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MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 588 Press / Mis.

Dated 15-6- 1887.

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—the following letter from T. TARRANT, Esq., M.D., Officating Surgeon-General, Her Majesty's Forces in Madras, to the Secretary to Government, Military Department, dated Ootacamund, 26th May 1887, No. 1433 :—

No. 5719, dated 15th September 1886.

With reference to the order of Government noted in the margin, I have the honor to forward a report by the Principal Medical Officer, Burma Field Force, Mandalay, on the trials that have been made of liquid cinchona in the Upper Burma Field Force.

Enclosures.

Report on Liquid Cinchona and the trials of this drug in the Upper Burma Field Force during the months of November and December 1886—*January and February* 1887.

Three hundred pounds of the liquid cinchona were received in the Field Medical Depôt in October and November last and were distributed to 23 stations and posts and 13 reports have been received.

2. Medical officers were requested to test this drug as a prophylactic febrituge and tonic, and their reports, as might be expected, are contradictory. There is, however, a consensus of opinion that the drug is useless as a prophylactic but beneficial as a tonic, while its power as a febrituge is held by some—Surgeon-Major Barren, Surgeon Thomas—to be superior to quinine, while Surgeon-Major O'Connor holds it to be useless, Surgeon Banatrala of use in mild cases, and Surgeon-Major Peters useful when combined with quinine.

3. The general results of experiments so far are not in my opinion sufficient to establish the value of the drug in supersession of the other cinchona alkaloids, while its fluid form is always objectionable on field service.

4. I beg to forward seven of the reports I have received in original, and with regard to that of Surgeon-Major Barren, I am not disposed to attach to this officer's observations the importance they seem to warrant, because I consider that if the effects observed by him were solely due to the liquid cinchona, other officers who gave it a trial could hardly fail to have found similar results. It is not clear either that the effect produced was not due to the tonic action of the drug.

(Signed) G. FARRELL,
Dpty. Surgn.-Genl., Prinl. Medl. Officer,
Upper Burma Field Force.

From Surgeon H. E. BANATRALA, Medical Officer in charge, Majyirauk, to the Principal Medical Officer, Burma Field Force, Mandalay, dated 11th March 1887, No. 45.

With reference to your memorandum of 28th ultimo, calling for a report on the use of liquid cinchona in malarial fevers, &c., I have the honor to submit the following remarks :—

Cases.—The drug was used in 36 cases of malarial intermittent and in 2 cases of remittent fever, or a total of 38.

Doses.—It was prescribed in doses of half-a-drachm repeated three or four times a day during the intermissions in the first case, and in one-drachm doses during the remissions as well as the pyrexial stage in the second case.

Antiperiodic action.—Taking remittent fever first, it did not seem to produce any action on the time the exacerbation usually appeared; nor in the case of long continued intermittent fever did it seem to change the type of the fever, or put off the hour of attack. In very mild cases, however, the administration of the drug during the intermission cut off the fever at once. The practice I hold is to admit every man with even a single attack of fever into hospital and not to discharge him unless he has been a week free from fever. Under the ordinary treatment with "quinetum," the attacks invariably recurred four or five times before giving in to the drug. These mild cases are the ones that seem to be specially benefited by the use of the drug under report.

Febrifuge action.—The drug has no power as a febrifuge. I have given it in the height of remittent as well as intermittent fevers without perceptibly reducing the temperature.

Tonic action disliked by patients.—It has never been tried here as a tonic. The first effect of the drug on administration is to produce a feeling of nausea and in some cases even sickness. In the case of British soldiers (only) it seems to produce relaxation of the bowels on first exhibiting it; but the effect is only temporary. In the two cases of remittent fever in natives where larger doses were given, the above action was not produced. Natives and Europeans dislike it however equally.

Conclusions.—The above is a very brief report, but I consider that the drug has not up to the present had a fair trial under me, as no notice of a report being called for was received when the drug was furnished.

Quinine was re-substituted for it in my first trials with it when it failed as an antipyretic in remittent fever. I am pushing the doses, however, and giving it further trials, and hope to submit a fuller report shortly.

The conclusions I have arrived at with regard to its use up to the present are—

1. In mild cases of recent intermittent fevers it acts very favorably; not so, however, in the long continued ones.
2. In remittent fever it seems useless.
3. It is inferior in its action to quinine, but superior to the cinchona alkaloids.
4. Its nauseating properties are an insuperable objection to its long continued use.

From Surgeon H. E. BANATRALA, Medical Officer in charge, Majyirauk, to the Principal Medical Officer, Burma Field Force, Mandalay, dated 29th April 1887, No. 94.

In continuation of my No. 45, dated the 11th ultimo, giving my report on the use of liquid extract of cinchona in malarial fevers, I have the honor to furnish the following additional report on the subject.

Cases.—The admissions during the period allowed of my testing the value of the drug on one British soldier and ten sepoys only. Out of these one was a case of remittent fever (a sepoy); all the others were cases of intermittent malarial fever of various types.

Doses.—One-drachm doses were prescribed in all cases as it appeared to me that half-drachm doses given three times a day were not strong enough to produce any marked effect.

Action in (I) remittent fever.—Taking remittent fever first it seemed to have—

(*a*) No antipyretic action whatever, although prescribed at intervals of one hour. The temperature continued to increase during the exhibition of the drug.
(*b*) It had no antipertodic action either.

(II) Intermittent Fever.—In no marked case of intermittent fever did it change the type of the fever or exhibit any antiperiodic action. In very mild cases only did it seem to cut short the fever.

Toleration.—The drug was well borne by patients, a toleration seeming to be established after a few days.

The conclusions I have arrived at after this fresh trial of the drug coincide in the main with those mentioned in my previous report.

From Surgeon W. F. THOMAS, 17th Regiment, Madras Native Infantry, dated Nagabin, 4th March 1887.

A report of my experience of the use of Extract Cinchona Liquidum.

I. Its therapeutic action of malarial fevers.—I have used it in various forms of malarial fevers and in neuralgia of the 5th nerve due to malarial poison, and I have found it to answer very well. And in order to assist the action of this drug I have administered emetics, in some cases, with the most happy results. It possesses most marked influence on the various forms of malarial fevers, curing the diseases quickly and certainly.

