

Rapid communications

OUTBREAK OF SALMONELLOSIS IN A KINDERGARTEN IN ESTONIA, MAY 2008

I Dontšenko¹, N Võželevska², A Põld², N Kerbo¹, K Kutsar (kuulo.kutsar@tervisekaitse.ee)¹

1. Health Protection Inspectorate, Tallinn, Estonia

2. Tallinn Health Protection Service, Tallinn, Estonia

The Estonian Health Protection Inspectorate (HPI) is investigating an outbreak of salmonellosis in a kindergarten in Harju County. As of 28 May 2008, 94 salmonellosis cases had been reported, including 85 children and nine employees of the kindergarten. Of the 94 cases, 71 were laboratory-confirmed for *Salmonella enteritidis* and 23 were shown to be epidemiologically linked.

Salmonellosis is the most common food-borne disease in Estonia. In 2007, 428 cases were notified, resulting in an incidence rate of 31.9 per 100 000 population. Of the 428 reports, 65 cases (15.3%) were linked to three outbreaks at birthday parties.

Outbreak investigation

The epidemiological investigation of the current outbreak was launched on 12 May, when the HPI received information from West Tallinn Infectious Diseases Hospital that two children from a kindergarten in Harju County had been admitted to hospital with symptoms of gastroenteritis. In one child, *Salmonella* group D was isolated.

An outbreak investigation team, set up jointly with the Veterinary and Food Board (VFB) Harju County Service, conducted an inspection of the kindergarten. A case was defined as a person who had attended the kindergarten between May 7 and 13, had had meals in the kindergarten between May 7 and 9, and had developed symptoms of diarrhoea, vomiting and abdominal pain with fever.

Stool samples were taken from the children and all members of staff. Several food items found in the kitchen of the kindergarten, including frozen whole hens from Lithuania, were sampled and tested for *Salmonella*, and samples from utensils and working surfaces were collected for analysis. A questionnaire was designed containing questions about the onset of disease, symptoms and food items consumed in the kindergarten. The retrospective cohort study is still ongoing and the analysis of the data collected has not yet been completed.

Preliminary results

By 28 May 2008, a total of 94 salmonellosis cases had been reported, including 85 children aged two to seven years and nine members of the personnel including one kitchen worker. The earliest date of onset of disease was 8 May, the latest 19 May. The cases notified on 8, 9 and 10 May were primary cases related to consumption of a suspected meal; the cases notified on 11, 12, 13, 14 and 19 May were secondary *Salmonella enteritidis*-positive cases infected by environmental contact.

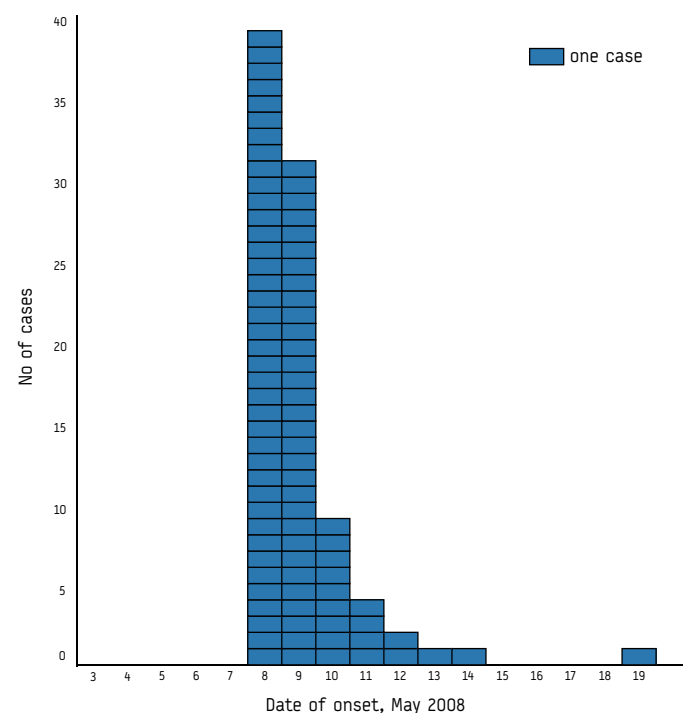
The epidemiological curve for these cases is shown in the Figure.

Some 88 patients (93.6%) developed clinical symptoms, and six (6.4%) were asymptomatic but tested positive for *Salmonella enteritidis*. It is not known when these six patients were infected, and their epidemiological importance to the outbreak will be investigated. Five children were admitted to hospital; all have recovered.

Of the 94 reported cases, 71 (64 children and seven staff members) were laboratory-confirmed for *Salmonella enteritidis* and 23 were shown to be epidemiologically linked. *Salmonella enteritidis* was identified in the frozen sample of one whole hen from Lithuania. The human and food isolates were sent for phage typing

FIGURE 1

Cases of salmonellosis associated with an outbreak in the kindergarten in Harju County, Estonia, May 2008 (n=88)



and genotyping to the National Public Health Institute in Finland. The laboratory investigation is still ongoing.

The preliminary results of the cohort study indicate that the outbreak was food-borne and the probable vehicle of infection was a chicken soup that was served for lunch on 7 May. Cross-contamination during food handling is also possible: ingredients of the soup with poultry meat could have been prepared and processed with contaminated utensils or had contact with contaminated working surfaces.

Control measures

The following steps were taken to control the outbreak: all kindergarten and kitchen personnel were tested for *Salmonella*; children and personnel were allowed to join the kindergarten activities only after a negative laboratory investigation result; and the public was informed about the outbreak via the media and HPI's website.

The Estonian VFB informed the European Commission Directorate-General for Health and Consumers' (DG SANCO) Rapid Alert System for Food and Feed (RASFF) and the Lithuanian State Food and Veterinary Service about the positive result of *Salmonella* testing of the frozen whole hen's sample. The suspected food vehicle was removed.

This article was published on 12 June 2008.

Citation style for this article: Dontšenko I, Võželevskaia N, Pöld A, Kerbo N, Kutsar K. Outbreak of salmonellosis in a kindergarten in Estonia, May 2008. Euro Surveill. 2008;13(24):pii=18900. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=18900>