M.R.O. 1—52 406—22-11-30

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 829 Press Mis.

Dated 8 - 8 - 1882.

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following letter from W. R. CORNISH, Esq., F.R.C.S., C.I.E., Surgeon-General with the Government of Madras, to the Chief Secretary to Government, Public Department, dated Ootacamund, 26th July 1882, No. O-388 :—

I have the honor, agreeably to G.O., No. 1395, dated 25th October 1880, Revenue Department, to forward, for the information of the Right Honorable the Secretary of State for India, the following results obtained from an extended trial of the samples of quinetum tartrate, chinchona alkaloid, and liquor of amorphous sulphate sent to this Presidency for trial.

2. The above drugs were issued to Medical Officers along with my Circular No. 2, dated 21st February 1881 (a copy of which is enclosed), and they were requested to be particularly careful in noting the effects of the remedies and any special symptoms that might arise. The numbers experimented on are small, and I have kept back the report in the hope that a larger number of observations might have been recorded.

3. *Tartrate of Quinetum.*—This was tried in 440 cases, and proved successful in 400 or 90·99 per cent; 39 or 8·86 per cent. were discharged "otherwise," quinine having to be substituted, and one death occurred. Special symptoms, *e.g.*, nausea, giddiness, headache and vomiting occurred in 89 or 20·22 per cent. This appears to be a large average compared to the results obtained when quinetum was used, which results are recorded in G.O. of 6th October 1880, No. 1473, Public Department. Mr. Whiffen was of opinion that nausea, &c., were due to quinoidine, and this he is stated to have eliminated from the present preparation of soluble tartrates, but there appears to be something else in the preparation which causes these special symptoms in so large a number of cases. The Medical Officer at Rajahmundry seems to have found this drug disagree more with his patients than any other officer who tried the preparation, except the Civil Surgeon of Kurnool; but his doses were very large in proportion to the total average dose. The average number of days under treatment was 6·691, the average quantity taken was 172·15 grains, and the average dose 10·5 grains.

Type of Fever	
Quotidian	379
Tertian	18
Quartan	27
Remittent	6
Febricula	10
	440

4. *Chinchona Alkaloid.*—This was administered in 235 cases, with 190 recoveries or 80·85 per cent. No deaths occurred. Forty-five were discharged "otherwise" or 19·14 per cent., and special symptoms were noticed in 42 cases or 17·8 per cent. The average dose in grains was 7·68, and the average quantity taken 142·28 grains. The average time under treatment was 6·657 days. Special symptoms here also show a large percentage as compared to chinchonidine sulphate 7·4 per cent., and chinchoniæ sulphate 5·4 per cent.

Type of Fever.	
Quotidian	201
Tertian	26
Quartan	6
Febricula	2
Total ...	235

5. *Liquor of Amorphous Sulphate of Quinine.*—This was tried in 218 cases, of which 187 or 85·77 per cent. recovered, one case died, and 30 were discharged "otherwise" or 13·76 per cent. In regard to the case that died, the patient was in hospital only one day, and would probably have succumbed even if quinine had been administered; this case might be eliminated from the statistics. The average dose was 24·168 minims, and the average number of days under treatment was 6·628. The average total amount taken was 11·187 drachms. This drug therefore shows the best results as regards length of time in hospital, but the period is much longer than that obtained under quinetum 4·182 days, chinchonidine sulphate 5·053, and chinchonine sulphate 4·783.

Type of Fever.	
Quotidian	182
Tertian	24
Quartan	5
Remittent	2
Febricula	5
Total ...	218

6. I consider the number of cases too small to afford any very reliable data as to the value of the several preparations, and I am disappointed that the quinetum tartrate has not been more appreciated, and that it should be reported to cause unpleasant symptoms in quite as high a ratio as the crude alkaloid manufactured in India.

ENCLOSURES No. 1.

MEMORANDUM.

Circular No. 2.

In Circular Memorandum No. 4, of 15th February 1879, the instructions * of Government in regard to the experimental trial of certain febrifuges as per margin were communicated to Medical Officers of the Department, and the general tenor of the reports received in reply to that circular has confirmed the high value of the several alkaloids and their usefulness in treating malarious fevers.