II. Its potency to check the attacks of ague.—It subdues intermittent fevers and is equal to quinine in ague. It possesses very strong antiperiodic properties; and I consider it even superior to quinine in ague, and is more efficacious in the quartan type, and in obstinate cases it succeeds better. I also consider it superior as a prophylactic.

III. Its power as a febrifuge.—It is useless to give quinine after a "fit" of ague has commenced as a preventative to elevation of temperature, while in such cases extract cinchona liquidum can be given to reduce the temperature. As a general febrifuge it is an efficacious remedy. To reduce temperature large doses of quinine must be given, and even then, in many cases, the depression is but slight, about half a degree, and this is only a temporary reduction of temperature, while extract cinchona liquidum produces a fair fall and is permanent. If body temperature is a factor in the condition of the pulse, then by the administration of quinine

there is a loss of force with an increase in the frequency of the pulse. There is no loss of force by the administration of extract cinchona liquidum and the pulse is more regular.

IV. As a tonic.—It possesses a bitter taste; is a tonic and promotes the appetite; it sharpens the appetite and assists digestion, particularly in the case of weakly subjects. It is a good nervine tonic in debility with nervous irritability.

V. How liked by the men.—There is no accounting for "taste;" but on account of the more marked physiological symptoms and toxical effect of quinine, the men under my medical charge prefer the extract cinchona liquidum to quinine.

VI. General remarks.—As an antiseptic it destroys septic germs, and so is good for arresting putrefaction when applied locally. It is a good local application in foul, indolent, sloughing ulcers.

It possesses anthelmintic properties, especially for ascarides.

I may here remark that some of my best recoveries from ague have been produced by administering the following:—

℞

Extract Cinch. Liq.	...	...	...	...	℥xx.
Pot. Iod.	...	...	...	...	grs. iii.
Aquæ Camph or Aquæ Menth. Pip			...	...	℥i.
					ft.
					t.d.

What the *modus operandi* is I cannot, at present, venture to state. I would strongly suggest that the above prescription be given a fair trial, especially in obstinate cases of ague.

Taking into consideration the small quantity needed (bulk for bulk), the good effects of the drug, in some of its therapeutical qualities equal to, in others superior to, quinine; the cheapness of the article compared to quinine; I see no reason why extract cinchona liquidum should not supersede quinine in general military therapeutics in diseases due to malarial poison.

From Surgeon C. BLACKWELL, in Medical charge, Kyauksai Post, to the Principal Medical Officer, Burma Field Force, Mandalay, dated 2nd December 1886, No. 74.

I have the honor to report, for your information, the prophylactic result of one pound of liquid extract of cinchona received for administration to the European detachment here.

2. I gave it each morning, from 22nd ultimo to the 1st instant, to twenty-five men of the S.L.I., and compared the result with twenty-five men who did not receive it. I found the previous admissions for fever among those who did not receive the liquid extract of cinchona were more numerous than among those who did receive it; yet during the period the preparation was given three of the latter number were admitted for fever and none of the former. The preparation caused some nausea and diarrhœa and for that reason I consider it unsuitable as a substitute for quinine. As a prophylactic its power seems to be much inferior to quinine, but the time of year (fever not being prevalent at present), the period of administration, and the number to whom it was given, are not sufficient to justify a decided opinion.

Reference—Memorandum from Assistant to Principal Medical Officer, Palace Mandalay, dated 28th February 1887, No. 95.

Report on experience of the use of Liquid Extract of Cinchona.

I regret that my report must be less detailed and the expressions of opinion less positive than I could have wished owing to limited experience in the use of this preparation.

I had never seen the liquid extract of cinchona until I joined this regiment (43rd G. L. I.) at Mogôk on 20th January 1887.

As to its power to avert attacks of ague I can say nothing. I have not used it as a prophylactic and its value could only be determined by comparative trials with other drugs.

2. In potency to check recurrence of ague, I consider it inferior to quinine, cinchonidine or to cinchona febrifuge.

3. It is an excellent tonic, and well suited for use in cases weakened and with impaired digestion after repeated attacks of ague.

4. It may be advantageously combined with dilute nitro-muriatic acid.

5. I have heard no complaints either as to unpleasantness in taste or (as frequently made about cinchona febrifuge) as to its causing gastric irritation. The men have undoubtedly a preference for quinine.

Pyaung Gyaung,
15*th March* 1887.

(Signed) K. M. DOWNIE, M.D.,
Surgeon-Major, Offg. 43rd G.L.I.

From Surgeon P. F. O'CONNOR, 18th Native Field Hospital in charge, to the Deputy Surgeon-General, Burma Field Force, dated Katha, 16th March 1887, No. 158.

With reference to your memorandum of the 28th ultimo, I have the honor to state that my experience of liquid extract of cinchona in the treatment of malarial fever of this district is, as a prophylactic, not to be relied on; as a febrifuge, perfectly useless; as a tonic, of some value but vastly inferior to iron and quinine. It is not objected to by the patients.

From Surgeon-Major C. T. PETERS, M.B., Senior Medical Officer, No. 14, Field Hospital.

Report on Liquid Cinchona.

Characters.—A dark brownish liquid, specific gravity about 1033, having a pleasant aromatic bitter taste; when mixed with water yields a copious flocculent precipitate which gives a rosy color on the addition of liquor ammonia in excess. Dilute sulphuric acid in excess only dissolves the precipitate slightly; dilute nitric acid, more so; while dilute hydrochloric acid nearly dissolves the whole of the precipitate.

Dose.—Thirty minims are said to be equivalent to about 2½ grains of quinine.

This drug has been tried in cases of malarial fevers in 30 minim doses given three times daily during the months of November, December, January and February, at a time when a severe form of remittent fever was prevalent. The patients, who came from the out-stations such as Zagabin, Lamaing, Tannyboo bridge and Zeebingale where severe forms of malarial fever were prevalent, were highly saturated with the malarial poisons and in some of whom even large doses of quinine did not produce any marked effect as an antiperiodic, consequently much cannot be said either for or against the efficacy of this preparation as an antiperiodic if it failed to arrest the fever.

