

Report on the attack of epidemic cholera in the Agra and Gwalior circle during the year 1862.

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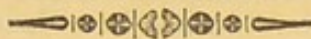
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REPORT

ON THE ATTACK OF EPIDEMIC CHOLERA IN THE AGRA AND GWALIOR CIRCLE DURING THE YEAR 1862.



CHOLERA was prevalent in Rajpootana, during the hot season, and it was reported on the 22nd June, to be present with a party of Pilgrims proceeding from the Decean to Muttra. They were halted, twelve miles off, and put under Quarantine till the disease disappeared.

There were two cases in H. M.'s 35th Regiment at AGRA, on the 29th, and one on the 30th June. Tents were immediately pitched and cots placed for 400 men, in the vicinity of the Taj and Secundra. There was no fresh case until the 30th July, when one man was seized in the Fort, in H. M.'s 35th Regiment.

There were eleven cases in Cantonments, on the 2nd and 3rd August (ten of which proved fatal.) On the following day, the 4th August, two Companies moved into the Camp at Secundra in the morning, and two moved to the Camp at the Taj in the evening; and on the 5th and 6th two more Companies moved out. Two Companies, with the sick women and children, remained in Cantonments.

In the Secundra Camp there were five cases, three of which proved fatal up to the 8th, when they changed ground. There was no fresh case till the 14th. The disease re-appeared amongst the Convalescents from Cantonments, who joined the Camp on the 12th. They changed ground three times, but fresh cases appeared, to the number of fifteen (of which eleven proved fatal) up to the 23rd August, when it was in contemplation to send them across the river Jumna, and by Rail to Shekoabad. The disappearance of the disease, however, rendered this unnecessary. In the Taj party, there were only three cases during the first three days. After the first day, they removed into the side buildings at the Taj; but there were four cases on the 7th, and they moved into their Tents on the 8th, when there were four cases, and crossed the river to the vicinity of the Ram Bagh on the 9th. There were seven cases the following three days; after which there were only five cases, of which three proved fatal, before their return to Cantonments.

Cases still appeared in Cantonments amongst the sick in Hospital, and in the Barracks on the 7th, 8th and 9th. It was proposed to send them, with the women and children, to Camp on the Artillery practise ground; but the carriage indented for could not be supplied. However, as the Secundra Camp had been free for several days, a party of fifty-one Convalescents was sent there on the 11th, and another party of 102, including all the sick who could be

moved without danger, were sent out on the 14th, leaving 18 men in Hospital, and the women and children in the Barracks.

The remainder of the healthy men, joined the Head Quarters at Ram Bagh. There was one case in Cantonments after this date in a man who had been in attendance on his wife in Hospital. He was attacked on the 20th, and died in six hours.

The Barracks were fumigated, white-washed, and cleaned out before the troops returned.

One woman died of the disease on the 11th, another woman, who saw the dead body, was seized with vomiting, purging and cramps, three hours afterwards; and another woman who attended on her, was affected on the 12th, and recovered with difficulty.

There was no case of cholera amongst the children, three of whom died from Diarrhœa.

The sick from the Secundra Camp returned to Cantonments on the morning, and those from the Ram Bagh on the evening, of the 28th. The troops from the Secundra Camp returned to Cantonments on the morning, and those from the Ram Bagh Camp on the evening, of the 1st September. There has been no return of the disease, since returning from Camp.

One officer, forty-nine men, and one woman have died, total fifty-one, which is 3·86 per cent., on the total strength 1,319. The loss amongst the men 1,108, is 4·42 per cent.

There were some suspicious cases in the Artillery Division, but none proved fatal, as they were checked in the premonitory stage.

At GWALIOR the disease appeared amongst the women and children of the Artillery, on the 8th July. There were two or three cases every day till the 12th, when the Horse Artillery moved to the Phool Bagh. There was not a single case in this Detachment, and only one more in the Artillery during the month of July. In August there were two cases, one of which proved fatal, and three in September, one of which proved fatal. There were in all nine cases amongst the men, of which two proved fatal, five, amongst the women of which three proved fatal and two amongst the children, which both proved fatal, equal to a mortality of 2·16 per cent., on the total strength of 323, or 0·77 per cent., on strength of the men 259.

I joined at Morar on the 15th July. The first case in H. M.'s 13th Light Infantry, appeared on the 10th July. There were only five cases up to the 17th, and these were from one company which moved into Camp on the 16th. During the 18th there were four fatal cases, and four more during the night, two of which proved fatal. Two companies from the Barracks most infected, moved into Camp at Goorgaon on the morning, and one more company in the afternoon of the 19th. There were two cases in this camp the day they arrived, one of which died, and one the following day which recovered. There was another case in the Quarter Master Serjeant, who was occupied arranging boxes, &c., in the Barracks, which had been vacated. He said he was quite well in the morning, and felt uncomfortable when in the Barrack; and he was siezed with vomiting and purging a few hours after. There was no fresh case, after this date, either in Cantonments or in the Camp, up to the 27th, when I left to return to Agra. There was an exacerbation of the disease in Her Majesty's 13th, on the 1st of August, when the remainder of the Corps moved into Camp. There were a considerable number of cases both of Cholera and of Diarrhœa during the month which prevented their return to Cantonments. Occasional cases of Cholera continued to appear up to the 18th of September, and there were three slight cases in the Hospital in the middle of October, 37 men, 2 women and 7 children have died, total 46, which is 5·07 per cent. on the total strength 907, the loss amongst the men 821, is 4·63 per cent.

