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GOVERNMENT OF MADRAS.

PUBLIC DEPARTMENT.

5th April 1879, No. 521.

Cinchona Febrifuge.

Read the following paper :—

No. 19. *From C. MACAULAY, Esq., Officiating Secretary to the Government of Bengal, Judicial and Political Departments, to the Secretary to the Government of India, Home Department, dated Calcutta, 14th February 1879, No. 631.*

Your endorsement, No. 311, dated the 12th June 1878, forwarded a collection of papers containing further reports and opinions upon the efficacy of the "cinchona febrifuge" manufactured at Rungbee in the Sikkim Cinchona Plantations, and suggestions for its more extended use in military and civil native hospitals. The Government of India inquire whether, in the course of practice at the General Hospital and Medical College Hospital, the cinchona febrifuge appears to affect pure Europeans in any way different from natives.

2. I am now desired to forward, for the information of His Excellency the Governor-General in Council, the accom-

* No 111 B.G., dated 24th January 1879. panying copy of a letter * from the Surgeon-General, Bengal, submitting the opinions on this subject of the Surgeon-Superintendent, Presidency General Hospital, and Principal and Medical officers of the Medical College Hospital. Copies of the replies that Dr. Irving has received from medical officers of the East Indian Railway, where the cinchona febrifuge is largely used among both European and native employes as a substitute for quinine, will also be found among the enclosures now submitted. The Surgeon to the Howrah Hospital does not appear to have been consulted by the Surgeon-General, but I am to say that, in the course of his recent evidence before the Committee appointed to inquire into medical expenditure in Bengal, Dr. Pilcher affirmed that he had used the cinchona alkaloid very largely in the hospital even for Europeans, and that natives were seldom treated with anything else. He finds that the alkaloid suits Europeans admirably, but it can very seldom be given in larger doses than seven grains. He thinks that in the low fevers, with a small elevation of temperature, ending in spleen, the drug is much more efficacious than quinine, and that quinine would seldom be required in hospitals were the alkaloid to be substituted, and would only have to be used in special cases. The Lieutenant-Governor is of opinion that these reports sufficiently show the value of cinchona febrifuge in the treatment of fever, and that the drug affects Europeans and natives alike.

3. I am to request that this office may be furnished with 44 copies of the collection of papers under acknowledgment for distribution to civil medical officers in Bengal.

ENCLOSURE No. 1.

EFFECT OF CINCHONA FEBRIFUGE UPON EUROPEAN AND NATIVE CONSTITUTIONS.

From J. IRVING, Esq., M.D., Surgeon-General, Bengal, to the Under Secretary to the Government of Bengal, Judicial, Political, and Appointment Departments, dated Calcutta, the 24th January 1879, No. 111 B.G.

I have the honor to acknowledge the receipt of your letter, No. 4066, of the 6th ultimo, directing me to inquire and report whether, in the course of practice at the Presidency General

Hospital and Medical College Hospital, the cinchona febrifuge appears to affect pure Europeans in any way different from natives. In reply I beg to submit opinions on this subject from the Surgeon-Superintendent of the Presidency General Hospital, and of the Principal and medical officers of the Medical College Hospital. I beg also to forward copies of replies I have been favored with from medical officers of the East Indian Railway, where the cinchona febrifuge is largely used among both European and native employees as a substitute for sulphate of quinine.

2. It will be observed, from the reports which I now forward, that the remedy is favorably mentioned by all the medical officers who have furnished them, except Dr. Tuthill, medical officer of the East Indian Railway at Mogulserai, Mirzapore and Buxar, and further that none of these officers have observed any different effects among their European and native patients.

3. The present opinions are further interesting in reference to the question of the nausea and pain which are apt, I believe, to be caused by large doses. Dr. Lawrie, however, tells us that he generally gives the medicine in 30-grain doses (and never less than 20), and he states positively that he has never observed any nauseating or other effect from its use in such doses differing from the effects of the same doses of quinine. In this opinion he is not followed by his colleagues of the Medical College Hospital. Dr. Roberts thinks that the bad effects of the drug may be avoided by giving it in the shape of pills, and so does Dr. Condon, a conclusion at which several other medical officers have arrived.

