

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
913P			14-6-98				

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Plague.

Local & Munl. (1899) Department.

CURRENT No. 17487

To Rev Dept. 36-98
and return

Returned 17-98

From The Plague Commissioner Hyderabad.

Order no 1058 P. Mis. 8.10.7-98

Recorded in continuation

G.O. no 913 P. Mis.
14. 6. 98

No. 1895-

4/7/98

6061
6.7.98

Dated 26-6-98

Received 3. 7-98

Registered 3. 7-98

Enclosures 2

Spare copies

SUBJECT.

Forwarding copy of letter to the
Joint Asst. Resident Hyderabad
acknowledging receipt of
Govt of India letter regarding
the use of common salt
as a preventive against plague
and enclosing a report
on the effect of salt as a
preventive and curative
in plague.

Note:
only one copy of the report
has been received. It is also believed
as to whether this copy may be
circulated for the perusal of
the S.C. & S. Land Reco. Dept.
Inoculation is
S.C. & S. Land Reco. Dept.
of these reports direct
4/7/98

BACK PAPERS.

G.O.	No.	Department.	Date.
	913. P		
	1466/99		

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Plague—Hyderabad State.

No. 2836 of 1899.

FROM

LIEUTENANT-COLONEL E. LAWRIE, M.B., I.M.S.,

PLAGUE COMMISSIONER,

Hyderabad.

TO

C. H. A. HILL, Esq., C. S.,

FIRST ASSISTANT RESIDENT.

DATED HYDERABAD RESIDENCY, 26th June 1899.

SIR,

I have the honor to acknowledge the receipt of your endorsement, No. 3321, dated the 16th of June 1899, forwarding

From Mr. Godfrey Gumpel to the Secretary of State for India, dated the 6th of February 1899, and enclosed letter from Dr. Hans Buchner, dated the 28th of January 1899.

From Mr. C. Godfrey Gumpel to the Under Secretary of State for India, dated the 18th of March 1899.

a copy of the Government of India, Home Department, letter No. 1811, dated the 31st of May 1899, together with its enclosures noted in the margin, regarding the use of common salt as a preventive against plague.

2. In reply I beg to enclose a report on the effect of salt as a preventive and curative in plague.

I have the honor to be,

Sir,

Your most Obedient Servant,

E. Lawrie

M.B.,

Lt.-Col. I.M.S.,

Plague Commissioner.

1/045 P of 1899

Report on the action of common salt in plague.

1. Dr. Hans Buchner's belief in common salt as a preventive against plague is based on two premises, which are stated in his letter, dated the 28th of January 1899:—

- (1) That the serum of the blood has bacterium-killing properties, which depend on the amount of its mineral constituents, *i. e.*, common salt.
- (2) That common salt is not used among the poorer classes of Indian Natives, or if it is used it is not taken in quantity sufficient to maintain the bacterium-killing property of the blood at a high enough level to enable them to resist bacterial infection.

Neither of these premises is correct. The serum of the blood is under no circumstances, except those of immunity—which salt does not confer, bactericidal against *infective* organisms, which on the contrary multiply in it; and common salt is I believe universally employed among the lower classes in India.

2. In order to test the question experimentally a series of experiments with common salt as a preventive and as a curative agent against plague have been instituted and were carried out in the temporary laboratory of the Hyderabad Medical School by Dr. Mullanah.

3. Twenty-seven rabbits were employed. Two were dosed with salt as controls, in order to make sure that the amount given as a remedy in the experiments actually found its way into the blood. With the same doses as were employed in the experiments the salt was found in the blood of the controls within twelve hours—in rather larger quantity when given by hypodermic injection than when given by the mouth.

Two other controls were inoculated with plague only. The remaining twenty-three animals were inoculated with plague, and salt was employed as a prophylactic in eleven, and as a curative in twelve. In five rabbits the salt was given as a prophylactic by subcutaneous injection, and in six by the mouth. As a curative the salt was given in six cases by the mouth, and in six by subcutaneous injection. As a prophylactic the salt was given for two days, until the blood was well impregnated with it, and 1 c.c. of plague culture was then injected subcutaneously; as a cure the animals were first given 1 c.c. of plague culture, and

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over 1000

were then dosed with common salt every four hours. The results of the experiments are given in the following tables:—

Table I.—Experiments with common salt as a preventive against plague.