There had been several suspicious cases of Diarrhœa, but no case of cholera in the Detachment of Her Majesty's 52nd Light Infantry, in the Fortress of Gwalior previous to my departure. The first case appeared on the 28th, and there was another on the 31st, two on the 2nd, and five on the 3rd August, when they moved into the Phool Bagh. There were only three cases during the next four days. They changed ground to tents at Oodeypore on the 8th. The disease continued, though in a less fatal form till the 15th, when the last case appeared. The total loss in the Detachment of Her Majesty's Light Infantry is nineteen men, two women and three children, total 24, equal to 8.30 per cent. on the total strength of 289, or of 8.08 per cent. of the strength of the men 235.

JHANSI.—The first case appeared in Her Majesty's 52nd Light Infantry on the 22nd July, and the last case on the 15th August. The deaths were 29 men, one woman, and four children, total 34, equal to 4.77 per cent. on the total strength of 712, and 4.83 per cent. on the strength of the men viz : 600.

The first case in the Artillery occurred on the 1st August, and the last case on the 9th August, the mortality was seven men, and one child, total 8, equal to 6.09 per cent on the strength of the men viz : 104 and 5.80 per cent. on the total strength of 138.

The disease was prevalent amongst the natives in the city of Jhansi, before it appeared in Cantonments.

At MUTTRA there were several suspicious cases, but none fatal in Her Majesty's 20th Hussars. The total mortality among the European Troops in this circle, has been one officer, 143 men, 10 women, 16 children.

The *Native Troops* were scarcely affected in any station in this circle. In no Corps was there more than one or two sporadic cases. In 16 Corps of the strength of 10,004, there were only 16 cases, of which 10 proved fatal.

The *Prisoners* were not affected with the exception of Agra and Ajmeer. The disease appeared in the Central Prison at Agra, on the 10th of August. There were three cases the following day, and next day 500 men moved into Camp on the Pooyah Ghat road, and 500 more on the 16th, and 50 men sent to Secundra. The last case was on the 18th ; and no case appeared at Secundra. The total mortality was 12, equal to 0.45 per cent. on the strength of 2,667. This contrasts favorably with former attacks, in which the prisoners were not moved into Camp so promptly. The mortality in 1860 was 178 and in 1861 it was 66.

It appeared among the prisoners at AJMEER, in June, and continued during July and August. There were 23 cases, of which 11 proved fatal out of a strength of 196. There were only two cases, one of which proved fatal, in the six other Jails in this Circle.

There were a few cases of Cholera in the Agra and Gwalior *districts*, and in Rajpootana ; but the disease was not general, nor in an epidemic form, with the exception of Jhansi, where it was severe for some time before the European Troops were attacked.

In reference to the means employed to check the disease, and to avoid the attack, the most marked benefit was derived from *change of air*, by moving out of Barracks, and changing ground in Camp. This is clearly shown by the great diminution of cases after moving from Cantonments at Morar, in H. M.'s 13th Light Infantry on the 19th July, and at Agra in H. M.'s 35th on the 4th August, and by the change of Camp in H. M.'s 35th across the river on the 19th August, and at Gwalior, in H. M.'s 52nd on the 4th August, and also by the movement of the prisoners from the Jail at Agra, on the 12th August. The great benefit is not confined to removing the men, from a tainted locality ; it occupies their minds and prevents their desponding, and resorting to improper remedies. It also diminishes the numbers that remain.

The great benefit of the use of remedies, on the first appearance of looseness, or indigestion, was as strongly marked, as the inefficiency of any remedies, after *collapse* had supervened. In *those cases* when reaction took place, it appeared to be a *stage of the disease, or an effort of nature*. Alcoholic stimuli did *not* promote it, and those cases progressed most favorably, where they had not been used; whilst the reactionary fever was very dangerous, where they were freely given; inducing affection of the head, which generally proved fatal. The old Cholera Pill was most extensively used, with very favorable results. They were placed in each Barrack, under charge of the Sergeants, with instructions to give one to any man who applied; but if any one applied a second time, he was to be sent to Hospital. Any man whose bowels were open *after* tattoo was to get a pill, and if his bowels were again open, he was to get a second pill, and be sent to Hospital. Small bleedings were tried by Dr. Plank, without any marked benefit; small doses of Quinine were generally used in the morning, and the men inspected by a Medical Officer. Small fires of greenwood were kept up in Hospital, and charcoal fires in the Barracks. The Military duties were diminished as far as practicable, and the men encouraged to divert themselves. Natives were employed to champoo the severe cases, to fan them, and to attend to their wants. Six champooers were told off to each bad case, with one waiting man, a European soldier to superintend. The Champooers have answered admirably. I took care that they were well used, and only three ran off out of 75, and few of the other hospital servants deserted. It was a heart-felt relief to me, to see four of them steadily and carefully rubbing a poor cramped dying man, instead of four European soldiers, who might soon be in the same hopeless case, in consequence, and who thought so—none of the Champooers were attacked by the disease.