* G.O., No. 83, of 22nd January 1879, Public Department.
Sulphate of Chinchonidine.
Sulphate of Chinchonine.
Sikkim Chinchona Febrifuge.

2. The Secretary of State for India has recently announced that an experiment has been tried in England of working up certain barks, sent from the Nilgiri plantations on account of Government, and that the quinine manufacturer employed on this duty (Mr. Whiffen) has prepared in lieu of the Bengal febrifuge (quinetum), now so largely employed in India, a soluble tartrate of quinetum which it is desired should be fully tested and reported on by officers in India.

3. It is universally admitted that quinetum as hitherto prepared in India, containing as it does all the alkaloids present in chinchona bark, is a most valuable remedy. At the same time it is admitted that the remedy is nauseous in taste, and that it sometimes excites vomiting or nausea in those who take it. Mr. Whiffen believes that in his preparation of a soluble *tartrate of quinetum* he has effectually excluded the nauseating principle, which in his opinion is the amorphous alkaloid *quinoidine*.

4. The soluble tartrate of quinetum may be given in doses of, from five to ten or 15 grains according to the severity of the fever. It is most important that this remedy should receive a most careful trial at the hands of Medical Officers who have been called upon to test it. The results should be recorded in the form attached to Circular 4 of 1879, and should be submitted at the end of every month with any remarks Medical Officers may have to make. It is suggested also that this salt may be used hypoderimically in treating fevers. If used in this way the results should be given in a separate list.

5. Another preparation sent out by the Secretary of State for experimental trial is cinchonine alkaloid, which the prescribing officer can convert into sulphate, muriate, &c., at his pleasure. The dose of this alkaloid is from five grains upwards.

6. Another preparation is the solution of amorphous sulphate of quinine which contains one part of amorphous quinine in four parts of the solution, and the dose of which should be regulated accordingly.

7. Specimens of all these preparations are forwarded to the undermentioned Medical Officers for trial and report. Their receipt should be acknowledged.

8. The Surgeon-General solicits the cordial co-operation of Medical Officers in the Civil Department in giving the careful trial to these remedies directed by the Secretary of State for India. The Surgeon-General looks upon the question of freeing quinetum of its nauseating properties and other disadvantages as one of the most important means of bringing the febrifuges now produced in India into general and popular use. He desires therefore that special attention be given to the use and value of the soluble tartrate of quinetum. He observes that cases for experiment should be chosen in jails, police, or other hospitals where the patients are under constant observation.

(By Order.)

FORT ST. GEORGE,
21st February 1881.

(Signed) A. J. STURMER, Surgeon,
Secretary to Surgeon-General,
with the Govt. of Madras.

To the Civil Surgeon, Rajahmundry, &c.

Quinetum Tartrate.

