quart were used, *B. typhosus* to the extent of 320,000 per cubic centimeter of ice cream was added. After storage for twenty-four hours, the total count was 1,600,000, and typhoid colonies were numerous on Endo plates. The last positive result was obtained twenty-seven days after inoculation, when only one subcultural colony from the Endo plate proved to be *B. typhosus*. On the date of the last finding, the bacterial count was 1,060,000. After a few days' storage this ice cream showed the same changes as that of Experiment 5.

All of the preparations had about the same odor at the beginning. They were pleasant smelling, owing largely to the presence of vanilla. After a few days they began to lose their sweetness of odor, and at the time of the last examinations they gave off mildly unpleasant odors.

CONCLUSIONS

1. *Bacillus typhosus* survives in ice cream for varying lengths of time, in the recorded experiments from twelve to thirty-nine days. It is plain, therefore, that ice cream may easily transmit typhoid fever.

2. The findings emphasize the necessity of strict cleanliness in the manufacture of ice cream, and the importance of pasteurization of milk and milk products used in these mixtures.

1011 Madison Street.

TYPHOID FEVER RESULTING FROM INFECTION OF AN UNPASTEUR- IZED MILK SUPPLY

REPORT OF A SERIES OF FIVE CASES

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CLEVELAND

This series of five cases of typhoid fever is reported merely to emphasize (1) the dangers of an unpasteurized milk supply, and (2) the necessity of reporting contagious diseases to the proper authorities. The details of the onset, the incidence of age, sex, etc., are in the records of the division, but are unnecessary in this brief report.

Late in January and early in February, 1915, five cases of typhoid were reported to this division, each one of the patients having received his milk supply from the same dealer. This, with the explosive character of the outbreak, made us suspect that infected milk was the cause. With this in mind, the following plan of investigation was outlined: first, investigation of the milk depot; second, of the dairy from which the milk came, which was located 90 miles from Cleveland; third, of the cases and their relation to other people to exclude contact; fourth, of the train-men; fifth, of the handlers at the depots at the shipping and receiving points.

This procedure, including detailed data concerning the families of those inspected, yielded negative results until the handler who took the cans from the train in Cleveland was seen. He stated that his wife had been ill about eight weeks with "what the doctor said was typhoid fever," but the doctor failed to report to the health department. He said also that he had been given permission by the dealer to open the cans and take such milk as he required from them, and that this had been done both before and after and during his

wife's illness. Two weeks previous to the onset of her illness he had been off duty himself for five days with what he thought was the grip, but no doctor's diagnosis is obtainable. The Widal on his blood gave a suspicious test, and on that of his wife a positive test in dilution as high as 1:100. Stool examinations in both cases were negative, but were first taken several weeks after the onset of the disease. We feel justified, however, in believing that these five patients, of whom one died, were infected by milk contaminated by this man. Investigation showed that he had dipped the milk from the cans with a cup from his own dinner pail which was carried back and forth with him from his home. The difficult point in the differentiation is whether the infection came from the man himself during an attack of typhoid which he thought was grip or from the infection of the wife, whose care was largely in the husband's hands.

Had the milk been pasteurized on its arrival in Cleveland, this trouble would not have occurred. Had the case of typhoid been reported by the physician in charge, the routine investigation would have given us at once information which would have prevented the carrier from coming into contact with the milk at any time. Another point of value is that if the cans had been sealed, this series of cases could not have occurred.

DESTROYING LIMITED OBSTRUCTIVE GLANDULAR GROWTHS IN THE POS- TERIOR URETHRA BY THE HIGH FREQUENCY CURRENT *

ROBERT V. DAY, M.D.

LOS ANGELES

We are agreed, I take it, that for the most part cautery work in the posterior urethra, or at the bladder neck, by the various methods now in common use through an electrically lighted instrument, is tedious and capable of destroying but a small amount of tissue at a sitting. The ordinary electric cautery point, while marvelously efficacious in relieving the early irritability and early irritation of incipient prostatism and also of ridding the patient of quite small projections and growths—even this requires many treatments at not too short intervals. If the obstructing part or growth is considerable, it is often impossible to treat it effectively in this manner. An ordinary urethral electric cautery point small enough to be accurately placed in plain view of the operator through an average sized urethra is so small, develops so little heat comparatively and in contact with living tissue is so quickly cooled that only the very small or succulent masses may be made to slough.

High frequency current methods have attained great vogue, and justly. But the methods of application are capable of great extension as, one at a time, difficulties are overcome. The Oudin or monopolar current has been efficacious in bladder papillomas especially, where there is plenty of room to manipulate the electrode and obtain a long spark gap. In the urethra it is more difficult by reason of close quarters, gases collecting and obscuring the view; also work in small space requires shortening of the spark gap to avoid

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