

NOTES ON AN EPIDEMIC OF CHOLERA IN
PURNIA DISTRICT.

FEBRUARY—JUNE 1891.

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(Continued from p. 36.)

During the month of February 1891, 755 deaths from cholera were registered. The parts of the district chiefly affected were the three thanas in the S.-W. of the district, Manihari, (62 deaths); Kadwa, (264); and Bulrampur, (96); and the Kishanganj sub-division, Bahadurganj, (58); and Kaliaganj, (88); and Araria thana, (99). The first three are those nearest to Manihari, where the epidemic broke out, and are also situated along the line of the railway, which carried away numbers of sick. The population is mainly Hindu, and there is no doubt that great numbers of the inhabitants of these parts had been to Manihari, either by train or on foot. The two thanas of Kishanganj sub-division chiefly affected are, on the other hand, off the main lines of communication. Araria, however, is on the usual route to the north-west of the district, both by road and rail.

In March the disease had become general over almost the whole of the district, 2,187 deaths being registered; although the centre and south-west of the district suffered comparatively little, as compared to other parts, Purnia thana, (80 deaths); Gondwara, (40); Kasba Amur, (56); and Damdaha, (2). The whole of the rest of the district suffered severely, except Kishanganj thana (88 deaths). That is, the same parts which had suffered most in February, with the addition of Matiari and Raniganj thanas in Araria sub-division, which had not been much affected in February. (The deaths in each thana, month by month, are given in a table at the end).

In April the disease was epidemic throughout, not a single registering circle escaping from a severe mortality, Bulrampur thana being the only one showing a mortality of less than two per 1,000. The others varied from 2.01 in Damdaha up to 19.48 in Matiari. The part of the district which suffered by far the most severely was Araria sub-division. The total number of deaths registered in the district from cholera was 10,730.

In May a general disease occurred throughout the district, except in Damdaha thana, where the mortality was more than treble that of April. In the Araria sub-division the decline was about 30 per cent, in Kishanganj thana about 25 per cent, and throughout the rest of the district about 50 per cent. The total number of deaths registered was 6,668.

In June cholera almost disappeared, the number of deaths from the disease falling to 727. In July there were 153 deaths from cholera, and in August 8.

Comparing the eastern and western halves of the district, it will be seen that the disease became epidemic first in the eastern half, and that that half showed the larger mortality in February and March, the difference, however, expressed in ratio per 1,000 of deaths to population not being great. In April the western half shows a mortality greater than the eastern half, in actual deaths 50 per cent larger, and in ratio per 1,000 nearly double. In May the actual deaths in the western half are double those in the eastern, and the ratio nearly treble. In June the deaths are 40 per cent greater in the western half, and the ratio nearly double. The epidemic, therefore, both began and ceased earlier in the eastern than in the western half.

Comparing the epidemic of 1891 with that of 1889 the following are the chief points worthy of notice. First, though both reached their maximum in April, the epidemic of 1889 both began later and ceased earlier than that of 1891. (1889, February 125 deaths, March 6,198, April 10,232, and May 625; 1891, February 755, March 2,187, April 10,730, May 6,668, June 727). And also in 1889 epidemic proportions were attained much more rapidly than in 1891. Secondly, in 1891 the epidemic has fallen much more severely on the eastern half of the district than it did in 1889. It is true that the ratio per 1,000 in the western half of the district is in 1891 nearly double that of the eastern half, but in 1889 it was more than five times that of the eastern half. And while in 1889 Bulrampur thana (0.54) and the whole of the Kishanganj sub-division were visited very lightly by cholera, in 1891 no part of the district has escaped a severe mortality, Bulrampur, which is still the lowest, having a ratio per 1,000 of 4.76. The more severe mortality in these four thanas more than accounts for the greater mortality of the epidemic of 1891 as compared with that of 1889.

