

THE INCUBATION PERIOD AND THE HOURS OF ONSET OF CHOLERA.

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Many authors have discussed the incubation period of cholera based on observations during outbreaks of epidemic cholera. Also it has been commonly observed in the epidemic situation that the onset of cholera occurs most frequently in the early hours of the day.

There are no accurate records of these two vital factors in the epidemiology of cholera from East Pakistan, the home of endemic cholera.

The incubation period may be estimated by examining the onset of secondary cases in household contacts of cholera patients. From 72 secondary cases of 83 index families we found that in 92% the onset was before the 6th day. The remaining 8% of cases occurred from the 7th to the 13th day. More than 15% of cases occurred within one day, 45% by 2nd day and 68% by 3rd day.

The incubation period mentioned from the family study results is not, however, very accurate since the exact time of exposure of the contacts was not known. The accurate incubation period has been calculated from a common meal outbreak of cholera, of the 20 people participating in a common meal, 14 developed cholera. The incubation period calculated from this instance ranged from 11 hours to 166 hours.

Based on 534 confirmed cholera cases in 1964 the onset of 36% of cholera cases was found to occur from 12 midnight to 6 a.m. From another group of 449 confirmed cholera cases in 1965, 40% of the onset was established to occur from 12 midnight to 6 a.m. The reason for the onset of maximum number of cases in the early hours of the day remains to be established.

HIGHLY POTENT VIBRIO CHOLERAE EXOTOXIN

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Cultures of *Vibrio Cholerae* Inaba 569 B were grown at temperatures between 20°C and 38°C in a medium consisting of 2% peptone and 1% NaCl of pH 7.5. Crude sterile toxic filtrates were obtained from 18 hour culture supernatants. A maximum of about one million BD7/ml was obtained at 30° ± 1°C. As temperature was lowered below 28°C, toxin concentration fell rapidly, although the vibrio count itself was not markedly affected until the temperature fell below 23°C. Rise of temperature above 32°C resulted in a decrease in toxin production and at 38°C very little toxin was produced. Other toxic factors in the crude filtrate, like a hemorrhagic factor and diarrhoea production factor, are also discussed.

MO7723 5471

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KARACHI



SEVENTH ANNUAL
MEDICAL
SYMPOSIUM

AUGUST 12—17, 1968

AT

THE BASIC MEDICAL SCIENCES DIVISION
JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI