formula:

R. Mass. hydrarg.,		
Piperine,	āā	grs.cc
Cinchonidiæ, sulph.,		ʒss
Ammonix carbazotatis,		ʒij
Podophyllin,		grs.xv
Atropix sulphatis,		gr.j
Ol. piperis nigri,		q. s. ut.

Ft. mass. div. in pil. No. cc.

Sig. Two to five a day.

The only novelty claimed in this pill is the use of atropia. I was first led to employ it as an anti-malarial agent by observing the analogy between the pathological conditions in some varieties of congestive chill and cholera. I had used it successfully, following the example of my friend Dr. Hodgen, in the latter disease, and in cholera-morbus, and concluded that it might be efficacious in the former. This proved to be the case. I then succeeded in stopping a "shaking ague" in a few minutes by a hypodermic injection of, if my memory serves me right, $\frac{1}{16}$ grain of sulphate. Thus encouraged, I began to use it internally in the treatment of intermittents, and thus far have found it a valuable adjunct to other remedies. These pills, when given *one* every four, five, or six hours, are often alone sufficient in mild cases.

The utmost care should of course be taken to secure the accurate division of the atropia.

The one two-hundredths of a grain contained in each pill, may appear to some a homœopathic dose, but if they will try a few doses, a couple of hours apart, their opinions will probably undergo a change.

The cinchonidia has proved valuable as a tonic, efficacious in certain forms of neuralgia and rheumatism, and a good sedative in some cases of mania and melancholia.

We have also used the sulphites of soda and magnesia, and the tincture of eucalyptus globulus, in the treatment of intermittents. The sulphites acted well in quite a number of cases, but failed entirely in several others, which were immediately relieved by the cinchonidia. The eucalyptus is still on trial.

The sulphate of cinchonidia can be bought for a little more than one-third the price of the sulph. of quinine. That used by us was made by Powers & Weightman, of Philadelphia.

N. D. V. HOWARD, M. D.

St. Louis County Insane Asylum, Nov. 1, 1875.

Extract from a letter of Dr. F. B. EINSEN BOCKIUS, Medical Director of the North Star Dispensary, Chicago, Ill., October, 1875.

In a public charitable medical institution which, like the North Star, treats annually from 10,000 to 14,000 pa-

tients, it is obvious that the cases in which a remedy of this nature is demanded are very numerous, and the opportunity for investigation almost unlimited. Though but a few months have elapsed since I commenced its trial, the instances of its employment have grown into hundreds.

As the result of experiments upon the lower animals, in which a fatal effect had been produced by cinchonidia, I found but one common and constant pathological change, viz.: intense congestion of the anterior portion of the cerebral hemispheres. In this peculiarity your alkaloid resembles cinchonia, and differs from quinia, which causes hyperæmia of the investing membranes, and frequently injection of the brain tissue itself.

My attention has been especially directed to the therapeutical application of cinchonidia in its administration as tonic, antiperiodic and alterative, with the annexed results.

AS TONIC. In cases of impaired digestion—except when accompanying great general debility or nervous prostration—it ranks equal with quinia, while in disordered alimentation, co-existing with cerebral or arterial excitement, cinchonidia is vastly the superior of that derivation. Your remedy is less apt to create gastric irritation, and is more readily borne by children.

AS ANTIPERIODIC. In recent intermittent and remittent fevers it has surprised me by the rapidity, certainty, and ease with which it arrests the paroxysms, and, as well, by the almost total absence of unpleasant effects upon the sensorium, such as are often urged as a valid objection to the employment of quinia. In malignant remittent (congestive chill) I have not had occasion to test it, but do not doubt its efficacy. When, however, we have to deal with old or chronic cases of periodic fevers, the remedy has proven at my hands less energetic in gaining control of the disease than quinia, although it affords a much surer immunity from a return of the disorder.

AS ALTERATIVE. I am fully persuaded that cinchonidia possesses, in a marked degree, a hitherto unnoticed property as an alterative. My attention having been

pointedly attracted by the rapid improvement of chronic (probably tinctured with specific poison) ulcers, affecting patients who were under treatment for ague (and upon whom quinia and iron had been used without mitigation of the local malady), directly the system was brought under the influence of cinchonidia, administered in antiperiodic doses, repeated experiments always affording the same results, I am compelled to admit to the alkaloid a medicinal virtue very similar to that possessed by "equatoria garciana" (when the Bliss & Kean fluid extract is deprived of its iodide of potassium and bichloride of mercury), that is, a tonic alterative, differing from colchicum and the minerals in the fact that it maintains and increases the tone of the system while it exerts its power as an alterative.

