Outbreak of *Salmonella* Enteritidis Infection Linked to Tiramisu Cakes Contaminated by Liquid Eggs in Taiwan, 2014

Yi-Chen Tsai[1*], Wan-Chin Chen[2], Ying-Shu Liao[3], Chien-Shun Chiou[3], Pei-Chen Chen[4], Yu-Chieh Chien[5], Hung-Wei Kuo[1]

Abstract

Taiwan CDC identified a cluster of *Salmonella enterica* serovar Enteritidis in northern Taiwan on May 15, 2014, which had an indistinguishable, novel pulsed-field gel electrophoresis (PFGE) subtyping pattern. We conducted a case-control study using structured hypothesis-generating interviews, and environmental and trace-back investigations. We defined confirmed cases as patients with culture-confirmed of *S.* Enteritidis (SEX.238) infection and whose illness onset were during April–May, 2014. The presumptive control cases were recruited from a pilot survey in September 2013 to February 2014 for locally-acquired hepatitis A patients using the similar questionnaire. We identified 6 confirmed cases in 3 households. Illness was significantly associated with tiramisu cakes consumption from bakery X (P <0.01). Bacterial culture of liquid egg yolk used for tiramisu cakes, which were prepared manually without pasteurization, yielded *salmonella* spp. We identified tiramisu cakes as a vehicle for *S.* Enteritidis (SEX.238) outbreak. We recommended bakers should use pasteurized liquid eggs for lightly cooked egg-associated products.

Keywords: *Salmonella* Enteritidis, PFGE, case-control study, tiramisu cakes, liquid eggs

[1]Epidemic Intelligence Center, Centers for Disease Control, Ministry of Health and Welfare, Taiwan
[2]Office of Preventive Medicine, Centers for Disease Control, Ministry of Health and Welfare, Taiwan
[3]Center for Diagnostics and Vaccine Development, Centers for Disease Control, Ministry of Health and Welfare, Taiwan
[4]Taipei Regional Center, Centers for Disease Control, Ministry of Health and Welfare, Taiwan
[5]National Yang-Ming University, Taipei, Taiwan

Corresponding author: Yi-Chen Tsai[1*]
E-mail: loganita@cdc.gov.tw
Received: Nov. 22, 2017
Accepted: Feb. 13, 2018
DOI: 10.6525/TEB.201805_34(9).0002