

countries where morbidity and mortality data are available, the outbreaks are associated with significant illness and death.² Although all ages groups are affected, morbidity and mortality are highest among the very young and very old.

Influenza vaccine is available in some western countries and is being recommended for high risk groups (i.e., the elderly, persons with chronic cardiovascular, pulmonary, and/or renal disorders; metabolic diseases; severe anemia; and/or compromised immune function).³ Vaccination is also recommended for physicians, nurses, and other personnel who have extensive contact with high-risk patients (e.g., primary care, certain specialty clinicians and staff of intensive-care units).³ To be most effective, influenza vaccine must be strain specific. Since outbreak strain(s) vary from year to year, timely vaccine production is difficult, and vaccine is often in short supply. Currently, influenza vaccine is not widely available in Taiwan.

Recently, a new drug, amantadine hydrochloride, became available for prophylaxis and therapy of type A influenza. This drug is not effective against type B influenza. Amantadine hydrochloride is 70 to 90 percent effective in preventing illness when given throughout the exposure period.⁴ However, since epidemics can last for many weeks, it is not feasible to rely solely on amantadine hydrochloride for prevention. Use of amantadine is generally recommended only for high risk groups.⁴ Amantadine hydrochloride is licensed for import and may be available in some Taiwan pharmacies.

The Department of Health is maintaining surveillance for influenza, and we encourage physicians and local health departments to report cases on a voluntary basis. Suspected cases of influenza in hospitals and chronic care facilities should be isolated using respiratory precautions. To prevent spread of illness in schools and the workplace, children and workers suspected of having influenza should stay at home until symptoms subside.

References

- 1 WHO Influenza Weekly Epidemiol Record 1985; 60:60
- 2 CDC Update: influenza activity — United States. MMWR 1985; 34:87-8
- 3 ACIP Adult Immunization: recommendations of the Immunization Practices Advisory Committee (ACIP) Influenza. MMWR 1984; 33:238-69
- 4 ACIP. Prevention and control of influenza. MMWR 1984; 33:253-60, 265-6.

Gastroenteritis at a Wedding Party — Nantou

In January 1985, an outbreak of gastroenteritis occurred among guests at a wedding party in Shin Tsuoh Village located in Nantou County. A wedding banquet was held from 12:30 to 2:00 p.m. on January 17, and guests first became ill within several hours. Approximately 400 persons from Shin Tsuoh Village and Kaohsiung attended the banquet. A complete list of guests was not available so banquet attendees were identified by a house-to-house search in Shin Tsuoh Village. Cases were defined as persons who ate food from the banquet and had onset of watery diarrhea from January 17-19. Of the 153 persons identified by the house-to-house search, 79 fit our case definition for an attack rate of 52 percent. Twenty-eight cases were male and 51 were female. In addition

to diarrhea, signs and symptoms included abdominal cramps (77%), chills (41%), vomiting (32%), mild fever (28%), and nausea without vomiting (17%). The median incubation period was 13 hours, and the median duration of symptoms was two days. Only two percent of cases sought medical care and none required hospitalization. Food histories were obtained from all 153 ill and well persons who had eaten food from the banquet. Of the 18 food items served only two, "jen ju wan" (pork meatballs covered with rice) and "feng yeon wan" (pork meatballs covered with abalone and egg), were significantly associated with illness ($p < 0.01$ and $p < 0.025$, respectively). Six of 14 persons who did not attend the banquet but ate leftovers became ill. Four had eaten only one food item, feng yeon wan; the other two had eaten feng yeon wan and one other food item.

Pork for both dishes was purchased from two different butchers in a local market. Both dishes were prepared by mixing ground pork with spices and shaping them into balls. Two cooks and two assistants prepared these food items. Feng yeon wan were prepared around 8 p.m. the night before the banquet, and were held at room temperature for 6 hours before being steamed. After cooking, feng yeon wan were left at room temperature until were reheated on a steam table about 5 hours later. Jen ju wan were prepared from 8-11 a.m. on the morning of the banquet. They were steamed around noon and kept on a steam table until they were served. No food items from the banquet or stool specimens from ill persons were available for laboratory testing.

Reported by the Bureau of Disease Control and Bureau of Food Sanitation, Department of Health, the Executive Yuan, Nantou County Health Bureau.

Editorial note: Both food items implicated in this outbreak were prepared well in advance of the banquet and held at room temperature for several hours before being cooked. Both contained meat that was ground and handled. Toxin-producing organisms such as *Staphylococcus aureus* can grow well in unrefrigerated protein-rich foods like meats, milk, and eggs. *S. aureus* can frequently be cultured from hands and may contaminate food items handled by food preparers. Enterotoxin produced by *S. aureus* is heat stable and will produce illness even if the food is well-cooked. Feng yeon wan were held at room temperature for several hours after cooking. It is also possible that spore-forming organisms, such as *Clostridium perfringens* or *Bacillus cereus*, were present in the foods and were not completely killed by cooking. The temperature in the upper levels of the steam table may also have been inadequate to prevent multiplication of microorganisms; instead, the warmth may have promoted their growth. The incubation time and symptoms are consistent with illness caused by any of these microorganisms, and without food or stool specimens for laboratory testing, it is impossible to determine the exact cause of this outbreak.

The investigation of foodborne outbreaks is important to: 1) protect the health of persons who might continue to eat contaminated food such as leftovers; 2) identify and correct improper food preparation techniques that result in illness so future outbreaks can be prevented; and 3) learn about new aspects of foodborne disease. The Bureau of Disease Control and the Bureau of Food Sanitation need the help and cooperation of health workers in the local government to improve foodborne outbreak investigations

in the Taiwan Area. The following general guidelines have been prepared to assist local health departments in investigating outbreaks of foodborne illness:

1. Notify the Bureau of Disease Control immediately by telephone (TEL: 02-712-3761).
2. Collect and refrigerate samples of *all* food items from the suspect meal. *Save* these items for laboratory testing
3. Make a *list* of all persons (both ill and well) who may have eaten the suspect meal.
4. For ill persons, determine the signs and symptoms of illness and the *time of onset* of first symptoms of illness (date and hour).
5. Collect as many stool and vomitus specimens as possible *from ill persons* who ate the suspect meal. *Refrigerate* all specimens until they can be delivered to an appropriate laboratory. *Ask* the laboratory to contact the Bureau of Disease Control to determine what tests should be carried out.

To strengthen the surveillance system and enrich the content of the *Bulletin*, we welcome accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest. Articles for publication and requests to be placed on the mailing list should be sent to: the Editor, *Epidemiology Bulletin*, Bureau of Disease Control, Department of Health, the Executive Yuan, Republic of China, P. O. Box 81-95, Taipei, Taiwan, R.O.C., TEL: (02) 7123761.

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