Number of Cases.	Name.	Average dose in grains.	Total average amount taken in grains.	Average number of days under treatment.	Type of Fever.					Cured.	Died.	Otherwise.	Special Symptoms.	—
					Quotidian.	Tertian.	Quartan.	Remittent.	Febricula.					
5	Branch Dispensary, Waltair ..	5·09	76·0	7·6	5	..	..	..	..	4	..	1	..	
54	Civil Dispensary, Vizagapatam.	7·74	50·35	4·37	43	8	2	..	..	43	..	11	..	
68	Jails, Coimbatore	5·95	70·58	4·13	63	2	3	..	..	65	..	3	..	
26	Civil Dispensary, Cochin ..	5·307	80·15	5·11	14	2	..	..	10	26	..	..	..	
35	Jail, Cuddapah	10·14	185·5	7·7	35	..	..	..	..	34	..	1	4	Diarrhœa and dysentery.
38	Police Hospital, Cuddapah ..	8·42	178·42	7·23	27	..	11	..	..	36	..	2	..	
6	Women and Children's Hospital, Madras.	5·83	91·6	6·3	4	1	..	..	..	4	..	2	1	Nausea.
24	Civil Dispensary, Kurnool ..	25·0	130·625	5·41	14	..	10	..	..	24	..	..	24	Giddiness, nausea headache, pain in the stomach, sometimes burning.
16	General Hospital, Madras ..	6·25	65·3	5·18	16	..	..	..	..	16	..	..	..	Vomiting and diarrhœa in some cases.
9	Civil Dispensary, Russellkonda.	18·8	70·0	5·77	5	3	1	..	..	9	..	..	..	
13	Police Hospital, Vizagapatam.	5·7	28·07	8·307	13	..	..	..	..	13	..	..	..	
13	Central Jail, Cannanore ..	7·307	226·5	12·92	10	..	..	3	..	8	*1	4	..	* Ague (a)
38	Central Jail, Rajahmundry ..	5·0	116·8	4·18	38	..	..	..	..	38	..	..	38	Nausea, giddiness and vomiting.
20	Police Hospital, Rajahmundry.	5·0	129·75	4·55	20	..	..	..	..	20	..	..	9	Nausea, headache.
25	16th Madras Native Infantry..	9·80	194·60	8·280	25	..	..	..	..	25	..	..	7	Nausea, giddiness and headache.
14	Left Wing, 7th Madras Native Infantry.	10	259·28	8·64	14	..	..	..	..	10	..	4	..	*
27	Left Wing, 40th Madras Native Infantry.	16·6	125·92	5·407	25	2	..	..	..	16	..	11	9	Nausea, headache and vomiting.
9	Right Wing, 40th Madras Native Infantry.	31·6	1019·3	9·3	8	..	..	1	..	9	..	..	2	Nausea.
440		189·001	3098·711	120·457	379	18	27	6	10	400	1	39	89	
	Averages ..	10·50	172·15	6·691	..	..	..	..	..	per cent. 90·9	per cent. 0·22	per cent. 8·86	20·22	

Chinchona Alkaloid.

Number of Cases.	Name.	Average dose in grains.	Total average amount taken in grains.	Average number of days under treatment.	Type of Fever.					Cured.	Died.	Otherwise.	Special Symptoms.	—
					Quotidian.	Tertian.	Quartan.	Remittent.	Febricula.					
86	Civil Dispensary, Vizagapatam.	11·13	21·03	3·116	67	18	1	..	..	60	..	26	..	
38	Do. Coimbatore..	4·89	136·4	9·21	37	1	..	..	..	31	..	7	..	
9	Do. Cochin ..	5·0	65·0	4·3	5	3	..	..	1	9	..	..	..	
7	Jail, Cuddapah	9·28	143·37	10·857	7	..	..	..	..	4	..	3	1	Dysentery.
8	Police Hospital, Cuddapah ..	5·0	120	8·0	3	..	5	..	..	5	..	3	..	
4	Central Jail, Cuddapah ..	5·0	110	7·25	3	1	..	..	..	4	..	..	..	
24	Do. Rajahmundry ..	5·0	110	4·25	24	..	..	..	..	24	..	..	24	Nausea, giddiness.
9	Police Hospital, Rajahmundry.	5·0	140	4·6	6	3	..	..	..	9	..	..	2	Nausea and vomiting.
24	16th Madras Native Infantry.	7·95	142·3	8·16	24	..	..	..	..	23	..	1	8	Headache, nausea, vomiting.
14	Left Wing, 7th Madras Native Infantry.	10·0	225·00	7·64	13	..	..	..	1	9	..	5	..	
12	Right Wing, 40th Madras Native Infantry.	16·31	428·75	5·75	12	..	..	..	..	12	..	..	7	Nausea, vomiting, headache.
235		84·56	1642·08	73·232	201	26	6	..	2	190	..	45	42	
	Averages ..	7·68	149·28	6·657	..	..	..	..	..	per cent. 80·85	..	per cent. 19·14	per cent. 17·8	

