

Epidemiology Bulletin

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Outbreak of Gastroenteritis in a Cafeteria, Ta-An Precinct, Taipei City

On September 21, 1989, an outbreak of gastroenteritis occurred in Ta-An precinct, Taipei city. One hundred and fifteen employees from 4 companies ate box lunches prepared by one cafeteria and fifty nine became ill. The patients were sent to Jen-Ai City Hospital and the Country Hospital.

The investigation of this outbreak used the retrospective cohort analysis technique. Questionnaires were provided to all 115 employees who ate box lunches and 106(92%) completed questionnaires were returned. A case of gastroenteritis was defined as a person who had at least one of the major symptoms (diarrhea, vomiting, blood stool) or at least two of the minor symptoms (abdominal pain, nausea, headache, fever). Fifty five persons met this definition. The attack rate was 52%. Four patients were excluded because they failed to meet the definition and rest forty seven persons with no uncomfortable symptoms were control group. Symptoms included diarrhea (83.64%), nausea (72.73%), abdominal pain (70.91%) and vomiting (67.27%). The symptoms occurred mostly in the period of 1 to 5 hours after taking the suspected box lunches (Fig 1). The median incubation period was three hours and twenty five minutes. After analyzing food exposure histories, boiled meat, bean loaf and white rape were found significantly associated with illness ($P < 0.05$).

The anal and pharyngeal specimens from nineteen hospitalized patients were collected and transferred by Cary-Blair and peptone water medium. We found no *Staphylococcus aureus*, but 2 specimens were *Vibrio parahaemolyticus* positive with the serum type of K33 and K64. On the other hand, after examining the food specimens, cooking tools and the cooks' hands, we found that the cooks' hands, knife, bean loaf and white rape were *S. aureus* positive. We also isolated *Escherichia coli* from bean loaf and white rape. The cafeteria was located on the first floor of a department house. They purchased food items from Hwan-Nan Market every morning and washed them on the ground of the fire avenue behind the kitchen. The cafeteria had three working persons, but did not have adequate food storage equipment. They stored the cooked food at room temperature without any covering. While cooking, the cooks wore slippers but did not wear mouth-muffles, gloves or hats.

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Editorial Note:

Staphylococcus aureus is one of the bacterial foodborne poisoning pathogens which has a short incubation

period The illness is caused by the enterotoxin produced by the Staphylococcus bacterium In this investigation, 2 of the specimens collected from humans were Vibrio parahaemolyticus positive This result does not match the incubation period of 1 to 5 hours in patients, because the incubation period of V parahaemolyticus usually is over ten hours We suspect that the specimens might have been contaminated with V parahaemolyticus, which would survive in the peptone transport medium. We also found S aureus and E coli in food specimens and on the cooks' hands According to the symptoms and incubation period, we consider that this outbreak was probably caused by S aureus which was a contaminant on the cooks' hands The food was contaminated by S. aureus when it was handled, then the bacteria produced enterotoxin and ruined the food In this investigation, we failed to develop conclusive evidence of the source of infection and etiology It gave us a lesson that sampling and examination of the specimens are the most important procedures in the epidemiological investigation of food borne outbreaks

**Incubation Period for 55 Cases of Gastroenteritis
in Ta-An Precinct, Taipei City, September 1989**

Median = 3 hr 25 min