The reappearance of the disease in the Secundra party may be attributed to the Convalescents who joined from Cantonments. On future occasions, the sick and convalescents should be sent to a separate Camp.

The ratio of deaths to cases in most of these returns is very high, arising from only the cases which advanced to the stage of *collapse* being called Cholera, by some of the Medical officers. Some Officers think that it would alarm the men to call the earlier stages Cholera. This may cause inconvenience, but there is danger in attempting to conceal the real name. When successful, it lulls the men into a false security, till the disease has advanced beyond cure, and not only sacrifices the life of the sufferer, but he may engender and spread the fatal disease among his comrades. I have always gained the confidence of the men by a candid statement of the nature of the disease, with a confident assurance of its being remediable IN THE EARLY STAGE, whilst allowing that the advanced stages were little under the power of the Surgeon. They have resorted freely to the remedies recommended, and I have had constant reports from Officers, Non-Commissioned Officers and men of the decided benefit they had derived. I attribute much of the immunity of the 20th Hussars at Muttra, and of the Artillery at Agra, to this practice having been early pursued. Loud assertions of the non-existence of Cholera do not prevent the men suspecting its presence, and flying to Grog as the best remedy they know.

The objections to moving troops into Camp, during the rainy season, are that it is disagreeable to the feelings, and injurious to the health. Under ordinary circumstances these objections are valid; but the change saves life, and prevents depression, when epidemic cholera prevails. This move ought not to be left to Regimental Authorities. During the present season, Fevers were unusually prevalent, in the 35th Regiment at Agra, before the Cholera appeared. There were 226 men in Hospital in Cantonments on the 10th August, before they were moved into Camp. After they returned to Cantonments on

the 31st, there were only 74, and none of the cases dangerous. This is important as indicating the proper treatment, in case the 35th should suffer severely from Fever, during September and October, in the same manner as the 42nd and 107th Regiments suffered last year.

As the movement of the Troops formed an important part of the treatment, I was directed, by His Excellency the Commander-in-Chief to forward my reports, of the progress of the disease, to him through the Brigadier Commanding the Agra district. I have in consequence in my final report, of which a copy is appended, brought to His Excellency's notice those Officers whose conduct attracted my favorable notice. The cordial co-operation, and practical information of Brigadiers Troup and Welchman, were of the greatest value, and their orders were promptly and efficiently carried out, by the Officers Commanding Corps, and the Commissariat Officers, who had considerable difficulty in overcoming obstacles in this emergency. The indefatigable zeal and the skill and the attention of all the Medical Officers, particularly those mentioned, called for my warm approbation, and I trust will meet with the favorable notice of His Excellency the Commander-in-Chief.

The accompanying Tables No. 1 and 3, show the daily progress of the disease in each Corps, Meteorological changes and fall of rain, and No. 4 is a monthly abstract for each Corps. No. 5 shows the results in each Corps during the attack. No. 6 is a Comparative Table of different epidemic attacks amongst the Europeans and Natives at Agra since the year 1837.

JOHN MURRAY, M. D.,
Deputy Inspector General of Hospitals,
Agra Circle.

Agra, September 15th, 1862.

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APPENDIX.

No. 210.

To

LIEUTENANT COLONEL JOHNSTONE,

Officiating Adjutant General of the Army,

Simlah.

SIR,

I have the honour to report for the information of His Excellency the Commander-in-Chief, the course, and termination, of the attack of Epidemic Cholera, in the stations of Agra, Gwalior, and Jhansie.

2. The disease was in a very intense form, some cases proving fatal in 5 or 6 hours. There was bilious vomiting and purging, like *European cholera*, both at Agra, and Gwalior in the early period of the attack. The removal from Cantonments to Camp was followed, in each instance, by immediate *diminution* of the cases of Cholera, and there was no *increase* of other forms of disease. The change was beneficial in H. M.'s 35th Regiment, which had suffered much from fever during the previous month. There were 226 men in Hospital, on the 10th August, previous to moving into Camp; and there were only 74 on the 31st, when they returned to Cantonments. The Native Champooers, who were employed in place of Europeans, in rubbing and attending on bad cases, were most useful and valuable.