Number of Cases.	Name.	Average dose in minims.	Average amount taken in drachms.	Average number of days under treatment.	Type of Fever.					Cured.	Died.	Otherwise.	Special Symptoms	—
					Quotidian.	Tertian.	Quartan.	Remittent.	Febricula.					
8	Branch Dispensary, Waltair ..	10·00	3·250	6·50	7	1	..	..	..	5	..	3	3	Nausea, burning at pit of stomach.
74	Civil Dispensary, Vizagapatam.	20·00	28·03	4·19	61	13	..	..	..	58	..	16	..	
39	Do. Coimbatore ..	21·02	21·6	6·8	28	5	5	..	1	35	*1	3	4	Nausea and vomiting.
6	Do. Cochin ..	23·33	6·6	6·16	3	1	..	..	2	6	..	..	..	
9	General Hospital, Madras ..	53·33	6·44	7·66	5	..	..	2	2	8	..	1	4	Vomiting, diarrhœa and nausea.
32	Central Jail, Rajahmundry ..	15·0	5·608	4·12	32	..	..	..	..	32	..	..	32	
6	Police Hospital, Rajahmundry.	15·0	14·416	8·83	3	3	..	..	..	6	..	..	..	
23	16th Madras Native Infantry.	20·0	5·58	8·47	23	..	..	..	..	23	..	..	11	Headache, nausea and vomiting.
14	Left Wing, 7th Madras Native Infantry.	40·0	11·46	5·7	14	..	..	..	..	8	..	6	..	
7	Right Wing, 40th Madras Native Infantry.	24·0	8·82	7·85	6	1	..	..	..	6	..	1	..	Nausea, giddiness, dryness of fauces.
218		241·68	111·874	66·28	182	24	5	2	5	187	1	30	54	
	Averages ..	24·168	11·187	6·628	..	..	..	..	..	per cent. 85·77	0·45	13·76	24·77	

* Only in Hospital one day.

8th August 1882, No. 822, Revenue.

Order—dated 8th August 1882, No. 822, Revenue.

Miscellaneous.

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No. 35 of 1880, and with reference to His Lords

2. With reference to paragraph 6, the Surg
ment further, and to report the results in due c

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experi-

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To the Surgeon-General with the Government of Madras.
To the Superintendent, Central Museum.
" Conservator of Forests.
" Board of Revenue.
" Public Department.

Exd. W. H. French.

80 Copies.

Govt. of (1882) Madras.

REVENUE.

Order, dated 8th August 1882, *No.* 822.

Cinchona Tartrate, Cinchona Alkaloid and Liquor Amorphous Sulphate.—Letter from Surgeon-General with Government of Madras reporting results of trials of —, transmitted to Secretary of State. — Further experiment directed.

3

G.O. 8-8-82 No. 822

G.G. Brandis

Cinchona Tartrate

Mr. Broughton

Please see if the
2 Enclosures to Con. No 89.
mean Circulars Nos 2 & the
Statement are to be included
in the G.O. So soon time,
the Despatch on the subject
has been sent home. Let the G.O.
be N. C.

Mr. Broughton

Circular No. 2.

Memorandum

In Circular Memo No. 4 of 15th February 1879, the instructions* of Government in regard to the experimental trial of certain febrifuges as per margin were communicated to Medical Officers of the Department, and the General tenor of the reports received in reply to that Circular has confirmed the high value of the several alkaloids and their usefulness in treating malarious fevers.

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* G. O. No. 83 of 22d January 1879 P.D.

Sulphate of Cinchonidine
Sulphate of Cinchonine
Sikkim Cinchona Febrifuge.

Of a soluble tartrate of quinetum he has effec-
=tually excluded the nauseating principle, which
in his opinion is the amorphous alkaloid quinoi-
=dine

4. The soluble tartrate of quinetum may be
given in doses of, from 5 to 10 or 15 grains, according
to the severity of the fever. It is most important
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=gulated accordingly.

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for trial and report. Their receipt should be acknow-
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13 4

8. The Surgeon-General solicits the cordial
co-operation of Medical Officers in the Civil
Department in giving the careful trial to these reme-
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cases for experiment should be chosen in Jails, Police,
or other Hospitals where the patients are under constant
observation.