During the past month, however, when the severe type of fever has not been prevalent and a prolonged trial has been given to the use of the liquid cinchona, the following facts have been observed.

A prolonged course of liquid cinchona is required to break off the periodicity of the febrile paroxysm. For instance in charts 1, 2 and 5 it will be observed that in spite of the daily administration of the liquid cinchona up to 90 minims the paroxysmal return of fever continued until a 10-grain dose of quinine was administered on the day of the expected paroxysm which succeeded in stopping the return of fever and the subsequent use of the liquid cinchona for another four or five days completed the cure.

The cases recorded are too few to come to any satisfactory conclusion as yet, especially as in no instance large doses of the liquid cinchona have been tried: for instance, if a 10-grain dose of quinine was indicated whether a 2-dram dose of the fluid would not have a similar effect, but as yet such large doses have not been tried on account of the bulk to be taken at a time.

As a tonic, however, it appears to be a most useful preparation, the taste being much pleasanter than either of cinchona alkaloid or the decoction of the cinchona bark; it is preferred by the patients, and I would urge the necessity of a larger quantity of this drug being indented for for use in the treatment of the milder forms of malarial fever; since during the time liquid cinchona has been used, there has been a large saving in the more expensive drug, sulphate of quinine, which should be reserved only in the severe forms of fevers when the temperature is persistently high and when large doses of quinine are indicated.

From Surgeon-Major W. BARREN, 25th Bombay Light Infantry, dated Mandalay, 23rd April 1887.

Liquid Cinchona, its therapeutic action.

The results of my experience as to the treatment of malarial fever, with liquid cinchona, during the period extending from the 18th November 1886 to the 31st December 1886, compel me to recommend this preparation as an extremely valuable prophylactic, antiperiodic, tonic and astringent.

2. In pursuance of orders from the Principal Medical Officer, Burma Field Force, I experimented at the onset with the healthy men, those not on the sick list, who were engaged in the various guard and escort duties that fall to the lot of soldiers on active field service; and the several observations I had made *forced* me to conclude that liquid cinchona was a most trustworthy prophylactic against malarial fevers. It is, I am obliged to admit, as far as I can judge by the results of my experiments, in its action, provided largish doses are given, as a preventative against attacks of fever, scarcely less inferior to quinine.

3. This statement of mine will, no doubt, be discredited, but I am certain that this very unexpected and surprising action of the liquid cinchona preparation can be obtained, without an atom of a doubt, provided the calomel-purgative plan of treatment be adopted, as an auxiliary remedy. Without its frequent help, quinine and the liquid cinchona will fail to rid the patient completely of fever, convalescence will be prolonged, and the spleen is liable to suffer.

4. From half to two grains of *calomel* should be given every 8th or 10th day to each, and every soldier whether he be predisposed or not to intermittent fever, an hour later, an ounce of *castor oil*, and twice on each of the following days, throughout the fever months, thirty drops of the liquid cinchona, say at 7 A.M. and at 5 P.M.

5. On the 18th of November 1886, the strength of the Native corps at Kyanksai was 183; on the 19th, 163; on the 20th, 153 and so on; the average number of duty-men to whom this new preparation was given each afternoon of every succeeding day, for a period of a week or thereabouts, was about 140. Of this number only five were admitted with ague during the time the experiment was continued on the duty-men. These five sick were on more than one former occasion in hospital with ague, prior to the introduction of the liquid cinchona treatment. It was noted at the time that the hot stage of the ague attacks was less severe and of shorter duration than when they were not under the full influence of the liquid cinchona and the calomel-purgative treatment combined.

6. On receipt of further supplies of this invaluable preparation, I used it freely and daily, in lieu of quinine, at the Kyanksai hospital, to which all the native sick from Yenren, Kume, Yokanijee, Thebadoung, Thauyetdaw, Ingone, &c., were transferred for further treatment. The transfers were ill chiefly with ague, the quotidian variety. The several stages of this disease, in every case sent to me, were very pronounced and distinct. These transfers were made and permitted, because the men, although treated at the several posts, were not benefited by treatment with quinine. The attacks as a rule came on between the hours of 1 P.M. and 5 P.M. and the patients (the transfers), the majority, were very weak and more or less emaciated; the thin wasted condition of the muscles of several being the result of overwork, repeated attacks of ague, and to the food supplied to them being more or less damaged by rain. A few of the sick were nothing more nor less than "bags of bones," with bed sores as complications. The transfers from the Kume district came in in fortnightly or monthly batches of 25 or 40 or thereabouts. The men were from all accounts treated with daily doses of quinine prior to their arrival at Kyanksai, while on the sick list they seldom or never had an aperient given them.

7. The dietary management of the hospitals, where these men had served during the most trying months of the year, was imperfect, perhaps neglected, not purposely, but from unavoidable circumstances. Hence chiefly their very emaciated condition.

8. The line of treatment systematically practised at the *Kyanksai Native Hospital* was as follows:—

Firstly.—Proper regard was always paid to the patients' nutrition, a warm ration was given every morning between 6 and 7 to every man under treatment, chiefly to the transfers, who formed the majority of the admissions. Night nursing was not neglected in the very serious cases. Rice well boiled in water salted makes an excellent sustaining morning and night ration, provided the water too is swallowed, especially in places where milk cannot be procured. *Warm* boiled rice sweetened with sugar and mixed with a small quantity of ghee should be given to the convalescents. These ingredients can be supplied by the men themselves out of their daily rations.

Secondly.—A mild aperient on the calomel-purgative plan was administered to the fever patient the day following his arrival at Kyanksai, even when constipation was not a prominent symptom.

Thirdly.—Each and every patient (fever and dysenteric) had thirty drops of the liquid cinchona given him daily at 7 A.M. at noon and at 5 P.M. Diaphoretics were prescribed only to very special cases.

9. The admissions were selected personally by me. That is I never entered a man on the sick list unless I had seen him myself ill with fever.

10. It has been remarked, and rightly too, by some of the senior Surgeons on service in Burma, that *quinine* as a rule fails in its action as a prophylactic and as an antiperiodic, in cases where purgatives are not given previous to the administration of *quinine*. The same theory holds good when liquid cinchona is made use of in place of quinine. Purge your patient and the liquid cinchona, if given frequently, say three or four times in the 24 hours, will act most efficiently.

