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Salmonella Brandenburg and S. Corvallis Involved in a Food Poisoning Outbreak in a Hospital in Hyogo Prefecture

Kokichi Hamada* and Hidetaka Tsuji

Division of Microbiology, Hyogo Prefectural Institute of Public Health, Arata-cho 2-1-29, Hyogo-ku, Kobe 652-0032

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In comparison with those caused by Salmonella serovar Enteritidis, food poisonings caused by serotypes S. Brandenburg or S. Corvallis have been rare in Japan (1). We experienced an outbreak of food poisoning in a hospital in Hyogo Prefecture in August 2001. The outbreak involved both serotypes. Among 315 persons who ingested the suspected meal, seven persons of 66-88 years of age developed symptoms such as abdominal pain and fever. Nine Salmonella specimens were isolated from stool specimens of the seven patients and one asymptomatic patient. Seven isolates were S. Brandenburg and two were S. Corvallis. The stool specimen of one patient contained both organisms.

A lunch served on a specific day was suspected as a causative food, because the lunch was the only food that was shared by a patient in the dialysis out-clinic and the other patients who were hospitalized. We obtained four Salmonella isolates from the lunch, three S. Brandenburg isolates from three dishes (dish Nos. 1-3) and one S. Corvallis isolate from another dish (No. 4).

The 13 isolates were tested for sensitivities to ampicillin, cefotaxime, kanamycin, gentamicin, streptomycin, tetracycline, trimethoprim, ciprofloxacin, fosfomycin, chloramphenicol, sulfamethoxazole-trimethoprim, and nalidixic acid by using Sensi Disk (Nippon Becton Dickinson Co., Ltd., Tokyo) (2). The isolates were all sensitive to the tested antibiotics. They were examined using PFGE (pulsed-field gel electrophoresis) employing a gene path typing system (Program No. 5; Nippon Bio-Rad, Tokyo) in a manner reported previously (3). As shown in Figure 1, the PFGE patterns of XbaI- or BlnI-digested chromosomal DNAs were the same within each serotype. Thus it was clear that the infection was caused by ingestion of the meal served in the hospital which was

*Corresponding author: Fax: +81-78-531-7080
Fig. 1. PFGE patterns of XbaI- and BlnI-digests of chromosomal DNA of Salmonella Brandenburg and Corvallis isolates.

Lanes 1-7: XbaI digests. Lanes 8-14: BlnI digests.
Lane 1, 8: S. Brandenburg from patient No. 1.
Lane 2, 9: S. Brandenburg from patient No. 2.
Lane 3, 10: S. Brandenburg from dish No. 1.
Lane 4, 11: S. Brandenburg from patient No. 8.
Lane 5, 12: S. Corvallis from patient No. 7.
Lane 6, 13: S. Corvallis from dish No. 4.
Lane 7, 14: S. Corvallis from patient No. 4.
M: λ ladder.

contaminated by the two serotypes of Salmonella.

From the end of 1998 to early 1999, various parts of Japan experienced food poisoning caused by cuttlefish chips contaminated by two kinds of rare serotypes of Salmonella (4,5). The present case is very similar to the previous one in that the outbreak was caused by the two rare Salmonella serotypes. It is not clear, however, by which route the four dishes were contaminated by the two micro-organisms.


REFERENCES