

Laboratory and Epidemiology Communications

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*

Communicated by Takashi Kawamura

(Accepted December 4, 2001)

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 *Xba*I- or *Bln*I-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

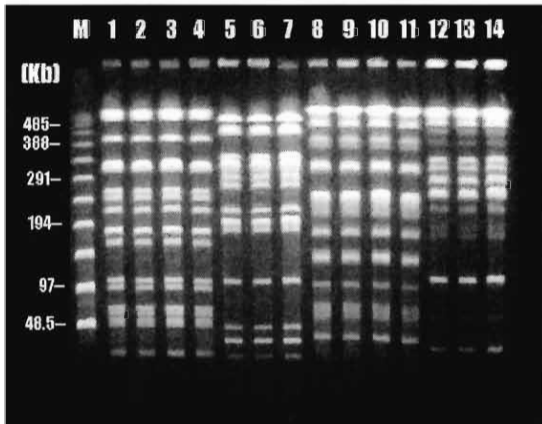


Fig. 1. PFGE patterns of *Xba*I- and *Bln*I-digests of chromosomal DNA of *Salmonella* Brandenburg and Corvallis isolates.

Lanes 1-7: *Xba*I digests. Lanes 8-14: *Bln*I 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.

The present observation communicated in Japanese appeared in Infectious Agents Surveillance Report (IASR), vol. 22, November, 2001.

REFERENCES

1. National Institute of Infectious Diseases and Tuberculosis and Infectious Diseases Control Division, Ministry of Health, Labour and Welfare (2001): Salmonellosis in Japan as of June 2000. Infect. Agents Surveillance Rep., 21, 162'-163'.
2. Jorgensen, J. H., Turnidge, J. D. and Washington, J. A. (1999): Antibacterial susceptibility tests: dilution and disk diffusion methods. p.1526-1543. In P. R. Murray (ed.), Manual of Clinical Microbiology. 7th ed. American Society for Microbiology, Washington, D.C.
3. Hamada, K., Tsuji, H., Shimada, K. and Hosoda, Y. (1999): Epidemiological analysis of *Salmonella* serovar Enteritidis isolates from two food poisoning outbreaks in the Hyogo Prefecture by pulsed-field gel electrophoresis. Bull. Hyogo Prefect. Inst. Public Health, 34, 113-117 (in Japanese).
4. Hamada, K., Tsuji, H., Masuda, K. and Uemura, K. (1999): Outbreak of salmonellosis caused by ingestion of cuttlefish chips: epidemiological analysis by pulsed-field gel electrophoresis. Jpn. J. Infect. Dis., 52, 53-54.
5. Tsuji, H. and Hamada, K. (1999): Outbreak of salmonellosis caused by ingestion of cuttlefish chips contaminated by both *Salmonella* Chester and *Salmonella* Oranienburg. Jpn. J. Infect. Dis., 52, 138-139.