11. From the 18th of November to the 31st December 1886, the liquid cinchona treatment was systematically adhered to, except during the short periods I had been absent from Kyanksai, while serving with an expeditionary force.

12. Of the 194 cases of ague that had been treated chiefly with liquid cinchona from the 18th November 1886 to the 31st December 1886, there were 12 transfers to No. 14 Field Hospital, Mandalay, no deaths; 171 were discharged cured to duty; there were about 30 readmissions; and 9·3 was the average number of days each fever patient was under treatment.

13. From the day on which the regiment had disembarked at Rangoon up to the 19th of November 1886, there were 286 admissions with ague and these were treated with *quinine*.

seventeen of these were sent to Mandalay for further treatment, 10·6 is the average number of days each of the quinine cases remained on the sick list. There were 4 deaths as follows :—

(1) Regimental number 1937 was admitted on 28th June 1886 by Surgeon Blackwell and treated by him, and died on 14th July 1886.
(2) Regimental number 2536 was transferred from Yewin or Kume on 11th October 1886 in an emaciated condition, and died on 22nd October 1886.
(3) Regimental number 2278 was admitted by me on 10th November 1886 and treated by me. He died from the effects of jaundice on 14th November 1886.
(4) Regimental number 2391 was transferred from Telukso with complete paralysis of the lower extremities and of the bladder on 16th November 1886, and died on 6th December 1886.

14. Liquid cinchona alone or in combination is a good *tonic*. I invariably prescribe it in cough mixtures.

15. In cases of diarrhœa and dysentery it serves as a fair *astringent*.

16. The men have not to my knowledge objected to its use. Several of the sepoys I know prefer it to quinine, and it is decidedly far more agreeable to the taste than several of the drugs that are supplied to the Native Hospitals, Civil and Military.

17. It produces neither nausea nor diarrhœa, and patients even when fully under its influence have never complained of deafness, &c.

18. The sepoys of the 25th Bombay Light Infantry have taken kindly to the remedy, and several have repeatedly asked for it, because they consider it an excellent remedy for fever.

No. 3254, Military.

Transferred to the Revenue Department, with reference to paragraph 3 of O.G. in that department, No. 718, dated 17th August 1886.

Ootacamund, *3rd June* 1887. (Signed) A. KENNEY-HERBERT, Brigdr.-Genl., Secretary to Government.

Order—dated 15th June 1887, No. 588, Revenue.

Miscellaneous.

Communicated to the Director of Government Cinchona Plantations and the Surgeon-General with the Government.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Government Botanist and Director of Government Cinchona Plantations.
" the Surgeon-General with the Government.

Exd. W. H. French.

50 Copies.

Original

Govt. of {1887} Madras.

REVENUE.

Issued

Recd. *Encl.*

G.O., 15th June 1887, No. 588.

JUNE.

Liquid Cinchona.

Report on the trials that have been made of — in the Upper Burma Field Force, communicated to the Director of Government Cinchona Plantations and the Surgeon-General with the Government.

Submitted that the be placed on the S. T.

RECORD OF TEMPERATURE, PULSE AND RESPIRATION.

Corps 25 Regt. N.I. Regimental No. 1735 Rank and Name Sepoy Ekhandoojee Bhoite

Disease Ague Date of attack 1. 2. 1887. Result Convalescent 2. 8. 87.

Age 19 Years Service 1 Years Station Burmah Cap.

Date of result 3. 3. 1887. Case Book No. Folio

Signature.

ARMY HOSPITAL FORM No. 95.

BRITISH AND NATIVE TROOPS.

CLINICAL CHART,

RECORD

OF

TEMPERATURE, PULSE AND RESPIRATION.

Rank Private

Name Christopher Bunday

Corps 2nd B.L.I.

Disease Ague

Period { *From* 20th February 87
{ *To* 3rd March 87

To be pasted into the Case Book against the patient's case.

LONDON: PRINTED BY EYRE AND SPOTTISWOODE

No. 4

RECORD OF TEMPERATURE, PULSE AND RESPIRATION.

Corps 25th Regt. Regimental No. 27th Rank and Name Pte. Sam Ballah Ethelbert Age 18 years Service 1 year. Station Ramadoora

Disease Ague Date of result 9. 9. 1887. Result Convalescent 11. 2. 87. Date of result 2. 3 1887. Case Book No. Bolio

Dates of Observation.	9th Feb 1887	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st	1st March 1887	2nd	3rd
Days of Disease.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th
Temp. centrale Fahrenheit.	103°	102°	101°	100°	99°	98°	97°	96°							
Pulses per minute	120	120	120	120	120	120	120	120							
Respirations per minute	30	30	30	30	30	30	30	30							

Temperature curve: 103° 9th Feb; 102° 21st; 101° 22nd; 100° 23rd; 99° 24th; 98° 25th; 98° 26th; 98° 27th; 98° 28th; 98° 29th; 98° 30th; 98° 31st; 98° 1st March; 98° 2nd; 98° 3rd

Pulses per minute: 120 9th Feb; 120 21st; 120 22nd; 120 23rd; 120 24th; 120 25th; 120 26th; 120 27th; 120 28th; 120 29th; 120 30th; 120 31st; 120 1st March; 120 2nd; 120 3rd

Respirations per minute: 30 9th Feb; 30 21st; 30 22nd; 30 23rd; 30 24th; 30 25th; 30 26th; 30 27th; 30 28th; 30 29th; 30 30th; 30 31st; 30 1st March; 30 2nd; 30 3rd

Signature of Medical Officer.

ARMY HOSPITAL FORM No. 35

BRITISH AND NATIVE TROOPS.

CLINICAL CHART.

RECORD

OF

TEMPERATURE, PULSE AND RESPIRATION.

Rank Privt

Name John Paddock Spadday

Corps 2nd RC. Fus.

Disease Fever

Period { *From* 20th February 57 / *To* 2nd March 57

To be pasted inside the Case Book against the patient's name.

B Hdqrs. Office 1st No. 17-2-57-4000

403

RECORD OF TEMPERATURE, PULSE AND RESPIRATION.