3. At MORAR, Gwalior, the disease appeared in the Artillery Division, on the 9th July, and in H. M.'s 13th Light Infantry on the 10th. Tents were immediately sent to the vicinity of the Phool Bagh, and to the Camp at Goorgaon. The disease increased in the Artillery, and the Troop of Horse Artillery removed to the palace in the Phool Bagh,

Officers,	12	
Men,	259	
Women,	26	
Children,	26	
	323	

on the 12th. And there was no fresh case of the disease here, and only one in Cantonments.

4. There were only occasional cases (5) in H. M.'s 13th Light Infantry up to the 18th, when there were four fatal cases during the day, and four more during the night, (two of which proved fatal.) Two Companies from the infected barracks, moved to the Camp at Goorgaon, in the morning, and one Company in the afternoon of the 19th. There

Officers,	26	
Men,	821	
Women,	26	
Children,	34	
	907	

were three cases on the 19th, and the following day in the Camp, one of which proved fatal, and one in Cantonments, in the Quarter Master Serjeant, who visited on duty the vacant barracks. All these cases recovered. There was no fresh case till I returned to Agra, on the 28th. There was a recurrence of the disease on the 2nd August; when the remainder of the Corps removed into Camp; and there were occasional cases up to the present date, and there may be a few more. The mortality in H. M.'s 13th Light Infantry has been 34 men, 2 women, and 5 children, total 41, equal to 4.52 per cent. on the strength 907.

The first case in the detachment of H. M.'s 52nd Regiment, in the fortress of Gwalior, appeared on the 29th July. It became severe on the 2nd and 3rd, and they moved into the Phool Bagh, and as the disease continued, they moved into Camp at Oodypore, and changed camp on the neighbouring high ground. The last case was admitted on

15th August. The mortality has been, 19 men, two women, and three children, total 24, equal to 8.78 per cent. on the strength 289.

5. The loss at GWALIOR has been moderate; out of 1,315 men 55 have died, equal to 4.19 per cent. This favorable result arose from the cordial co-operation of Brigadier J. Welchman, C.B. and the prompt, and careful manner, in which his orders were carried out, and the spirit of the men, sustained by Colonel Lord M. Kerr, H. M.'s 13th, Light Infantry, and Colonel Knatchbull, Artillery Division, Major Bouchier, H. M.'s 52nd Light Infantry, and the activity, and facility in procuring supplies, of Captain Taylor, Assistant Commissary General. The lives of many, and the sufferings of all the sick were saved by the skill and unremitting attention, of Surgeon Hilliard of the Artillery Division, Surgeon Doherty and Assistant Surgeon Jackson, H. M.'s 13th Light Infantry, and Assistant Surgeon Park, H. M.'s 52nd Light Infantry. The assiduous attention of Mr. Apothecary J. Barley and Extra Assistant Steward J. Parker, H. M.'s 13th Light Infantry and Mr. Apothecary J. Hart, H. M.'s 52nd Light Infantry, were highly commendable.

6. At AGRA there were three cases in H. M.'s 35th Regiment on the 29th and 30th of June, one of which, Assistant Surgeon Hill, proved fatal. Immediately on this occurring, Tents and cots were sent to the camping ground near the Taj and Secundra. There was no fresh case till the 30th July when it reappeared in this Regiment. On the

2nd and 3rd August, 11 cases were attacked, 10 of which proved fatal. Two Companies were moved to the Secundra Camp on the morning, and two to the Taj Camp on the evening of the 4th August. Two additional companies were sent to Secundra, and two to the Taj, on the 5th and 6th. In the Secundra camp there were five cases during the first three days, three of which proved fatal. The ground was changed on the 8th, and there was no fresh case for six days; till the detachment of convalescents joined, from Cantonments. There was one case on the 13th. Cases continued to appear till the 23rd. After which there was no fresh case. They returned to Cantonments on the 1st September.

In the Taj party there were only three cases, during the first three days; but four cases appeared on the 7th, and four on the 8th. They removed across the Jumna on the 9th. There were seven cases the following three days. They changed ground on the 13th, after which there were only two cases, and these were in convalescents who joined from Secundra, on the 17th. They changed ground on the 20th, 28th and 31st; and they returned to Cantonments on the 1st September.

As cases continued to appear in Cantonments, the convalescents and such of the sick as could be moved were sent to the Secundra Camp, on the 11th and 13th, and the remaining companies sent to Ram Bagh, on the 15th, leaving only twenty-five sick, and the women and children in Cantonments. Only one case appear in Cantonments after this date. The sick returned to Cantonments on the 28th and the Secundra party on the morning and the Ram Bagh party on the evening of the 1st September. The mor-

tality in H. M.'s 35th Regiment has been one officer, forty-nine men and one woman. Total 51, equal to 3·86 per cent on the strength of 1,319.

