Foodborne Botulism -- Illinois

From October 15, to October 21, 1983, 28 cases of foodborne botulism occurred in Peoria, Illinois. All 28 persons had eaten at the same restaurant from October 14 to October 16; all were hospitalized. Twelve patients required ventilatory support, and no deaths have been reported. Botulinal type A toxin was detected in serum and/or stool specimens in 13 patients. The epidemiologic investigation implicated sauteed onions served on a patty-melt sandwich as the source of the botulinal toxin.

The patients were 20-72 years of age, and 20 were female. Detailed food histories were obtained from the patients and from groups of well persons who had consumed food at the restaurant during the same 3-day period. Each of these comparisons showed a highly significant association between eating a patty-melt sandwich and developing botulism (p 0.001). Of the 28 patients, 24 recalled eating the patty-melt, which consisted of toasted rye bread, sliced American cheese, one-half or one-third pound hamburger patty, and sauteed onions. The remaining four patients recalled eating a variety of food items, none of which were implicated by epidemiologic data. Review of the serving practices in the restaurant indicated that the same utensils were used in serving multiple food items, including the patty-melt.

An additional case-control study was conducted to determine which items on the patty-melt were associated with illness. Eighteen persons who had eaten the patty-melt during the 3-day period and remained well were identified through repeated news media announcements. These 18 controls, plus the 24 patients who ate patty-melts, represented 42 of the estimated maximum of 45 patty-melts served over the 3-day period. All 24 patients, but only 10 of 18 controls, reported eating the sauteed onions (p = 0.0004). The onions were said to have been prepared daily with fresh whole onions, margarine, paprika, garlic salt, and a chicken-base powder; they were held uncovered in a pan with a large volume of melted margarine on a warm stove (below 60 C (140 F)) and were not reheated before serving.

The original batch of sauteed onions was not available for culture or toxin testing, but type A botulinal toxin was detected in an extract made from washings of a discarded foil wrapper used by one of the patients to take a patty-melt home. Type A botulinal spores were cultured from five of 75 skins of whole onions taken from the restaurant. No other ingredients of the sauteed onions contained botulinal toxin or spores. Additional laboratory tests are pending. Reported by SC Doughty, MD, RP O'Connor, MD, St. Francis Hospital-Medical Center and Methodist Medical Center, J Alexander, MD, GJ Sidler, MD, St. Francis Hospital-Medical Center, Peoria, S Churchill, JW Parker, PhD, R Tarter, T Woods, TF Jackamore, Jr, Staff, Peoria City/County Health Dept, JC Bhalariao, MD, Cottage Hospital, Galesburg, EJ Menamin, MD, Hinsdale Hospital, Hinsdale, P Hays, MD, Riverside Medical Center, Kankakee, M McVay, MD, Community Hospital of Ottawa, C Gibson, C Langkop, RJ Martin, DVM, BJ Francis, MD, State Epidemiologist, Illinois Dept of Public Health; US Food and Drug
Editorial Note

Editorial Note: This is the third largest foodborne botulism outbreak reported in the United States since 1899 (1). The two larger outbreaks occurred in 1977 in Michigan, when 58 people became ill after eating home-canned peppers at a restaurant (2), and in 1978 in New Mexico, when 34 people became ill after eating potato salad or bean salad at a restaurant (3). Botulism outbreaks are usually isolated incidents involving small numbers of people who have consumed improperly preserved home-canned or home-processed foods (4).

Epidemiologic evidence implicated the sauteed onions as the source of this outbreak. Recent investigations of pot pies (5) and baked potatoes (6) have demonstrated the ability of C. botulinum to grow and produce toxin in cooked foods held at temperatures below 60 C (140 F). Sauteed onions have never before been associated with botulism.

References


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