Corps 2nd Regiment No. 2752 Rank and Name Pte Patrick Spadday Age [illegible] Service [illegible] Station Allahabad Cty

Disease Fever Date of attack 20. F. 1857 Result [illegible] Date of result 6.3. 1857. Case Book No. Folio

Dates of Observation: 20 21 22 23 24 25 26 27 28 1 2 3 4 5 6 7 8

Days of Disease: 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

Temperature Fahrenheit: 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

Pulse per minute: 120 116 112 108 104 100 96 92 88 84 80 76 72 68 64 60 56 52 48 44 40 36

Respirations per minute: 30 28 26 24 22 20 18 16 14 12

Remarks: Admitted on the 20th February 57 with Fever. Convalescent on the 2nd March 57. Discharged to Duty on the 8th March 57.

P. 1 Rem Chas. Deacon

Signature.

ARMY HOSPITAL FORM No. 93.

BRITISH AND NATIVE TROOPS.

CLINICAL CHART

OR

RECORD

OF

TEMPERATURE, PULSE AND RESPIRATION.

Ward [illegible]

Name [illegible]

Corps [illegible]

Disease [illegible]

Period { From [illegible] To [illegible]

To be pasted into the Case Book against the patient's case.

E. Stanford, Printer, Charing Cross, S.W.

Fig. 4

RECORD OF TEMPERATURE, PULSE AND RESPIRATION.

Corps 25th Regt. Regimental No. 2628 Rank and Name Pte Jurgan Sing Age 24 years Service 4 years Station Mundalay

Disease Ague Date of attack 22. 2. 187 Result Date of result 28. 2. 1887 Case Book No. Folio

Dates of Observation.	Feb'y 21st	22nd	23rd	24th	25th	Sunday 26th	27th	28th	March 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th
Days of Disease.	3	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th						
Temperature Fahrenheit.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.
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PULSATIONS PER MINUTE	88	96	110	90	88	90	100	90	88	90	100	92	90	96	88	90	76						
RESPIRATIONS PER MINUTE	18	18	26	20	22	20	25	20	22	20	24	20	18	24	20	20	15						

Admitted

C. T. Evans Surgeon Sing

Signature.

ARMY HOSPITAL FORM No. 95.

BRITISH AND NATIVE TROOPS.

CLINICAL CHART,

RECORD

OF

TEMPERATURE, PULSE AND RESPIRATION.

Name

Ward

Corps

Disease

Patient { *From* / *To*

If the patient dies the Chart Book must be sent with the patient's cases.

RECORD OF TEMPERATURE, PULSE AND RESPIRATION.

Corps 25th B.L.I. Regimental No. 2506 Rank and Name Pte Lucuman Purub Age 28 years Service 10 years Station Mandalay

Disease Ag. I Date of attack 23. 2 1887 Result Admission 24. 2. 87 Date of result 3-3 1887. Case Book No. Folio

Dates of Observation.	24th February 1887	25th	26th	27th	28th	1st March 1887	2nd	3rd
Days of Disease.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Temperature Fahrenheit.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.	Time. A.M. P.M.
108°									
107°									
106°									
105°									
104°									
103°									
102°									
101°									
100°									
99°									
98°									
97°									
96°									
PULSE PER MINUTE	80	100	75	80	76	100	88	75	80	75	75	75	75	75
RESPIRATIONS PER MINUTE	20	20	18	20	18	24	20	22	18	20	18	18	18	18

Admitted on account of Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Ague Remittent in 30 hours after a day of Quotidian Intermittent. Discharged

Surgeon Major

Signature.

ARMY DEPARTMENT FORM No. 97.

BRITISH AND NATIVE TROOPS.

CLINICAL CHART

RECORD

OF

TEMPERATURE, PULSE AND RESPIRATION.

Ward. 42

Name Lieutenant Reed

Corps 25 Gurkhas

Disease Ague

Period { From 23 Feb 87 / To 3 March 87

To prevent tickets from coming out, this book is issued with the patient's name written on the back of each ticket.

Thos. Ed. Gregg, No. 25 Pall Mall, S.W.

Recd 26 Feb

Report on liquid Cinchona and the trials of this drug in the Upper Burma Field Force during the months of November and December 1886 January and February 187[illegible]

2. 300 pounds of the liquid Cinchona were received in the field medical depôt in October and November last and were distributed to 23 stations and posts and 18 reports have [illegible] ed.

3. Medical Officers were requested to test this drug as a prophylactic, febrifuge and tonic, and their reports as might be expected are contradictory. There is however a consensus of opinion that the drug is useless as a prophylactic but beneficial as a tonic while its power as a febrifuge is held by some. Surgeon Major Barnes, Surgeon Thomas to be superior to Quinine while Surgeon Major O'Connor holds it to be useless. Surgeon Banniatwala of use in mild cases and Surgeon Major Peters useful when combined with Quinine

4. The general results of experiments so far are not in my opinion sufficient to establish the value of the drug in supercession of the other Cinchona Alkaloids while its fluid form is always objectionable on field service.

5. I beg to forward 7 of the reports I have received in original and with regard to that of

Surgeon Ma[illegible]

Surgeon Major Barron I am not disposed to attach to this officers observations the importance they seem to warrant because I consider that if the effects observed by him were solely due to the liquid Cinchona, other officers who gave it a trial could hardly fail to have found similar results. It is not clear either that the effect produced was not due to the tonic action of the drug.

C.O. Farrell

Deputy Surgeon General,
Principal Medical Officer,
Upper Burma Field Force.

Rangoon 11
11th March 1887

No 45

From

The Medical Officer
in Charge - Rangoon

To

The Principal Medical Officer
B.F.F. Mandalay.

Sir,

With reference to your Memo of 28 ult: calling for a report on the use of liquid Cusha in malarial fevers &c, I have the honor to submit the following remarks.—

Cases. The drug was used in 36 cases of malarial intermittent & in 2 cases of remittent fever; or a total of 38.

Dose. It was prescribed in doses of ℥j, repeated 3 or 4 times a day during the intermissions in the 1st case; & in one drachm doses during the remissions as well as the hyperexial stage in the 2nd case.