4. In conclusion I would suggest that, so far as I know, all medicines affect Europeans and natives alike, and that the medicine which will cure fever or dysentery, or any other disease, in a native will have the same effect on a European. I know of no facts to the contrary.

From J. JONES, Esq., M.D., Surgeon-Superintendent, Calcutta General Hospital, to the Surgeon-General, Bengal, dated Calcutta, 14th December 1878, No. 361.

In reply to your No. 1220 B.G., dated 10th instant, I beg to state that as far as I have had the means of judging, the action of cinchona febrifuge is the same in Europeans as in natives. Dr. Nicholson, who is now using the febrifuge with Europeans and natives, is of the same opinion.

From D. B. SMITH, Esq., M.D., Principal, Medical College, to the Surgeon-General, Bengal, dated Fort William, 17th January 1879, No. 713.

With reference to your No. 1219 B.G. of 10th December 1878 (and to Bengal Government No. 4066 of 6th December 1878, with enclosures), I have the honor to submit the opinions of the College Hospital Staff regarding the action of "cinchona febrifuge" on Europeans.

My hospital work being surgical, I have very few opportunities of trying cinchona alkaloids, and am, therefore, unable to express an opinion on the question submitted.

(Signed) S. B. PARTRIDGE.

I do not consider that there is any difference in its action, but severe malarial fever is proportionately more common amongst Europeans than natives, and the nauseating property of the alkaloid renders it inadvisable to administer it in doses larger than five grains, which is frequently insufficient to cure severe fevers.

(Signed) W. J. PALMER.

The cinchona febrifuge has been employed in this hospital in lieu of quinine for over a year in the treatment of malarial fevers affecting both Europeans and natives. I have not noticed any difference in its action, except that in doses of ten grains and upwards it produces nausea, vomiting, giddiness, and a burning unpleasant sensation in the stomach. In smaller doses, given in solution, it is nearly as effective as quinine, and undoubtedly cures a large number of cases.

(Signed) J. F. P. McCONNELL.

I can add my testimony to the large mass of evidence already collected in favor of the cinchona alkaloids. I have used it with success in both natives and Europeans, and have not noticed any difference in its action caused by race. I do not like to give a larger dose at one time than five grains in case it causes nausea, and such a dose is quite inoperative for good in a bad case of malarial fever in a European. I think no means should be left untried to rid this

valuable preparation of such a distressing drawback. When those entrusted with its manufacture have achieved this success, there will be no longer any question of its applicability to Europeans. Ten grains of this drug produced the most distressing nausea on myself for many hours, an effect never produced by ten grains of quinine. The miseries caused by Indian residence and illness are depressing enough in themselves, without being intensified by nauseating agencies quite foreign to the therapeutic effect required. I am fully alive to the blessings of this cheap febrifuge to the masses of the people of India, and to those who have to prescribe for them; but in its present form, although it has a large field of its own, it cannot replace quinine, and I believe that it should not be administered to Europeans except when small doses of the drug are likely to prove sufficient.

(Signed) T. E. CHARLES.

I have been using the cinchona alkaloid extensively in my wards for upwards of a year as a substitute for quinine in both Europeans and natives, but have not noticed any difference in its action as regards the two races. In most of the ordinary cases of malarious fevers it has been found to be very useful. In ten grain doses, especially when given as powder, it is apt to produce nausea and vomiting in a certain proportion of cases, alike in Europeans and natives. During the last year I treated 253 cases of fever with it, and in 25 per cent. of these vomiting occurred after a dose of ten grains, with the exception of a few in whom the same effect was produced by smaller doses.

(Signed) R. C. CHANDRA.