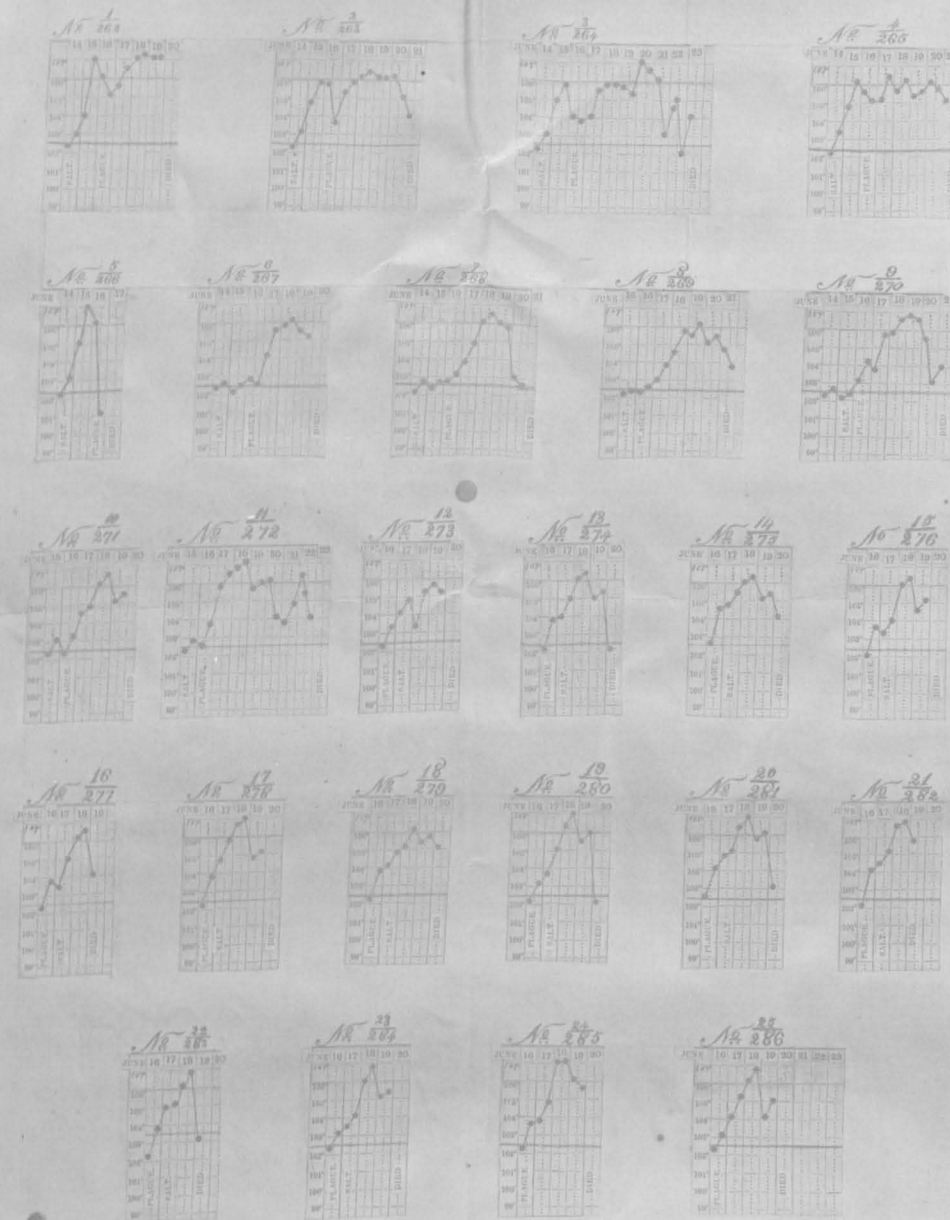
No. of rabbit.	Salt by the mouth.	Salt by subcutaneous injection.	Inoculation with a culture of plague.	Died of plague.	Plague bacillus, where found p.m.
1	Nil.	Gr. 40 daily for three days.	1 c. c. 16-6-99.	20-6-99.	Blood, glands, spleen.
262	Nil.	Gr. 40 daily for three days.	1 c. c. 16-6-99.	21-6-99.	" " "
263	Nil.	Gr. 40 daily for three days.	1 c. c. 16-6-99.	23-6-99.	" " "
3	Nil.	Gr. 40 daily for three days.	1 c. c. 16-6-99.	21-6-99.	" " "
264	Nil.	Gr. 40 daily for three days.	1 c. c. 16-6-99.	17-6-99.	" " "
4	Nil.	Gr. 40 daily for three days.	1 c. c. 16-6-99.	20-6-99.	" " "
265	Gr. 40 daily for three days.	Nil.	1 c. c. 16-6-99.	21-6-99.	" " "
5	Gr. 40 daily for three days.	Nil.	1 c. c. 16-6-99.	21-6-99.	" " "
266	Gr. 40 daily for three days.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "
267	Do.	Nil.	1 c. c. 16-6-99.	22-6-99.	" " "
268	Do.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "
269	Do.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "
270	Do.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "
271	Do.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "
272	Do.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "
24	Control.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "
285	Control.	Nil.	1 c. c. 16-6-99.	20-6-99.	" " "