(By Order)

Offic of Surgeon General
with the Govt of Madras.
Fort St George. 21st February 1881

Sd. A. J. Sturmer Surgeon
Secy: Surgeon-General
with the Govt of Madras.

To
The Civil Surgeon
Rajahmundry &c &c

(True Copy)

W M Lonsdale
Surgeon General
with the Govt of Madras

25	6 m. n. s	9·80	194·60	8·2·0	25	—	—	—	—	25	—	—	7	Nausea, giddiness Headache
14	Left wing 7° m. n. s.	10	259·28	8·64	14	—	—	—	—	10	—	4	—	
27	Left wing 40° m. n. s.	16·6	125·92	5·407	25	2	—	—	—	16	—	11	9	Nausea, headache Vomiting
9	Right wing 40° m. n. s.	31·6	1019·3	9·3	8	—	—	1	—	9	—	—	2	Nausea
440		109·001	3098·711	120·457	379	18	27	6	10	400	1	39	89	
Averages		10·50	172·15	6·691						p.c. 90·9	p.c. 0·22	p.c. 8·86	20·22	

C. W.

1
Rec'd 1892
Exp. 1892

Cinchona Alkaloid

No. of cases	Name	Average dose in grains	Total average amount taken in grains	Average No. of days under treatment	Type of Fever: Quotidian	Tertian	Quartan	Remittent	Febricula	Cured	Died	Otherwise	Special Symptoms	
86	Civil Dispy Vizagapatam	11·13	21·03	3·116	67	10	1	—	—	60	—	26	—	
38	Civil Dispy Combatore	4·89	136·4	9·21	37	1	—	—	—	31	—	7	—	
9	Civil Dispy Cochin	5·0	65·0	4·3	5	3	—	—	1	9	—	—	—	
7	Jail Cuddapah	9·28	143·37	10·857	7	—	—	—	—	4	—	3	1	Dysentery
8	Police Hospl Cuddapah	5·0	120	8·0	3	—	5	—	—	5	—	3	—	
4	Central Jail Cuddapah	5·0	110	7·25	3	1	—	—	—	4	—	—	—	
24	Central Jail Rajahmundry	5·0	110	4·25	24	—	—	—	—	24	—	—	24	Nausea, Giddiness
9	Police Hospl Rajahmundry	5·0	140	4·6	6	3	—	—	—	9	—	—	2	Nausea and vomiting
24	16th M.N.I.	7·95	142·3	8·16	24	—	—	—	—	23	—	1	8	Headache, nausea, vomiting
14	Left wing 7th M.N.I	10·0	225·00	7·64	13	—	—	—	1	9	—	5	—	
12	Right wing 40th M.N.I	16·31	428·75	5·75	12	—	—	—	—	12	—	—	7	Nausea vomiting headache
235		84·56	1642·08	73·232	201	26	6	—	2	190	—	45	42	
CN.	averages	7·68	149·28	6·657						p.c. 80·85		p.c. 19·14	p.c. 17·8	

Quinchina Sulphate

No. of cases	Name	Average dose in grains	Total average amount taken in grains	Average No. of days under treatment	Type of Fever: Quotidian	Tertian	Quartan	Remittent	Febricula	Cured	Died	Otherwise	Special Symptoms	
5	Branch Dispy Walkire	5·00	76·0	7·6	5	—	—	—	—	4	—	1	—	
54	Civil Dispy Vizagapatam	7·74	50·35	4·37	13	8	2	—	—	43	—	11	—	
68	Jails Coimbatore	5·95	70·58	4·13	63	2	3	—	—	65	—	3	—	
26	Civil Dispy Cochin	5·307	80·15	5·11	14	2	—	—	10	26	—	—	—	
35	Jail Cuddapah	10·14	185·5	7·7	35	—	—	—	—	34	—	1	4	Diarrhoea and Dysentery
38	Police Hospl Cuddapah	8·47	178·42	7·23	27	—	11	—	—	36	—	2	—	
6	Women & Children Hospl Madras	5·83	41·6	6·3	4	1	—	—	—	4	—	2	1	Nausea
24	Civil Dispy Vizagapatam	2·50	130·625	5·41	14	—	10	—	—	24	—	—	24	Giddiness Nausea headache pain in the Stomach Sometimes vomiting
16	Civil Hospital Madras	6·25	65·3	5·18	16	—	—	—	—	16	—	—	—	Vomiting and diarrhoea in some Cases
9	Civil Dispy Russelkondah	18·8	70·0	5·77	5	3	1	—	—	9	—	—	—	
13	Police Hospital Vizagapatam	5·7	28·07	8·307	13	—	—	—	—	13	—	—	—	
13	Central Jail Cannanore	7·307	226·5	12·92	10	—	—	3	—	8	1	4		Ague (4)
38	Central Jail Rajahmundry	5·0	116·8	4·18	38	—	—	—	—	38	—	—	38	Nausea giddiness vomiting
20	Police Hospl Rajahmundry	5·0	124·75	4·55	20	—	—	—	—	20	—	—	9	Nausea headache