7. This satisfactory result is mainly attributable to the cordial co-operation and constant supervision of Brigadier C. Troup, C. B., and to the efficient manner in which his orders were carried into effect by Colonel Walter, and Lieutenant-Colonel Beamish, Her Majesty's 35th Regiment, and to the exertion of Captain Roberts, Deputy Assistant Commissary General, in procuring carriage and champooers. The zeal and attention to the comforts of the sick, of Surgeon Major J. W. Chambers, were unremitting, and highly valuable, as well as those of Assistant Surgeon J. C. Dickinson, in charge of the Secundra Camp, and Assistant Surgeon A. M. Tippetts, in charge of the Taj, and Ram Bagh Camps. Surgeon Major Chambers reports most favourably and deservedly, of the diligence, and ability of Mr. Apothecary J. Rehill, Mr. Steward T. M. Sullivan and Assistant Apothecary J. Baiker. In the Artillery Division there were several suspicious cases of

Officers,	4	Diarrhœa, which were checked in the earliest
Men,	74	stage, by the prompt precautionary treatment
Women,	6	assiduously adopted by Surgeon T. Maxwell,
Children,	16	which stopped the disease in the bud, and
		prevented its spreading.
Total,	100	

8. AT MUTTRA the disease was reported severe on the 22nd June, in a

Officers,	28	party of Pilgrims, twelve miles from the sta-
Men,	503	tion. They were stopped, and put in Quarant-
Women,	6	tine, till the disease disappeared. There were
Children,	59	a few cases in the city of Muttra. There were
		several very suspicious cases of Diarrhœa, dur-
Total,	629	ing the month of July, and August in H. M.'s

20th Hussars; but by the prompt exhibition of precautionary remedies, and assiduous care and attention of Surgeon Major C. L. Cox, H. M.'s 20th Hussars, the symptoms were checked, and the disease did not extend.

9. At JHANSIE the first case appeared in H. M.'s 52nd Light Infantry on

Officers,	3	the 22nd July, and the last on the 15th Au-
Men,	97	gust. The mortality in the Artillery Division
Women,	14	was seven men, and one child. Total 8, equal to
Children,	17	6·10 per cent on the strength of 131. The
		mortality in H. M.'s 52nd Light Infantry was
Total, 131		29 men, one woman and four children. Total
Officers,	17	34, equal to 4·77 per cent. on the strength of
Men,	600	712. I can only give a numerical statement re-
Women,	38	garding the course of the disease, as no other
Children,	57	reports have been forwarded to me.
Total, 712		

10. The Native Troops in this Circle have not been affected, beyond one or two sporadic cases in some of the Corps. There were only ten fatal cases out of a strength of 10,004.

11. The prisoners in the various Jails have not been affected, with exception of those in the Central Prison at Agra, when the disease was speedily averted by 1,000 of the Prisoners being promptly moved into Camp, and precautionary remedies used by Dr. Plank, the Superintendent.

12. The loss in the Agra Circle during the attack has been 1 Officer,				
Officers, ...	...	...	129	139 men, 10 women and 14 children. Total 164,
Men, ...	...	...	3,697	which is equal to 3·73 per cent. on the strength
Women, ...	...	...	250	of 4,422.
Children, ...	...	...	346	
Total	...	...	4,422	

I have &c.,
 JOHN MURRAY, *M. D.*,
Deputy Inspector General of Hospitals,
Agra Circle.

Agra, 10th September, 1862.

Memo. 1st November.—In addition to these, 3 men and 2 Children died in Her Majesty's 13th, and one man in the Artillery Division in the end of September, making the total deaths 170, equal to 3·84 per cent on the strength.

J. M.

Admissions and Deaths from Cholera and Diarrhoea amongst the Crew of July 1842.

Day	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	Admitted	Deaths	
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Admitted on June 24th

In addition to those mentioned in the preceding pages, 11 men in the hospital, and 11 men in the ward, died of cholera and diarrhoea, and 11 men in the ward, died of cholera and diarrhoea, and 11 men in the ward, died of cholera and diarrhoea.



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Daily Admissions and Deaths from Cholera and Diarrhea during the month of September 1852.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Admitted.																			
Deaths.																			
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3 cases were admitted from the Hospital in October on the 13, 14, and 19 - all of which recovered.

Date	Description	Debit	Credit	Balance
1870	Jan 1			
	Feb 1			
	Mar 1			
	Apr 1			
	May 1			
	Jun 1			
	Jul 1			
	Aug 1			
	Sep 1			
	Oct 1			
	Nov 1			
	Dec 1			
	Total			

This is a ledger page with a grid for recording transactions. The columns are labeled Date, Description, Debit, Credit, and Balance. The page contains faint handwritten entries, including a list of dates from 1870 and a total row at the bottom. The handwriting is very light and difficult to read.

N^o 1.

Admissions and Deaths from Cholera and Diarrhoea in the European corps at Agra, & Kanooie, and in the Native Prisoners in the Central Prison Agra, in 1862.