Antiperiodic action. Taking remittent fever first, it did not seem to produce any action on the time the exacerbation usually appeared; nor in the case of long continued intermittent fever did it seem to change the type of the fever, or put off the hour of attack.

In

Rec'd 3 MAR 1887

Rec'd 11 MAR 1887

In many mild cases however, the administration of the drug during the intermission cut off the fever at once - My practice I hold is to admit every man with even a single attack of fever into hospital + not to discharge him unless he has been a week free from fever. Under the ordinary treatment with Quinetum, the attacks invariably recurred 4 or 5 times before giving way to the drug. These mild cases are the ones that seem to be especially benefited by the use of the drug under report.

Febrifuge action

The drug has no power as a febrifuge. I have given it in the height of remittent as well as intermittent fever without perceptibly reducing the temperature.

Tonic action disliked by patients

It has never been tried here as a tonic - The first effect of the drug in administration is to produce a feeling of nausea + in some cases even sickness. In the case of British soldiers only it seems to produce relaxation of the bowels on first exhibiting it; but the effect is only temporary. In the 2 cases of remittent fever in natives where larger doses were given, the above action was not produced - Natives + Europeans dislike it however equally.

Conclusions

The above is a very brief report, but I conclude that the drug has not up to the present had a fair trial under me, as no notice of a report being called for was received when the drug was furnished.

Quinine was re-substituted for it in my first trials with it when it failed as an antiperiodic in remittent fever - I am pushing the dose however + giving it further trials + hope to submit a fuller report shortly.

The conclusions I have arrived at with regard to its use up to the present are: -

1. In mild cases of recent intermittent fever it acts very favourably; not so however in the long continued ones.
2. In remittent fever it seems useless.
3. It is inferior in its action to quinine, but superior to the Cinchona alkaloids.
4. Its nauseating properties are an insuperable objection to its long continued use -

I have the honor to be
Sir
Your most obedt. Servant
H. E. Barnatt
Surgeon in H.M.S.

W.D.

W.A.67

Majpiram
29th April. 887

To Gl

From

The Medical Officer
Majpiram

To

The Principal Medical Officer
B. F. F. - Mianwalee

Sir,

I have the honour to forward the following additional report on the use of Sulphate of Cinchona in Malarial fevers.

Index

Fever

Action in Remittent Fever

I Remittent Fever

II Intermittent Fever

I have the honour to acknowledge the receipt of your No 45 dated the 11th instant giving my opinion on the use of Sulphate of Cinchona in Malarial fevers & to forward the following additional report on the subject.

The admissions during the period allowed for my testing the value of the drug were 1 British soldier and 10 sepoys only. Each of these one was a case of remittent fever, (a sepoy); all the others were cases of intermittent malarial fever of various types.

The drachm doses were prescribed in all cases as it appeared to me that half drachm doses given 3 times a day were not strong enough to produce any marked effect.

Taking remittent fever first I observed

(a) no antipyretic action whatever, although prescribed at intervals of one hour. The temperature continued to increase during the exhibition of the drug.

(b) It had no antiperiodic action either. In no marked case of intermittent fever did

(1857)

did it change the type of the fever or exhibit any antiperiodic action. In very bad cases only did it seem to cut short the fever.

The drug was well borne by patients. A slight elevation of temperature following the exhibition of a few drops.

The conclusions I have arrived at after this fresh trial of the drug coincide in the main with those mentioned in my previous report.

I have the honor to be
Sir
Your most obt. servt.
W. Lauder Lindsay
M.D.
Surgeon
Bengal Army

Ind 8355 387

Ext. Cinch. Liq. Fever Reaction

A report of my experience of the use of Ext. Cinch. Liquidum:—

I. Its Therapeutic action of Malarial Fevers:—

I have used it in various forms of Malarial Fevers and in Neuralgia of the 5th Nerve due to Malarial poison, and I have found it to answer very well. And in order to assist the action of this drug I have administered Emetics, in some cases, with the most happy results. It possesses most marked influence on the various forms of Malarial Fevers, curing the Disease quickly and certainly.

II. Its potency to check the attacks of Ague:—

It abolishes Intermittent Fevers, and is equal to Quinine in Ague. It possesses very strong Antiperiodic properties, and I consider it even superior to Quinine in Ague; it is more efficacious in the Quartan type, and in obstinate cases it succeeds better. I also consider it superior as a prophylactic.

III. Its power as a Febrifuge:— It is useless to give Quinine after a "fit" of Ague has commenced as a preventative to elevation of temperature — while in such cases Ext. Cinch. Liq. can be given to reduce the temperature. As a general febrifuge it is an efficacious remedy. To reduce temperature large doses of Quinine must be given, — and even then — in many cases the depression is but slight, about ½ a degree, — while in one a temporary reduction of temperature

Ind 4387 (8)

While Ext: Cinch: Liq: produces a pair fect, and is permanent. If body temperature is a factor in the condition of the Pulse, then by the administration of Quinine there is a loss of force with an increase in the frequency of the pulse. There is no loss of force by the administration of Ext: Cinch: Liq:, and the pulse is more regular.

IV. As a tonic:— It possesses a bitter taste; is a tonic, & promotes the appetite — & sharpens the appetite, and assists digestion, particularly in the case of weakly subjects. It is a good nervine tonic in Debility & Nervous Irritability.

V. How liked by the men:— There is no accounting for "taste"; but on account of the more marked physiological symptoms and toxical effects of Quinine; the men under my Medical charge prefer the Ext: Cinchon: Liq: to Quinine.

VI. General Remarks:— As an Antiseptic it destroys Septic germs, and so is good for arresting putrefaction when applied locally. It is a good local application in foul, indolent, Sloughing Ulcers.

It possesses Anthelmintic properties, especially for Ascarides.

I may here remark that some of my best recoveries from Ague have been produced by administering the following:—

℞

Ext: Cinchon: Liq: — ℥ xx
Pot: Iod: — grs iii
Aquæ Camph: } — ℥ i
Aquæ Fontis: } — ℥ i

Mix

What the modus operandi is I can not, at present, venture to state. I would strongly suggest that the above prescription be given a fair trial, especially in obstinate cases of Ague.