Liq. Quinia Amorph

No. of Cases	Name	Average dose in minims	Average amt taken in drachms	Average No. of days under treatment	Type of Fever: Quotidian	Tertian	Quartan	Remittent	Febricula	Cured	Died	Otherwise	Special Symptoms	
8	Branch Disp. Waltair	10·00	3·250	6·50	7	1	–	–	–	5	–	3	3	Nausea burning at pit of stomach
74	Civil Disp. Vizagapatam	20·00	28·03	4·19	61	13	–	–	–	58	–	16	–	
39	Civil Disp. Coimbatore	21·02	21·6	6·8	28	5	5	–	1	35	× 1 on 4th Hospl one day	3	4	Nausea and vomiting
6	Civil Disp. Cochin	23·33	6·6	6·16	3	1	–	–	2	6	–	–	–	
9	Garb Hospl Madras	53·33	6·44	7·66	5	–	–	2	2	8	–	1	4	Vomiting diarrhoea & nausea
32	Central Jail Rajahmundry	15·0	5·608	4·12	32	–	–	–	–	32	–	–	32	
6	Police Hospl Rajahmundry	15·0	14·416	8·83	3	3	–	–	–	6	–	–	–	
23	16th M.N.I.	20·0	5·58	8·47	23	–	–	–	–	23	–	–	11	Headache nausea and vomiting
14	Left Wing 7th M.N.I.	40·0	11·46	5·7	14	–	–	–	–	8	–	6	–	
7	Right Wing 40th M.N.I.	24·0	8·82	7·85	6	1	–	–	–	6	–	1	–	Nausea, giddiness dryness of fauces
218		241·68	111·874	66·28	182	24	5	2	5	187	1	30	54	
	Averages	24·168	11·187	6·628						p.c. 85·77	0·45	13·76	24·77	

OFFICE OF SURGEON-GENERAL
WITH THE GOVERNMENT OF MADRAS.

~~Madras~~ Ootacamund, 22 July 1882.

No. 1388

From W. R. Cornish Esqr. F.R.C.S., C.I.E.

~~The~~ SURGEON-GENERAL WITH THE
GOVERNMENT OF MADRAS,

~~MADRAS~~,

To

THE CHIEF SECRETARY TO GOVERNMENT,
Public DEPARTMENT.

SIR,

I have the honor, agreeably to G.O. No. 1395 dated 25th October 1880 Revenue Department, to forward for the information of the Right Honorable the Secretary of State for India, the following results obtained from an extended trial of the samples of Quinetum Tartrate, Chinchona alkaloid and Liquor of amorphous sulphate sent to this Presidency for trial.

2 The above drugs were issued to Medical Officers along with my Circular No. 2 dated 21st February 1881 (a copy of which is enclosed), and they were requested to be particularly careful in noting the effects of the remedies, and any special symptoms that might arise. The numbers experimented on are small, and I have kept back the report in the hope that a larger number of observations might have been recorded.