The conclusions I draw from my experience with cinchonidia are somewhat as follows: It is tonic, antiperiodic, and alterative; it is less (than quinia) a local irritant, either when applied externally or administered by the mouth, and also disturbs less injuriously the functions of the various organs of the body; if taken in poisonous quantities, it causes congestion of the anterior lobe of the cerebrum, which may possibly be urged to inflammation; in cerebral, arterial or inflammatory excitement it is preferable to quinia (when, of course, either is indicated), as it affords a more perfect security from relapse than its rival, and, while less rapidly energetic, it maintains its influence for a greater period of time.

In private practice I employ cinchonidia as frequently as quinia, while for Dispensary uses I greatly prefer the former, both on account of its reduced price (which is always an object with charitable institutions), and because of the permanence of its effects.

North Star Dispensary is employing cinchonidia almost exclusively, and if the preparation proves itself as useful in the future as in the past, we will not soon discard it.

From Dr. Phillip Adolphus, of Chicago.

The gentlemen of the medical staff of the Central Free Dispensary of West Chicago have, for the past three

months, been using sulph. of cinchonidine to the exclusion of quinine.

They are satisfied with its antiperiodic and tonic powers.

Sulph. of cinchonidia will in future be used in this Institution as a substitute for quinine.

Dr. M. M. Van Ness, Decatur, Indiana.

It is with the greatest gratification, after a continued test in every case where I have heretofore employed quinine, that I commend the use of cinchonidia. In ague, I think it far preferable. In over five hundred cases, during the past sixty days, I have administered it in doses of from fifteen to forty grains, and have never had a recurrence of the disease. I have no further use for quinia, and am certain, where it is fairly tried, it will supersede all other bark preparations.

From Dr. F. S. C. Grayston, Huntington, Indiana.

I have prescribed some fifty ounces of cinchonidia for the various malarial diseases incident to this climate, and with satisfactory results. I believe in almost every case its effects were as prompt and reliable as generally attend the exhibition of sulphate of quinia. It is undoubtedly a valuable addition to our *Materia Medica*.

I have prescribed the cinchonidia in somewhat larger doses than that of quinia, and have noticed a less disposition to the return of agues under its influence than has been my experience with the sulphate.

Dr. N. de V. Howard, St. Louis County Insane Asylum.

We have used during the past six months over fifty ounces (of sulphate of cinchonidia), and find it equally as efficacious as quinine.

Dr. T. J. Griffith, Darlington, Indiana, August 22, 1875.

I assure you that sulphate of cinchonidia is a new thing with me. I began using it in 1874, along with quinia, and find it equally as reliable as an antiperiodic. During the present year, I have not used any quinia in my prac-

tice. For the country practitioner, who dispenses his own medicines, in the use of cinchonidia there is a saving of 125 per cent.

Dr. S. P. Collings, Surgeon to the Indianapolis City Hospital.

I used the sulphate of cinchonidia in the surgical wards of the City Hospital for several months, and gave it, I think, a fair trial. Found it equal to quinia in every respect.

Dr. John C. Nottingham, Marion, Ind.

So far as I have used cinchonidia, the action has been as prompt and effective as quinia, without any cerebral disturbance. I know of no reason why it should not take the place of quinia in almost all cases requiring that drug.

Dr. G. O. Woolen, Secretary Indiana State Medical Society, Indianapolis, Indiana.

I have used the cinchonidia furnished me, mostly in my own family, in several forms of malarial trouble, and found no perceptible difference between it and sulphate of quinia, of which I have used a large amount.

Dr. Jno. A. Gale, Resident Physician of City Dispensary, Indianapolis, Ind.,
Dec. 1, 1875.

I have used the sulphate of cinchonidia sent me, and must say that I was agreeably surprised at the result. Subsequently I have prescribed over one hundred ounces in my dispensary practice, and have found it the equal of quinia in the treatment of intermittent and remittent fevers. It has the material advantage of producing little or no cerebral disturbance, which renders quinia so disagreeable. In the case of women and children, I have a decided preference for sulphate of cinchonidia over quinine. As a tonic, the sulphate of cinchonidia is particularly efficacious, being much superior to the sulphate of quinia.