Taking into consideration the small quantity needed (bulk for bulk); the good effects of the drug — in some of its therapeutical qualities equal to, in others superior to, Quinine; the cheapness of the article compared to Quinine; I see no reason why Ext: Cinc: Liq: should not supersede Quinine in general Military therapeutics in districts due to Malarial poison.

Nagasaki, H. Barrack
24th March 1887

Jas J. Jones
Surgeon
17th Regt. Ist. Bengal

A Report of the use of Bark, Quinine, &c.

Mrs. Hargreaves
Glasgow
154 Bath St.

GM83535

150 1 Kaka 19 A 11 K
6 march 07

Dear
Surgeon S. Major
10. K. D. A. Corps

To
The Deputy Surgeon General
Burma. Field Force

Sir.

With reference to your memo
of the 20 ult. I have the honor
to state that any operation of urgent
Chirurgy Circumcision in the treatment
of malarial fever of this description:—
as a prophylactic. not to be undertaken
" Schizogyc. pending orders
" Brain if some cases but greatly
improved by Dr. Duncan's
this not required to by Mr Lubbock —

Remarks have to be
by
four hundred & sixty thousand
Pilgrims passed through
Lebeda

7
Rw 6872/08

Report on Liquid Cinchona.

Characters. A dark brownish liquid Sp. gravity about 1·033; having a pleasant aromatic bitter taste, when mixed with water yields a copious flocculent precipitate which gives a rose colour on the addition of Liquor Ammoniæ in excess. Dilute Sulphuric acid in excess only dissolves the precipitate slightly. Dilute Nitric acid nearly dissolves it. While dilute Hydrochloric acid nearly dissolves the whole of the precipitate.

Dose. Thirty minims are said to be equivalent to about 2½ grains of Cinchonia.

This drug has been tried in cases of Malarial Fevers in 30 minim doses given three times daily during the Months of September, December, January & February at a time when a severe form of Remittent fever was prevalent. The patients who came from the vaccination such as Zagabie — Lamaing, Tavoy, Moulmein and Zeedaing & others where severe forms of Malarial Fevers were prevalent, were freely exposed with the Malarial poison and in some of whom even large doses of Quinine did not produce any marked effect so as an antiperiodic, consequently much cannot be said either for or against the efficacy of this preparation as an antiperiodic. If it failed to arrest the fever.

During the past Month however the severe types of fever has not been prevalent and a prolonged time has

has

has been given to the use of the Liquid Cinchona - the following facts have been observed.

A prolonged course of Liquid Cinchona is required to break off the periodicity of the febrile paroxysm - For instance in Ward 1. 2 & 5 it will be observed that in spite of the daily administration of the Liquid Cinchona up to 90 minims the paroxysmal return of fever continued until a 10 grain dose of Quinine was administered on the day of the expected paroxysm which succeeded in stopping the return of fever and the subsequent use of the Liquid Cinchona for another 4 or 5 days completed the cure.

The cases recorded are too few to come to any satisfactory conclusion as yet, especially as in the instances large doses of the Liquid Cinchona have been tried - for instance if a 10 grain dose of Quinine was indicated with the other a two drachm dose of the fluid would not have a similar effect, but as yet such large doses have not been tried on account of the bulk to be taken at a time.

As a tonic however the preparation will be a useful one the taste being much less unpleasant than either of Cinchona alkaloid or the decoction of Cinchona bark, it is preferred by the patients and I would urge the necessity of a larger quantity of this drug being indented for for use in the treatment of the milder forms of malarial fever, since during the time Liquid

Cinchona has been used there has been a large saving in the more expensive drug, Sulphate of Quinine, which should be reserved only in the severe forms of fever when the temperature is persistently high and when large doses of Quinine are indicated.

C.J. Peers Jnr
Surgeon Major
Jhansi 14.8.82

Liquid Cinchona in Malarial Fever

The results of my experience as to the treatment of Malarial fever with Liquid Cinchona, during the period extending from the 18th November 1886 to the 31st December 1886 compel me to recommend this preparation as an extremely valuable prophylactic, antiperiodic tonic and astringent.

In pursuance of orders from the P. M. O. Burmah Field Force, I experimented at the most, with the healthy men — those not on the sick list — who were engaged in the various guard and escort duties that fall to the lot of Soldiers on active field Service; and the several observations I had made forced me to conclude that Liquid Cinchona was a most trustworthy prophylactic against Malarial fevers. It is, I am obliged to admit, as far as I can judge by the results of my experiments, in its action, provided larger doses are given, as a

preventative against attacks of fever, scarcely less inferior, to quinine.

This statement of mine will no doubt be discredited, but I am certain that this very unexpected and surprising action of the liquid cinchona preparation can be obtained, without an atom of a doubt, provided the calomel purgative plan of treatment be adopted as an auxiliary remedy. Without its frequent help, quinine and the liquid cinchona will fail to rid the patient completely of fever, convalescence will be prolonged and the spleen is liable to suffer.

From half to two grains of calomel should be given every 8th or 10th day to each and every soldier whether he be predisposed or not to intermittent fever. An hour later, an ounce of castor oil, and twice on each of the following days, throughout the fever months, thirty drops of the liquid cinchona - say at 7 am and at 5 PM.

On the 18th December 1886, the 1st Battalion of the Native Corps at Kyaukse

Kyaukse was 183: on the 19th, 163, on the 20th, 153 and so on - the average number of duty-men to whom this new preparation was given each afternoon of every succeeding day, for a period of a week or there about, was about 160. Of this number only 5 were addicted with ague during the time the experiment was continued on the duty-men. These five sick were on more than one former occasion in hospital with ague prior to the introduction of the liquid cinchona treatment. It was noted at the time that the hot stage of the ague attacks was less severe and of shorter duration, than when they were not under the full influence of the liquid cinchona and the calomel-purgative treatment, combined.