3. Tartrate of Quinetum. This was tried in 440 cases, and proved successful in 400, or 90·99 per cent. 39 or 8·86 per cent were discharged "otherwise", quinine having to be substituted, and

Type of Fever.	
Quotidian	379
Tertian	18
Quartan	27
Remittent	6
Febricula	10
	440

and one death occured - Special symptoms e.g. nausea, giddiness, headache and vomitting occurred in 89 or 20·22 per cent - This appears to be a large average compared to the results obtained when Quinetum was used, which results are recorded in G.O. of 6th October 1880 No. 1473 Public Department. Mr. Whiffen was of opinion that nausea &c. were due to quinoidine, and this he is stated to have eliminated from the present preparation of soluble tartrates, but there appears to be something else in the preparation which causes these special symptoms in so large a number of cases. The Medical Officer at Rajahmundri seems to have found this drug disagree more with his patients than any other officer who tried the preparation, except the Civil Surgeon of Kurnool, but his doses were very large in proportion to the total average dose - The average number of days under treatment was 6·691, the average quantity taken was 172·15 grains, and the average dose 10·5 grains.

4. Chinchona alkaloid. This was administered in 235 cases, with 190 recoveries or 80·85 per cent. No deaths occurred. 45 were discharged "otherwise" or 19·14 per cent and special symptoms were noticed in 42 cases or 17·5 per cent -

Type of fever	
Quotidian	201
Tertian	26
Quartan	6
Febricula	2.
	235

The average dose in grains was 7·68, and the average quantity taken 142·28 grains. The average time under treatment was 6·657 days. Special symptoms here also, show a large percentage as compared to Chinchonidine

Chinchonidine Sulphate 7·4 per cent and chinchonine sulphate 5·4 per cent.

5 Liquor of Almophous Sulphate of Quinine. This was tried in 218 cases of which 187 or 85·77 per cent recovered, One case died, and 30 were discharged "otherwise" or 13·76 per cent - In regard to the case that died, the patient was in Hospital only one day. and would probably have succumbed even if Quinine had been administered - this case might be eliminated from the statistics. The average dose was 24·168 minims, and the average number of days under treatment was 6·628. The average total amount taken was 11·187 drachms. This drug therefore shows the best results as regards length of time in Hospital, but the period is much longer than that obtained under Quinetum 4·182 days, Chinchonidine sulphate 5·053, and chinchonine sulphate 4·783.

Type of fever	
Quotidian	182
Tertian	24
Quartan	5
Remittent	2
Febricula	5
	218

6. I consider the number of cases too small to afford any very reliable data, as to the value of the several preparations, and I am disappointed that the Quinetum tartrate has not been more appreciated, and that it should be reported to cause unpleasant symptoms in quite as high a ratio as the crude alkaloid manufactured in India.

I have the honor to be
Sir
Your most Obt. Servant.

W M Lorrain
Surgeon General
with the Govt of Madras

Revenue Department

Public (1882.) Department.

No. 4089

From

The Surgeon-General with the
Government of Madras,
Madras.

Dated 25 July 1882.
Recd. 26

No. 0388

Subject.

Forwards for the information of the Rt. Honble the Secy of State for India the within mentioned results obtained from an extended trial of the samples of Quinetum tartrate, chinchona alkaloid & Sp. Amorphous Sulphate sent for trial.

Print with enclosures
8/8

To 82 No 1467
13/12/80 No 1702
25/10/80 No 1395
23/10/80 No 3608 Mis
13/6/80 No 1696. do

Order. No 822 d/8 August 1882

Copy of the Surgeon Generals letter will be transmitted to the Secretary of State in continuation of letter no 35 of 1880 dated — with reference to his lordships despatch no 39 of 1880.

To The Surgeon Genl with Govt of Madras
& The Supdt. Central Museum.
4. The Conservator of Forests.
21. The Board of Revenue
5. The Public Dept, Govt of India
for info with reference to para 6 The Surgeon General is desired to experiment further & to report the results in due course

8.8.82.

To The Surgeon Genl with Govt of Madras
& The Supdt. Central Museum.
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for info with reference to para 6 The Surgeon General is desired to experiment further & to report the results in due course

8.8.82.
25-8-82.

Dep. Y. G. Sec.

With an order.