Agra 1st November 1862

Diseases	Agra		Gwalior.				Kanooie.				Agra.		Total.		Grand Total.		Remarks				
	H. M's 35 th Regt		Artillery Division		H. M's 1/15 th L.S.		H. M's 52 nd L.S.		Artillery 5/19 th		H. M's 52 nd L.S. Prison.		bentual Prison.		European Troops			Native Prisoners		Troops & Prisoners	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.		Admitted.	Died.	Admitted.	Died.
Cholera	1	1	-	-	1	-	-	-	-	-	-	-	-	2	1	-	-	2	1	admitted	
Diarrhoea	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
Cholera	3	-	4	-	17	13	2	2	-	8	6	-	-	34	21	-	-	34	21	2 admitted	
Diarrhoea	15	-	6	-	27	-	13	-	5	19	-	-	-	95	-	-	-	95	-		
Cholera	-	-	5	3	-	-	-	-	-	2	1	-	-	7	4	-	-	7	4		
Diarrhoea	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	1	-		
Cholera	2	2	-	-	-	-	-	-	-	1	1	-	-	3	3	-	-	3	3		
Diarrhoea	-	-	1	1	1	-	-	-	-	-	-	-	-	2	1	-	-	2	1		
Cholera	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	1	-		
Diarrhoea	-	-	-	-	2	-	1	-	-	-	-	-	-	3	-	-	-	3	-		
Cholera	63	49	2	1	19	10	23	17	11	7	30	23	23	74	168	107	23	12	171	109	
Diarrhoea	21	-	19	-	75	1	34	-	9	1	62	2	27	-	220	4	27	-	207	4	
Cholera	2	1	-	-	2	1	2	2	1	1	-	-	-	7	5	-	-	7	5		
Diarrhoea	1	-	-	-	1	-	-	-	2	-	-	-	-	4	-	-	-	4	-		
Cholera	-	-	-	-	5	4	3	3	-	5	3	-	-	13	18	-	-	13	18		
Diarrhoea	5	3	-	-	1	-	-	-	1	-	-	-	-	7	3	-	-	7	3		
Cholera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Diarrhoea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cholera	-	-	3	1	10	10	-	-	-	-	-	-	-	26	15	-	-	26	15	admitted	
Diarrhoea	-	-	-	-	34	1	-	-	-	-	-	-	-	34	1	-	-	34	1		
Cholera	-	-	-	-	1	1	-	-	-	-	-	-	-	1	1	-	-	1	1		
Diarrhoea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cholera	-	-	-	-	4	3	-	-	-	-	-	-	-	4	3	-	-	4	3		
Diarrhoea	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	1	-		
Cholera	1	1	-	-	1	-	1	-	-	-	-	-	-	2	1	-	-	3	1		
Diarrhoea	-	-	-	-	3	-	1	-	-	-	-	-	-	4	-	-	-	4	-		
Cholera	66	49	9	2	59	37	25	19	11	7	38	29	23	12	208	163	23	12	231	155	
Diarrhoea	36	-	25	-	146	2	47	-	16	1	81	2	27	-	349	5	27	-	376	5	
Cholera	2	1	5	3	3	2	2	2	1	1	2	1	-	15	10	-	-	15	10		
Diarrhoea	1	-	-	-	2	-	-	-	2	-	-	-	-	5	-	-	-	5	-		
Cholera	-	-	2	2	9	7	3	3	-	6	4	-	-	20	16	-	-	20	16		
Diarrhoea	5	3	1	1	3	-	-	-	1	-	-	-	-	10	4	-	-	10	4		
Cholera	69	51	16	7	72	46	31	24	12	8	66	34	23	12	246	170	23	12	269	182	
Diarrhoea	42	3	26	1	734	2	48	-	17	1	81	2	27	-	368	9	27	-	395	9	
	23		12		26		6		3		17			87						87	
	1108		259		821		235		104		600		2667	3-127	2-667					5-794	
	82		26		26		19		14		38			205						205	
	106		26		34		29		17		57			269						269	
	1319		323		907		289		138		712		2667	3-688	2-667					6-355	
Cholera	3-86		2-16		5-07		0-30		5-80		4-77		0-45	4-61	0-45					2-86	
Diarrhoea	0-30		0-31		0-22		-		0-72		0-26		-	0-22						0-14	
Cholera	73-91		43-75		63-89		77-41		66-66		73-90		52-17	69-10	52-17					67-65	
Diarrhoea	9-52		3-86		1-29		-		5-88		2-47		-	2-46						2-28	

John Murray M. D.
 D^y Inspector General of
 Hospitals Agra District.