On receipt of further supplies of this invaluable preparation, I issued it freely and daily, in lieu of quinine, at the Kyaukse Hospital, to which all the native sick from Yewun, Kume, Yekaujee, Thekadoung, Thanyetaban, Ingine &c were transferred for further treatment. The two cases were of enteric mild

Ague — the Quotidian variety. The several stages of this disease, in every case sent to me, were very pronounced and distinct. These transfers were made and permitted because the men attended at the several posts, were not benefited by treatment with Quinine. The attacks as a rule came on between the hours of one PM and 5 PM, and the patients (the transfers) the majority were very weak and more or less emaciated. The thin wasted condition of the muscles of several being the result of overwork, repeated attacks of Ague, and to the food supplied to them being more or less damaged by rain. A few of the sick were nothing more nor less than "bags of bones", with bad sores and complications. The transfers from the Kumi district came on in fortnightly or monthly batches of 25 or 40 or thereabouts. The men were from all accounts treated with daily doses of Quinine, prior to their arrival at Kyaukkai. While on the sick list they seldom or never had an aperient. Even then the dietary

dietary management of the hospitals where these men had served, during the most trying months of the year, was imperfect — perhaps neglected — not purposely but from unavoidable circumstances. Hence chiefly their very emaciated condition.

The line of treatment systematically practised at the Kyaukkai Native Hospital was as follows —

First Diet. Regard was always had for the patients digestion — A warm ration was given every morning between 6 and 7 to every man under treatment — chiefly to the transfers, who formed the majority of the admissions. Light Nursing was not neglected in the very serious cases. Rice well boiled in water, sago, arrowroot, makes an excellent sustaining morning and night ration, provided the water be so swallowed, especially in places where milk cannot be procured. Warm boiled rice sweetened with sugar and mixed with a

small quantity of Shee should be given to the convalescents. These ingredients can be supplied by the men themselves out of their daily rations.

Secondly. A mild aperient or the Calomel-purgative plan was administered to the fever patient the day following his arrival at Kyaukse; even when constipation was not a prominent symptom.

Thirdly. - Each and every patient (fever and dysentery) had thirty drops of the liquid Cinchona given daily at 10 a.m. and 4 p.m. Diaphoretics were prescribed only in very special cases.

The admissions were selected personally by me. That is I never entered a man on the sick list unless I had seen him myself with fever.

It has been remarked and rightly too, by some of the Senior Surgeons in Service in Burmah, that Quinine as a rule fails in its action as a prophylactic, and as an antiperiodic, in cases where purgatives are not given previous to the administration of Quinine. The same theory holds good when liquid Cinchona is made use of in place of Quinine. Purge your patient, and the liquid Cinchona of fevers

fevers frequently, say 3 or 4 times in the 24 hours, will act most efficiently.

From the 18th of November to the 31st December 1886, the liquid Cinchona treatment was systematically adhered to, except during the short periods I had been absent from Kyaukse - while serving with a column operating from there.

Of the 194 cases of Ague that had been treated chiefly with liquid Cinchona from the 18th November 1886 to the 31st December 1886 there were 12 transfers to No 14 Field Hospital Mandalay, no deaths; 171 were discharged cured to duty: There were about 30 re-admissions; and 9.3 was the average number of days each fever patient was under treatment.

From the day on which the Regiment had disembarked at Rangoon, up to the 19th of November 1886, there were 286 admissions with Ague, and these were treated with Quinine. 17 of these were sent to Mandalay for further treatment: 10.6 is the average number of days each of the Quinine cases remained on the sick list. There were 6 deaths

on fol

1. Regimental Number 1937 was admitted on 28/6/86 by Surgeon Blackwell and died 6 by him: and died on 14/7/86.

2 — do ——— do. 2536. was transferred from Yeamin ot Kumie on 11/10/86 in an emaciated Condition and died on 24/10/86.

3 — do ——— do. 2278 was admitted by me on 10/11/86 & treated by me. He died from the effects of Jaundice on 14/11/86.

4 — do ——— do. 2391 was transferred from Telikes with Complete paralysis of the lower extremities & of the bladder on 16/11/86 and died on 6/12/86.

Liquid Cinchona alone & in combination is a good tonic. I invariably prescribe it in Ceylon Residents.

In cases of diarrhoea & dysentery it serves as a fair astringent.

The men have not to my knowledge objected to it. Several of the Sepoys I know prefer it to Quinine, and it is decidedly far more agreeable to the taste than several of the drugs that are supplied to the Native Hospitals, Civil and Military.

It produces neither nausea nor diarrhoea, and patients even when fully under the influence have never complained of deafness &c.

The Sepoys of the 25th Lt Inf have taken kindly to the remedy, and several have repeatedly asked for it, because they consider it an excellent remedy for fever.

Trincomalee
23 April 1887

J. Barren
Surgeon Major
25th Bo Lt Inf

Surgeon General's Office, Fort St. George
No. 1433 Military Department, Board of Admin.
Dated, the 26th May 1858

From

J. Farquharson Esqr. M.D.
Offg. Surgeon General
with the Govt. of Fort St. George

To

The Secretary to Government,
Military Department,
Madras

Sir,

With reference to the Order of Govern-
No 3719 dated ment noted in the margin, I have the
15th September 1856. honor to forward a Report by the
Principal Medical Officer, Burmah
Field Force, Moulmein, on the Trials
that have been made of Lequios
Cachoua in the Upper Burmah
Field Force.

I have the honor to be,
Sir,
Your most obedient Servant,

J. Farquharson
M.D.
Offg. Surgeon General of Fort St. George

N.S. 15th Sept 1886 Encl 2 in No 718

Gen Div

Revenue
Duelling 1887 1887/10

Recd JUN 17

Sir,

I have the honor to be
Sir
Your most obedient
humble Servant
[illegible]

The Offg. Surgeon General
Mil Dr. Service,

Military Department
Ootacamund
June 87.

No [illegible] Transmitted
to the Revenue Depart-
ment, with reference to
para 3 of G.O. on that
Department No 718,
dated 17th August 86.

The Secretary to Government,
Military Department,
Ootacamund

Read

No 1133 dated

Ootacamund the 28th May 1887

Forwarding Report on the
trial of Lyngid Cucchoneo
in the Kaper Burnakhota
Fort.

Military Department

Brigade

Secretary to Government

No.

G.O. No 888 dated 30th June 87

Communicated to the
Board of Land Customs Madras with
the Surgeon General's
letter

dated 13th

No 765 The Port Officer
& Superintendent Customs Madras
Surgeon General with Fort