I have formed the above-expressed opinion of this remedy from actual experience in its use.

Dr. J. W. Pritchett, Corresponding Secretary of Kentucky State Medical Society, Madisonville, Ky., Dec. 24, 1875.

The sulphate of cinchonidia has been all that you claimed for it, and even more. I have not prescribed a drachm of quinia since October; have used cinchonidia exclusively, and its effect has been most happy. The bad effects (cinchonism) that result from the use of quinia are not felt when the sulphate of cinchonidia is used. I use it in same size dose (by weight), and find it equally as reliable and efficacious in the malarial diseases that are so prevalent during our autumn months. I have not given it a trial in pneumonia, or the diseases incident to our winters, but I would not hesitate to prescribe it when quinine was indicated.

Dr. T. S. Bell, Medical Department University of Louisville, Louisville, Ky., Dec. 25, 1875.

I have used the sulphate of cinchonidia as satisfactorily as I have used quinia or quinine. I have not seen it fail in any instance. I administer it in the same doses that I use in quinia or quinine. It is equally as effective as the quinine, and is not as apt to produce disagreeable effects in the head. I have used large quantities of the sulphate of cinchonidia, and I do not desire a better remedy for intermittent and remittent fevers. The results of the use of sulphate of cinchonidia in the Kentucky Institution for the Blind, under my medical supervision, have been satisfactory in the highest degree. I gave four ounces of the sulphate of cinchonidia to Dr. Robarts, who has charge of the University Dispensary, and he speaks of the results there in terms similar to those that I have expressed as of my personal knowledge.

Dr. John E. Pendleton, Hartford, Ky., Dec. 23, 1875.

I have used sulphate of cinchonidia in a number of cases, and the results were very nearly equal to those of the sulphate of quinia. The paludal diseases we had here at the time I received the sulphate of cinchonidia were more than ordinarily intractable, frequently assuming a pernicious or congestive type. Not being acquainted with the sulphate of cinchonidia, I feared to risk it in the

worst cases, as often a second paroxysm would be fatal; but since I have tested it, I should not feel great anxiety for a patient who had taken forty grains of your alkaloid in the "interval," even in the worst cases. From the short acquaintance I have had with the sulphate of cinchonidia, I feel safe in saying that, though possibly not the equal of quinine as an antidote to the paludal toxæmia, it is next to that agent, of all the remedies of which I have any knowledge.

Dr. John A. Ochterlony, of Louisville, Ky., Dec. 31, 1875.

Since the beginning of October, I have made the therapeutic value of sulphate of cinchonidia an object of special study. I have used it in private practice, and in my ward at the hospital, and I wish there was time to work up the notes taken in both these fields of observation; but just now there is not, and I must be content with giving my opinions on this subject, rather than the facts upon which they are based.

The greater cheapness of sulphate of cinchonidia renders its use in public institutions a matter of duty, if it can be shown that this salt is as much to be relied upon as sulphate of quinia.

I gave it in about forty-five cases of malarial fever, this autumn, and in all but two it proved as efficient and thorough a remedy as the corresponding quinia salt.

The dose required in these cases did not exceed that of sulphate of quinia.

The sulphate of cinchonidia was invariably found to produce very little or none of the disagreeable symptoms collectively termed cinchonism; and in the malarial diseases of children I found it superior to quinia, because less disagreeable and less liable to cause vomiting.

I have tested the antipyretic properties of sulphate of cinchonidia in six cases, and found them to be nearly if not as well marked as when I have given quinia.

The two cases mentioned above, in which the cheaper salt failed to effect a cure, were of very long standing, and both arsenic and quinia had to be used before a cure was completed.

From J. Murray Rogers, M. D., Memphis, Tenn., Dec. 20th, 1875.

I have given the cinchonidia a thorough test, as intermittent fevers were never so universally prevalent throughout the entire Mississippi valley as they have been during the fall months of this year, and can safely say that it has proven as equally efficacious as the sulphate of quinine, at the same time being divested of some of the unpleasant results of the latter affecting the stomach and head, and would cheerfully recommend its trial and use to the profession.

From M. S. Croft, Jackson, Miss., Dec. 21st, 1875.