Books
from 1800

1800	1801	1802	1803	1804	1805	1806	1807	1808	1809
1810	1811	1812	1813	1814	1815	1816	1817	1818	1819
1820	1821	1822	1823	1824	1825	1826	1827	1828	1829
1830	1831	1832	1833	1834	1835	1836	1837	1838	1839
1840	1841	1842	1843	1844	1845	1846	1847	1848	1849
1850	1851	1852	1853	1854	1855	1856	1857	1858	1859
1860	1861	1862	1863	1864	1865	1866	1867	1868	1869
1870	1871	1872	1873	1874	1875	1876	1877	1878	1879
1880	1881	1882	1883	1884	1885	1886	1887	1888	1889
1890	1891	1892	1893	1894	1895	1896	1897	1898	1899

John Murray M.D.

of Admissions and Deaths from Cholera and Diarrhoea, amongst the Europeans at Agra, Gwalior, and Jhansi, during the year 1862.

Agra 1st November 1862.

Strength.	Diseases.	Admitted.	Died.	Ratio per cent death to.		Admitted from.				Date of.		Camp.	
				Strength.	Admission.	Parasit.	Hospital.	Camp.	1 st base.	Last base.	Moved into.	Returned from.	
23	Cholera.	1	1	4.35	100.00	1				29 th June	29 th June	6 th Aug ^t	1 st Sept ^r
	Diarrhoea.												
1108	Cholera.	66	49	4.42	76.24	14	9	43		29 th June	22 nd Aug ^t	4 Aug ^t	1 st Sept ^r
	Diarrhoea.	36											
82	Cholera.	2	1	1.22	50.00	2				16 th Aug ^t	12 th Aug ^t		
	Diarrhoea.	1											
186	Cholera.												
	Diarrhoea.	5	3	2.23	60.00								
12	Cholera.												
	Diarrhoea.												
259	Cholera.	9	2	0.77	22.22	9	1			21 st July	6 th Sept ^r	23 rd July	1 st Aug ^t
	Diarrhoea.	25											
26	Cholera.	5	3	11.54	60.00	5				18 th July	13 th July		
	Diarrhoea.												
26	Cholera.	2	2	7.70	100.00	2				9 th July	9 th July		
	Diarrhoea.	1	1	3.05	100.00								
26	Cholera.	1				1				20 th July	20 th July	19 th July	1 st October
	Diarrhoea.	3											
821	Cholera.	59	37	4.50	62.71	15	10	34		9 th July	10 th Sept ^r	19 th July	1 st October
	Diarrhoea.	146	2	8.24	1.36								
26	Cholera.	3	2	7.69	66.66	2		1		6 th Aug ^t	6 th Sept ^r	6 th Aug ^t	1 st Oct ^r
	Diarrhoea.	2											
34	Cholera.	7	7	20.59	77.77	7				6 th Aug ^t	27 th Sept ^r		
	Diarrhoea.	3											
6	Cholera.	1						1		6 th Aug ^t	6 th Aug ^t	4 th Aug ^t	3 rd Sept ^r
	Diarrhoea.	1											
235	Cholera.	25	19	8.08	76.00	4	5	16		25 th July	14 th Aug ^t	6 th Aug ^t	3 rd Sept ^r
	Diarrhoea.	47											
19	Cholera.	2	2	10.53	100.00			2		6 th Aug ^t	16 th Aug ^t		
	Diarrhoea.												
29	Cholera.	3	3	10.31	100.00			3		8 th Aug ^t	16 th Aug ^t		
	Diarrhoea.												
3	Cholera.												
	Diarrhoea.												
104	Cholera.	11	7	6.73	63.63	9		2		1 st Aug ^t	16 th Aug ^t	3 rd Aug ^t	3 rd Sept ^r
	Diarrhoea.	14	1	0.96	7.13								
14	Cholera.	1	1	7.34	100.00	1				11 th Aug ^t	11 th Aug ^t		
	Diarrhoea.	2											
17	Cholera.												
	Diarrhoea.	1											
17	Cholera.												
	Diarrhoea.												
605	Cholera.	38	29	4.83	76.32	38				22 nd July	11 th Aug ^t	3 rd Aug ^t	3 rd Sept ^r
	Diarrhoea.	81	2	0.96	7.13								
38	Cholera.	2	1	2.68	50.00	2				1 st Aug ^t	8 th Aug ^t		
	Diarrhoea.												
59	Cholera.	6	4	7.02	66.66	6				1 st Aug ^t	11 th Aug ^t		
	Diarrhoea.												
87	Cholera.	3	1	1.45	33.33	2		1		29 th June	6 th Aug ^t	19 th July	1 st October
	Diarrhoea.	4											
3127	Cholera.	200	143	4.57	68.70	88	25	95		29 th June	18 th Sept ^r	12 th July	1 st Oct ^r
	Diarrhoea.	349	5	0.16	1.43								
205	Cholera.	15	10	4.87	66.66	12	2	1		10 th July	6 th Sept ^r		
	Diarrhoea.	5											
269	Cholera.	20	16	5.94	80.00	17	3			7 th July	31 st Sept ^r		
	Diarrhoea.	10	4	1.68	40.00								
3688	Cholera.	265	170	4.61	64.18	119	30	97		29 th June	27 th Sept ^r	12 th July	1 st Oct ^r
	Diarrhoea.	368	9	0.23	2.64								

John Murray, M. D.
Deputy Inspector General
of Hospitals, Agra Circle.