The following table gives the record of meteorological observations taken at Purnia Observatory during the period of the epidemic. It does not show any very striking features. It is worthy of note that the heavy rain of the end of February and the beginning of March seems to have caused a temporary diminution of the severity of the epidemic, but it sprang up again with increased virulence in the latter end of March. Since the beginning of the rains proper in June, the rainfall has been markedly deficient, the fall being only 6.94 in June, 8.95 in July, and 3.74 inches in August, whereas the average (of 23 years, 1867 to 1890) rainfall of

these months is 12.49, 15.13, and 14.31 inches respectively. The abnormal drought, however, does not seem to have caused any abnormal cholera mortality since June, though the season has been a very sickly one as regards fever.

TABLE I.—Meteorological conditions during Cholera Epidemic of 1891.

Month.	Rainfall.	TEMPERATURE.		WIND.		Average num-ber of deaths per day.
		Maximum.	Minimum.	Direction.	Velocity. Miles per day.	
Period of Invasion.	2.46	82	48			26.96
February	..	84	39.1	{ 1-19 W. r. C. 20-28 E. or C. 18 days W 6 days E 7 days calm	{ 77.8 39.1	70.54
March	2.12	91	38			346.12
Period of Culmination.	0.08	105	49	{ 12 days W 14 days E 4 days calm	81.60	215.09
April	..	56	37	{ 25 days E 6 days calm 11 days W 1 day W 11 days calm	24.7	24.02
Period of Decline.	9.83	101	25			
May	..	64	..			
June	6.94	97	..			

(To be continued.)

numbness in the toes and fingers and in the soles of both feet; said his hands felt cold. Had neuralgic pains in both legs up to the upper part of the thigh. The legs looked normal, and there was no swelling or redness. Had had no febrile symptoms; no history of syphilis given, but a history of drinking whisky, two or three glasses daily. Had the facies alcoholica and distended capillaries. Tongue dry and furred, and complained of a bad taste in the mouth. No headache.

14th December 1891.—Slept well. Walked clumsily dragging his feet. Said his feet felt "hard." Sensation somewhat dull but present; left pupil slightly larger than the right. Myopia marked; reads large print at six inches only without glasses. Temperature normal.

Treatment.—Pot Bromide gr. xxx. Liq. morphia mur. ʒss. at bedtime; calomel purge when required. His health improved and his insomnia disappeared, but his walk remained unsteady; and on the 24th December it was noted on his ticket that he staggered slightly when trying to walk with his eyes shut. He left Hospital on the 8th February 1891 much better, but still not free from the numbness in his extremities. The symptoms in this case were not strongly marked, and the patient seemed to have got into a somewhat chronic condition of neuritis, which will no doubt improve, and which will not get worse so long as he abstains from alcohol.

In this next case the symptoms came on rapidly and were for a time acute, but the acute stage soon passed off, and recovery was marked when the patient was discharged as in contradistinction to the condition of J. H. L.

Case II.—A. McD., aged 45, sailor. In India eight days. Admitted to the General Hospital, 22nd February 1892. Gave a doubtful history of chancre 20 years ago. History of brandy drinking to excess. Was unable to walk; and stated that he had been suffering from "fever" for three days. Complained of pain in the legs. Temperature on admission 100°. No loss of sensation; no swelling or redness of the legs; cannot stand. Hands shaky; some headache.

23rd February 1892.—Slept fairly after a hypodermic injection of morphia; could stand but only walk a few paces dragging his feet; there was neuralgic pain in the legs but no swelling or pain in the joints. Hands very shaky.

Treatment.—Pot. Bromid gr. xxx t.d.s., and hypodermic injection of morphia when required. As his temperature rose to 100° or 101° each evening for the first few days, he was given one or two doses of quinine daily. He improved rapidly and had no rise of temperature after the

A Mirror of Hospital Practice.

FOUR CASES OF ALCOHOLIC NEURITIS.

PRESIDENCY GENERAL HOSPITAL.

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OF these cases Nos. III and IV were under treatment in Surgeon-Major Crombie's wards, and I am indebted to him for the use of his case-book. The other two cases were under my own care. As will be seen they represent almost all stages of the disease in its mildest form in Nos. I and II, and in its most marked or ataxic form in No. IV.

Case I.—J. H. L., aged 50 years, commission agent, lived in Penang and various parts of India for 29 years. Admitted into the General Hospital, 13th December 1891. Complained of want of sleep for the past two months, stated that for the last fortnight he had noticed a