Table II.—Experiments with common salt as a curative in plague.

No.	Inoculation with a culture of plague.	Salt by the mouth.	Salt by subcutaneous injection.	Died of plague.	Bacillus p. m. where found.
12	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	Blood, spleen, glands.
573	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
13	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
274	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
14	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
275	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
15	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
276	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
16	1 c. c. 16-6-99.	Nil.	Gr. 9 every 6 hours.	19-6-99.	" " "
277	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
17	1 c. c. 16-6-99.	Nil.	Gr. 9 every 4 hours.	20-6-99.	" " "
278	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
18	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
279	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
19	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
280	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
20	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
281	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	19-6-99.	" " "
21	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	19-6-99.	" " "
282	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
22	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
283	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
23	1 c. c. 16-6-99.	Gr. 30 a day.	Nil.	20-6-99.	" " "
284	1 c. c. 16-6-99.	Control.	Nil.	20-6-99.	Blood, spleen, glands.
25	1 c. c. 16-6-99.	Control.	Nil.	20-6-99.	" " "
286	1 c. c. 16-6-99.	Control.	Nil.	20-6-99.	" " "

The experiments show that common salt is neither a preventive against plague, nor is it a curative. In the cases where the salt was administered by hypodermic injection it produced feverishness, and, in some of the cases in which it was given by the mouth, vomiting.

Table III.—Temperature charts of the rabbits with plague.



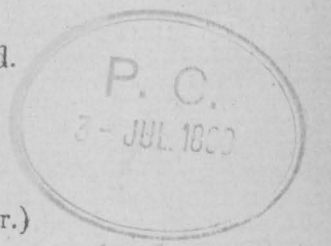
4. The third table gives charts of the temperatures in the rectum of the animals experimented on. It demonstrates the usual curves of plague, and most of the charts illustrate the state of collapse—or typhoid prostration—into which plague cases fall shortly before death. In all the animals the plague bacillus was found, *post-mortem*, in the blood, the glands, and the spleen.

No. 2835 of 1897.

C No 1748 P
OFFICE OF Magae
Comr HYDERABAD.

Dated Hyderabad Residency, 30 June 1897.

One Printed Copy of letter No. 2835, dated 26-6-1897,
from Magae Commission Hyderabad
forwarded to the Magae Commission
Madras for information and record.



(By order.)

Deu Keth...
H. Asst.,
Office of Magae Comr

ORDER OF GOVERNMENT	A	A	A	A	A	A	A
LETTER OF GOVERNMENT.							
STATEMENT WITH DITTO.							
PAPERS NOT FILED UP, BEING MEANT FOR DESPATCH IN ORIGINAL.							

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