

AN OUTBREAK OF STAPHYLOCOCCUS INTOXICATION

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FOOD SANITATION SERIES

AN OUTBREAK OF STAPHYLOCOCCUS INTOXICATION

ACKNOWLEDGEMENT IS MADE TO THE BAKERIES WHICH MADE THEIR FACILITIES AVAILABLE FOR THIS DEMONSTRATION OF A STAPHYLOCOCCUS OUTBREAK.

A telephone ringing in the night. A worried boy's calling on the doctor for help. In any language, this spells trouble. Nausea, vomiting, abdominal cramps and diarrhea. Trouble, and still more of the same. The number and severity of the symptoms vary, but they all fit a pattern. It looks as if the doctor has an outbreak of acute gastroenteritis on his hands. He won't get much rest this night. What could have caused the outbreak?

Suppose we go back several hours earlier in the evening, and looking on a certain restaurant, and a dinner party which an executive is giving his employees. Recognize any of them? It's hard to believe these are the same people, isn't it? It's quite an event. They look healthy, happy and well-fed. What causes such a violent outbreak of sickness only a little more than 3 hours after the dinner? Out of the total of 23 persons attending this dinner, 14 became ill with varying degrees of nausea, vomiting, abdominal cramps and diarrhea. It was a good dinner. They had ham, bright cabbage, sweet potatoes, a very tasty salad, chocolate éclairs for dessert and plenty of good, hot coffee. Still, something went wrong. Let's see exactly what did happen to cause so much suffering and misery.

The water was ruled out as a contaminating agent since it came from the city water supply, a pure one, and no similar outbreaks were reported elsewhere in town at that time. The coffee was made fresh and served piping hot. The only milk served was Grade A, pasteurized and refrigerated. The bread was good and fresh. The salad and vegetables were ruled out as probable suspects due to the mixed incidence among the guests of those who became ill and those who did not. The meat was suspected, because all of the 14 people who became ill had eaten ham, and the chocolate éclairs were incriminated in the same way. Everyone had eaten éclairs.

Laboratory test confirmed the pastry as the contaminating agent by revealing colonies of Staphylococci in the filling. This is Staphylococcus aureus, some strains of which produce a toxin in the food before ingestion, causing the most common type of all food poisonings. Now, let's find out how this poison developed in the pastry filling.

From the restaurant manager it was learned that, although all the other foods served were prepared in their kitchen, the pastries had been ordered from a bakery on the other side of town. They were delivered in the late afternoon, shortly before the dinner was served. He remembered very distinctly that they were promptly refrigerated.

At the bakery, we found the source of our trouble. This baker didn't know it, but he was the carrier. The superficial skin infection on his forefinger contained colonies of Staphylococci which were transferred to the pastry filling. We're not sure exactly when and how the organisms were transferred from the infection to the éclairs, but we're certain there was ample opportunity. We investigated the bakery thoroughly and the overall operation was excellent. The éclairs were made early in the morning on the day of the dinner. The ingredients were good. The bakery and the baker were clean. The only breakdown in sanitary precautions was this particular baker's infected finger. A superficial skin infection. A little thing in a way, but extremely important to the people who became ill. The pastries were finished, and it was about an hour before the delivery man picked them up for delivery to the restaurant.

Oh, oh! Motor trouble. The driver didn't know much about engines, so he decided to call a garage for help. It was probably about this time that the Staphylococcus organisms from the baker's infected finger began to grow in the éclairs. And in growing, they manufactured a poison, a poison which made the people at the party so sick. The driver found a telephone and called a garage. Then he waited. The mechanic didn't think the job would take long, so he waited. And waited. All this time, Staphylococcus organisms were growing and manufacturing poison in the éclairs. Finally, he decided to call the bakery and report his delay. He was told to go have his lunch and wait a reasonable length of time. Then, when he returned to the garage, he just had to wait, and wait in the uncomfortably hot garage. After a several hours delay, the repairs were finally completed and the driver started on his route. He had some other deliveries to make, so the organisms in the éclairs had still more time to grow. The pastry filling was probably pretty well contaminated by this time. It was late in the afternoon before the pastries were delivered to the restaurant. In fact there had been more than 6 hours since the pastries were contaminated by the baker's infected finger. By this time, the éclairs were thoroughly saturated with the poison from the organisms.

Our story involved éclairs, but it could just as well have been meat, milk, milk products, other pastries, or anyone of a long list of foods. With similar circumstances, many foods could have caused this outbreak. Eliminate either the baker's infected finger or the long delay in the truck, and this outbreak of Staphylococcus intoxication could not have occurred. There would have been no poison in the food and the boss's dinner party would have been nothing more than a pleasant evening. Everyone enjoyed a fine meal and had a good time.

THE END

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