

well as *B. Typhosus*, it was found that both forms multiply rapidly, the lactic acid bacillus exerting no restraining influence upon the typhoid germ during the first two days at least. The typhoid bacillus is readily obtained by subculture six to eight weeks after infection of the milk tubes. In fresh unsterilized milk the typhoid bacillus also increased rapidly in numbers during the first 24 hours at least, and could be demonstrated several weeks after in such milk. I may say that in most of my experiments with fresh milk I was much troubled with an actively motile bacillus of the colon type, which was frequently present in the milk as obtained within an hour from the dairy.

These experiments show that the typhoid bacillus once it obtains entry to milk will readily and rapidly multiply therein and remain alive for long periods. This last point assumes importance in relation to infection of one day's supply from the previous days by the use of improperly cleansed utensils. Epidemics of typhoid from infected milk are usually looked upon as of severe type, perhaps owing to the large number of typhoid germs which could be taken in in this way, and, as is well recognized, the number of infecting bacteria usually exercises an influence on the severity of the infection.

SPIRILLUM OF ASIATIC CHOLERA.

The spirillum of cholera rapidly multiplies in sterilized milk at the room temperature and remains alive in it for long periods. In infection of milk with this microbe and with the lactic acid germ the cholera vibrio multiplies for from 6 to 18 hours, when its multiplication is checked by the lactic acid germ, which soon obtains the ascendancy and gradually kills out the cholera vibrios. In most of my experiments the cholera vibrios could not be obtained after 48 hours, in none longer than 72 hours. Practically the same results were noted in connection with the fresh milk samples. The danger from cholera infected milk is during the earlier stages of infection, which is of course the period when the milk is used. Later the lactic acid rapidly kills the vibrio, which, as is well known, is quite sensitive to the effects of acids.

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