I have used the alkaloids instead of quinine ever since they were introduced. To an adult I usually give it in 30 grain doses, never less than 20 grains, and though I cannot doubt the testimony of the many medical men who depose to its nauseating properties, I can only say positively that I have never observed any more nauseating or other effect from its use than from the use of corresponding doses of quinine. It affects Europeans and natives alike.

(Signed) E. LAWRIE.

I have not observed any special difference in the action of this drug on Europeans as compared with natives.

I have observed its disagreeable effects in many cases when administered in full doses, and on this point my experience agrees with that above described by Drs. Charles, Chandra, and McConnell.

I may here add that we are now making careful experiments with the new preparation of the so-called "mixed alkaloids" (of quinine, cinchonine, and cinchonidine), and that it certainly seems preferable to the "cinchona alkaloids" (or "cinchona febrifuge") now being reported on.

The 17th January 1879. (Signed) D. B. SMITH, M.D.

Memorandum by E. J. BOBERTS, Esq., M.D., M.R.C.P., Medical Officer, East Indian Railway Establishments, Assensole, on the use of the mixed cinchona alkaloids in fever, dated Assensole, 11th December 1878.

I now have had about 18 months' experience of the use of the mixed cinchona alkaloids in the treatment of fever, both in Europeans (of whom there were about 200 in my district of the railway, with their wives and children) and in natives. I may mention that the form in which I have been in the habit of administering quinine in intermittent fevers has been that of the well-known mixture with sulphuric acid and quinine and Epsom salts, this being the combination which, in my experience, most rapidly cured the fever. For some time I administered the cinchona alkaloid in the same combination with the result of causing vomiting in by far the larger proportion of the men, and in nearly all the women and children, so that its use had in very many cases to be abandoned, and resort had to be had to quinine.

The quantity of acid necessary to dissolve the alkaloid is too large; and many persons also complain of the unpleasant smell of the mixture. But latterly I have given the remedy in the form of pills (and of powders to natives), and I have found that in this shape it has been retained in all but rare cases.

With regard to its febrifuge properties, I consider that the alkaloid is little, if at all, inferior to quinine, and I do not find that headaches are complained of under its use. When the alkaloid was given in the shape of a mixture, it was easily recognized by the men and their wives, and was invariably strongly objected to by them as well as the native Baboos. But since this mode of administering it has been given up, the occasions on which I have had to resort to quinine are becoming more and more seldom.

Remittent fever is happily rare among the Europeans in this district, but native cases are very common, and these are successfully treated with the alkaloid. I have never noticed that the alkaloid when administered to Europeans affected them in any one respect differently from what it did natives. It has similar febrifuge effects when given to either; and if European soldiers complain of nauseating qualities, which are not experienced in native regiments, perhaps it may be because it may commonly be given to the former in acid mixtures, whilst the caste prejudices of the latter lead them to ask for the medicine in the shape of pills or powders. There can be no doubt but that this cheap alkaloid is a very valuable boon to the people of this country. But I think it would be a great mistake if the Government definitely relinquished all purpose of trying to manufacture quinine at one or more of their plantations, under the impression that this rough preparation can ever come to be looked upon by the profession as a thoroughly satisfactory substitute for it.

From Dr. COOMBE, in Medical charge, East Indian Railway Establishments, Dinapore, dated Dinapore, 16th December 1878.

In compliance with your request I have the honor to inform you that I have prescribed the mixed cinchona alkaloids in ordinary malarious intermittent fevers somewhat frequently during the last two years, both with Europeans and natives.

In the majority of cases I have found it fairly efficacious, but I am bound to say in some few cases it has utterly failed. I have seldom met with the nausea that is ascribed to this drug by so many medical men, though it has appeared in a striking manner in some very few cases. But again I have seen cases (more especially in England) where quinine has proved equally intolerable.

In fevers of a remittent type I have not tried the alkaloid so cannot speak of its merits in such cases one way or the other.

I think the drug in question is as valuable for Europeans as it is for natives in simple malarious intermittent fevers.

I have heard several medical men express an opinion that more care should be taken in the manufacture of it, and double the amount of money expended on it, so that the cost would be Rupees 40 per lb. instead of 20. This I think is deserving of attention, as at the present excessive price of quinine even the larger sum would be trivial when compared with the price of the more expensive drug.

From Dr. TUTHILL, in Medical charge, East Indian Railway Establishments at Mogulserai, &c., dated 11th December 1878.

MIXED CINCHONA ALKALOIDS.

I have been in the habit of using the above medicine in this country for nearly two years. I have used it both in the feverish ailments of natives and Europeans. In the case of the latter I have found a decided prejudice against it, which may enter largely probably into the ill-success which has attended its use. I have been accustomed to give it in from two to ten grain doses. I have no case in my book of a larger dose. Nausea in some cases was a consequence, but not in all; notably it did not create nausea in those cases where I prescribed the medicine in the form of a pill. I have abandoned its use, I find, twice or three times for the use of quinine, as I found it powerless to shake off the ague symptoms. I think it an established fact, and one to be noted, that it acts directly on the temperature, but it fails in giving the "tone" to the system which so characterizes quinine, making it a tonic as well as a febrifuge. I found such bad success attending my use of it that I almost abandoned it, as much, however, in deference to the feeling of my patients as to its bad success, using instead the *salicylic acid*, as the Company do not largely supply quinine. Of this medicine, in cases of fever occurring in the rainy season, as you know this from my half-yearly reports, I can speak very favorably. Of the mixed cinchona alkaloids I cannot speak in a sanguine manner, and should be fearful of prescribing it in private practice or even hospital practice. It should be borne in mind, however, that it has to supply the place of medicine that has taken a strong hold on the minds of all people.

From Dr. H. SMITH, Civil Surgeon of Allahabad, and in Medical charge, East Indian Railway Establishments at that Station, dated Allahabad, 19th December 1878.

In reply to your demi-official of the 9th current, relative to the value of the mixed alkaloid, I have the honor to report for your information that I have used it very largely, and that in mild cases amongst Europeans, and in nearly all cases amongst natives, it has proved efficient.

In severe cases amongst Europeans it has entirely failed, and I have been obliged to fall back upon quinine.

From Surgeon-Major T. H. CONDON, Civil Surgeon of Cawnpore, and in Medical charge, East Indian Railway Establishments at that station, dated Cawnpore, 18th December 1878.

In reply to yours about the mixed alkaloids.

I have not made any notes of its effects on Europeans any more than on natives, but I have not found any complaints made of its inefficiency. The only objection I have found to its use is its tendency to make the stomach sick, and this I have obviated by giving it on a full stomach. If given on an empty stomach it will make Europeans and natives sick in about 60 per cent. of the cases where it is so given. It is, I find, very impartial in its effects on persons of both sexes and both races.

I give it in combination with sulphate magnesia and dilute sulph. acid, same as sulphate of quinine, and with precisely the same effect. I find, however, that where three grains of the latter would suffice five grains of the mixed alkaloids must be given. It is in my opinion, as far as my experience goes (and I have used nothing but it for the Railway employes scarcely for the past twelve months), an inferior medicine to quinine as regards strength; but that it agrees equally well with the European and Asiatic, being in both inadmissible where the stomach is weak.

I have not used it much in private practice, quinine being obtainable at both the chemists' establishments here.

No. 4-181.

Copy forwarded to the Government of Madras, in continuation of endorsement, No. 312, dated the 12th June 1878.

(By order,)

HOME DEPARTMENT (MEDICAL),
Fort William, 13th March 1879.

(Signed) H. H. RISLEY,
Officiating Under Secy. to the Govt. of India.

No. 20. ORDER THEREON, 5th April 1879, No. 521.

Communicated to the Surgeon-General, Indian Medical Department, in continuation of G.O., dated 27th June 1878, No. 1011.

(True Extract.)

G. H. Risley
Acting Chief Secretary.

To the Surgeon-General, Indian Medical Department.
" Revenue Department.
" Acting Commissioner of the Nilgiris.

Exd. W. J. Lewis.