I have not had opportunity or time to put cinchonidia to a test. I have used it but one time; it then checked an intermittent when quinine had failed. I gave twenty-four grains in four doses. Will try it if cases present, and report to you, with pleasure.

Drs. John and Samuel H. Chester, Jackson Tenn., Dec. 23d, 1875.

It is with much pleasure that we can state that we have given your sulphate of cinchonidia a fair trial, in cases where quinine could not be tolerated, such as intermittent and remittent fevers, etc., and are very much pleased with its therapeutic action. We find that it does not produce sick stomach, and does not disturb the head, etc., as is the case with quinine. We can, therefore, recommend it to the profession, and will use it ourselves whenever an opportunity presents itself.

Dr. A. W. Smith, House Surgeon, New Orleans Charity Hospital, Jan. 17, 1876.

I deem it right to state that for some time past many of the attending physicians and surgeons to this hospital have been prescribing sulphate of cinchonidia in place of quinia. Several of the professors of the medical department of the University of Louisiana have used this salt to a greater extent than any other.

Dr. S. M. Bemiss, Professor of Theory and Practice of Medicine, requests me to say that thus far it has given him the fullest satisfaction, and that its effects seem to be the same as that of quinia.

Dr. C. Beard, Professor in the Charity Hospital School of Medicine, and Dr. Thebault, also one of our attending physicians, say that they are satisfied with the results of their trial of sulphate of cinchonidia, and that they prescribe it in the same dose as quinia, and that malarial diseases yield as readily under its use.

Dr. P. C. Boyer, Attending Physician and Surgeon to the Hotel Dieu, says that he has used sulphate of cinchonidia for some time, and that its action on malarial diseases is similar to that of quinia.

I can safely say, from the short experience of the use of the sulphate of cinchonidia in this hospital, that it can, with confidence, be prescribed instead of quinia, and that the difference, if any, required in the dose will not begin to compare with the difference in the cost of the two preparations.

From W. W. Hall, M. D., Grenada, Miss., Dec. 27, 1875.

I have used the sulphate of cinchonidia more or less for more than a year, with satisfactory results. During the past summer and fall our supply of quinine was exhausted, and I was driven to the necessity of prescribing the cinchonidia in the worst class of cases. While I confess to a partiality for quinine in cases of congestion, I must say that the cinchonidia in no case failed. Combined with one-third quinine, it has been equally as prompt as quinine alone.

From E. W. Hughes, Grenada, Miss., Dec. 25, 1875.

I have prescribed the sulphate of cinchonidia in intermittent and remittent fever, with the best results.

From J. M. Gray, M. D., Holly Springs, Miss., Dec. 20, 1875.

I received and have used the specimen of cinchonidia. I have been very much pleased with its effects. I have requested my druggist to keep it.

From W. H. Ford, M. D., Canton, Miss., Jan. 3, 1876.

I take pleasure in saying that I have used sulphate of cinchonidia in a variety of cases, adults as well as child-

ren, by the mouth and rectum, in about the same doses as I usually prescribe quinia, and have not been able to observe any difference in the action of the two salts. In my hands the preparation has been quite as reliable as the quinine, and does not seem to have produced cinchonism as readily.

From D. W. Booth, M. D., City Hospital, Vicksburg, Miss., Dec. 28, 1875.

During the past six weeks I have used, in the crowded wards of this Institution, in the treatment of nearly every variety of malarial disease, the sulphate of cinchonidia, to the entire exclusion of the sulphate of quinia, and am so well satisfied with its utility as a substitute that I shall continue its use. I have consumed some twelve or fifteen ounces in the treatment of over one hundred cases of intermittent and remittent fever, and with as satisfactory results as I ever had in treatment of the same types of disease with the sulphate of quinia.

I can corroborate what is claimed, in this remedy's not producing the unpleasant head symptoms of quinine; by no means the least important of its virtues as a remedial agent.

From Charles T. Reber, M. D., Shelbyville, Ill.