Table

Table

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
91	92	93	94	95
96	97	98	99	100

Table

No. 6.

Statistical Table of admissions and Deaths from Cholera and Diarrhoea in the European Troops and prisoners at Agra in the years 1837-38-43-51-56-60-61 and 62. - Agra, the 17th September 1862.

Corps.	Strength.	Diseases.	Admitted.	Died.	Date of		Ratio per cent Deaths to		Remarks.
					First case.	Last case.	Strength.	Admissions.	
Infantry	200	Cholera	7	5	October	November	2.44	77.43	
		Diarrhoea	32						
European Regiment	767	Cholera	4	2	October	November	0.36	58.00	
		Diarrhoea	7	1			0.13	16.20	
Native & N. Corps	3092	Cholera	10	2	October	November	0.27	20.00	
		Diarrhoea	42	1			0.03	2.30	
		Cholera							
		Diarrhoea							
Infantry	196	Cholera	1	1	July	July	0.00	0.00	
		Diarrhoea	4						
European Regiment	687	Cholera	9	5	March	May	0.74	55.55	
		Diarrhoea	17						
Native Corps	3099	Cholera	104	42	March	July	1.35	43.61	
		Diarrhoea	236	3			0.09	1.29	
		Cholera	125	71	March	July	5.32	56.80	
		Diarrhoea	399	127			9.35	30.83	
Infantry	173	Cholera	11	5	August	September	2.89	45.45	
		Diarrhoea	1						
39 th Regiment	1003	Cholera	129	49	August	September	4.80	38.00	
		Diarrhoea	82						
J. Regiment	2942	Cholera	13	6	August	August	0.20	46.15	
		Diarrhoea							
		Cholera	61	28	August	September	2.67	45.99	
		Diarrhoea	50	2			0.19	4.00	
Infantry	95	Cholera	1	1	24 th August	24 th August	1.05	100.00	
		Diarrhoea							
European Regiment	1048	Cholera	27	6	18 th August	7 th September	0.57	22.22	
		Diarrhoea	9						
to N. I.	3048	Cholera	2	1	8 th August	8 th August	0.03	50.00	
		Diarrhoea	10						
al Prison	2939	Cholera	164	80	25 th July	30 th August	2.72	30.30	
		Diarrhoea	54						
Infantry	95	Cholera	26	16	20 th June	7 th July	16.70	58.90	
		Diarrhoea	6						
European Regt	920	Cholera	289	81	15 th June	9 th July	8.80	28.00	
		Diarrhoea	32						
to N. I.	2942	Cholera	70	36	6 th June	15 th July	0.92	45.23	
		Diarrhoea	24						
al Prison	3704	Cholera	564	239	30 th May	19 th July	6.65	42.35	
		Diarrhoea	160						
Artillery	174	Cholera	26	7	10 th August	15 th September	6.03	29.16	
		Diarrhoea	48						
al Rifle Brigade	1047	Cholera	86	52	9 th August	30 th September	4.96	60.45	
		Diarrhoea	1720						
Batt N. I.	1619	Cholera	47	18	12 th August	30 th September	1.26	28.30	
		Diarrhoea	12						
al Prison	1997	Cholera	86	175	10 th August	30 th September	8.76	21.44	
		Diarrhoea	203						
Infantry	111	Cholera	9	4	7 th July	31 st July	3.63	44.44	
		Diarrhoea	15						
12 th Highlanders	672	Cholera	54	40	20 th June	8 th August	5.95	74.87	
		Diarrhoea	77	2			0.30	2.60	
107 th Regiment	412	Cholera	48	24	7 th July	16 th August	5.82	50.00	
		Diarrhoea	39						
Regiment N. I.	569	Cholera	12	5	15 th July	4 th August	0.87	41.66	
		Diarrhoea	3						
al Prison	2959	Cholera	189	66	15 th July	10 th August	2.23	34.92	
		Diarrhoea	81	1			0.03	1.23	
Prison Hospital	3000	Cholera	197	115	5 th June	23 rd August	3.50	58.37	
		Diarrhoea	175	12			0.48	6.88	
Infantry Division	78	Cholera							
		Diarrhoea	7						
35 th Regiment	1131	Cholera	67	58	29 th June	23 rd August	4.42	74.62	
		Diarrhoea							
Regiment N. I.	601	Cholera	1		29 th July	29 th July			
		Diarrhoea	5						
al Prison	2667	Cholera	23	12	10 th August	15 th August	0.45	52.17	
		Diarrhoea	24						

John Murray M. D.

D^y Inspector General of
Hospital Agra Circle.

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