In the *Druggists' Circular*, for November, appears an article originally published in the London *Lancet*, written by Surgeon Major Geo. Yates Hunter, of Bombay, on sulphate of cinchonidia, that must be quite perplexing to those who have used that article of medicine with quite different results; so much so, in fact, as to raise at least two questions. First, whether the drug used by Surgeon Major Hunter is the same as that manufactured by Powers & Weightman and Rosengarten & Son; or whether the malarial fevers of Bombay are different from those of this country? For one, I must say that one or the other must be true, if Hunter gave the drug a fair and unprejudiced trial. I would modestly suggest that the drug did not have a fair trial. He says: "I treated fifty-five cases of fever, chiefly intermittent, of a mild form, due to sudden changes of weather, exposure to the cold, pri-

vation, etc., or indiscretions in diet." Now, what does such a trial amount to? And the particulars in regard to these cases given by him are not worth anything, for no intelligent practitioner lays any claims for cinchonidia, nor indeed for quinia, in such cases.

He further states that, in several cases of a severe type, cinchonidia completely failed, and quinia had to be resorted to. "And in one bad case of remittent fever, which I regret to say ended fatally, cinchonidia was tried for two days, and was discontinued on account of proving ineffectual" (and here leaks out a secret), "thus *strengthening my impression,*" etc. What impression? How was this impression produced? Surely not from his own experience, if he states that experience correctly and fully, and he certainly has no desire to say anything in favor of cinchonidia.

I have prescribed cinchonidia in place of quinia for eighteen months, have used over one hundred and twenty-five ounces, have never prescribed over forty grains per day, have used it in intermittent, remittent, typho-malarial and congestive cases, have used it in over fifteen hundred cases, and am as well satisfied with its therapeutic effects as with those of quinia; have never had to resort to quinia or any other agent to arrest any case that could be arrested by a cinchona alkaloid.

Dr. Hunter states it produces headache *almost amounting to semi-congestion of the brain.* Now, what pathological condition is that? It is certainly very finely put. It produces far less cerebral disturbance than quinia.

As to its locking up the secretions, I will simply say it does just the reverse in this part of the United States of America, whatever it may do when combined with opiates at Bombay.

I can write nothing more in answer to, or in criticism of, Surgeon Major Hunter's article; and but for the fact that it is desirable the profession should know the truth in regard to its materia medica and therapeutics, I should not have written one word on the subject now. I have no axe to grind, no hobby to ride, do not condemn quinia. I would be glad to have every one who wishes a good

substitute for quinia try cinchonidia fairly, with a view to testing its merits alone.

It seems to me Dr. Hunter must have sulphate of cinchonina on trial. His article fits my experience with that agent exactly, excepting the headache *almost amounting to semi-congestion*.

From C. H. Fort, M. D., Adams Station, Robertson County, Tenn., Jan. 27th, 1876.

I pronounce the cinchonidia equal to any of the preparations of barks, and as reliable in the treatment of all our malarial types of fevers. I believe I have given it a fair test in all our diseases, and I am so far entirely satisfied with it. I have used but little except cinchonidia in the past twelve months. I commenced using it in the spring of 1874. I have as yet had no complaints, even from very nervous and hysterical females, of the unpleasant effects of sulph. quinine, and it has been quite a source of amusement to me how they are disappointed when I give them the cinchonidia, they thinking it is quinine, and expressing themselves as being rejoiced that they have changed; since they suffer from no unpleasant symptoms. The effect of the cinchonidia lasting longer than sulph. quinine, makes it a little better antiperiodic, and consequently I prefer it in all cases of chronic fever and ague. I have relieved many cases that bid defiance to quinine and arsenic. I have tested all the preparations of barks upon myself (being a fit subject for malaria), and have watched their effects closely, both by the thermometer and my feelings; and being also more easily administered it is more preferable for children.

From Dr. John S. Dare, Bloomington, Ind., Jan. 31st, 1876.

I confess to a slight determination not to believe the cinchonidia better than quinine. To the use of the sulphate cinchonidia my prejudices have yielded, and now the only difference in the two seems to be in price, the cinchonidia being the cheaper remedy. I am now satisfied, and hope the continued use of the cinchonidia will enable me to discard the aid of its cousin, quinine, from

my practice, though its many favors during the past thirty-four years shall not go unremembered.

Want of space forbids our inserting extracts from a number of letters from physicians affording testimony similar to the above.

It is proper to add that the profession have very promptly given attention to a candid examination of the new remedy, even in cases where there was a very natural disposition to rest upon quinia alone. We take occasion to say that their kind attention has been truly gratifying.

POWERS & WEIGHTMAN.