



THREE FOOD-BORNE OUTBREAKS IN 2009

No. 36, 2009

SALMONELLA ENTERITIDIS PHAGE TYPE 8 IN DANISH EGGS

A total of 138 cases of *Salmonella enteritidis* phage type 8 with a specific MLVA pattern were recorded from 3 May to 1 August 2009; all were associated to a single outbreak, [Figure 1](#). The median age was 38 years (range 0-89 years). Cases were spread across Denmark and two cases were recorded on the Faroe Islands. Interviews and information from medical officers of health revealed three sub-outbreaks. Two of these were restaurant outbreaks. The third was associated with a reunion at a clubhouse. Food Inspectorate, Region East performed active tracing of additional cases using information from credit card receipts to establish contact to restaurant visitors via their banks. The efforts made identified symptomatic persons from a total of eight companies who had all visited the restaurant on the same day. Comparison of the sub-outbreaks showed that each case was related to eggs which were traced back to a single egg packing facility and a single producer. Distribution of the producer's products was discontinued on 3 July and all previously marketed eggs were recalled. *Salmonella enteritidis* phage type 8 with an MLVA pattern corresponding to that found in the human cases was subsequently detected at the egg producer in question.

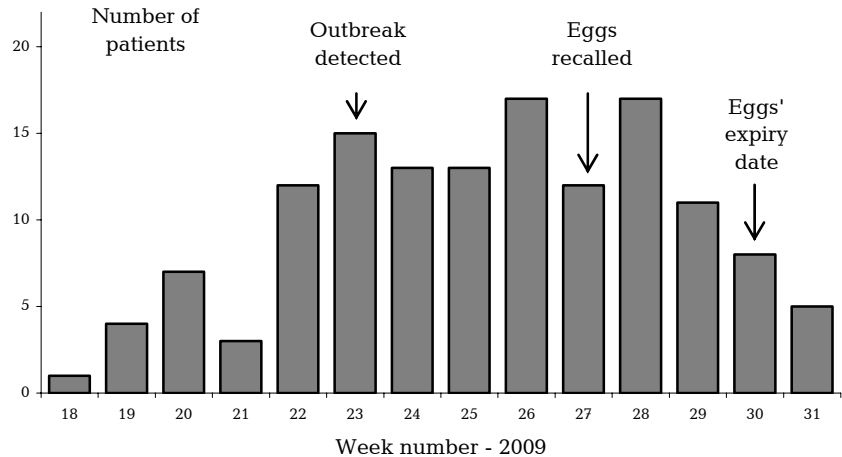
Comment

In recent years, *Salmonella enteritidis* has occurred only very rarely in Danish eggs. Direct transference from eggs which had not undergone fully adequate heat treatment as well as cross contamination played a part in this outbreak. This illustrates the importance of good hygiene in connection with the handling of raw eggs and of thoroughly heating any dishes containing egg. Furthermore, it is important to use pasteurised eggs in dishes which are not sufficiently heated.
(L. Müller, Dept. of Epidemiology, on behalf of the Joint Outbreak Group)

LISTERIA MONOCYTOGENES OUTBREAK

The period 5-11 May 2009 saw an outbreak of *Listeria monocytogenes*. The outbreak was acknowledged as two regional DCMs observed an increased occurrence of *Listeria monocytogenes* isolates and informed SSI on May 6 and 7. A total of eight persons tested positive for *Listeria monocytogenes* with identical DNA

Figure 1. Outbreak-associated *Salmonella enteritidis* phage type 8 cases in Denmark, week 18-31 2009, n = 138 (week numbers are based on date of laboratory reception)



profiles. The patients' age ranged from 44 to 94 years and all had known risk factors. Two patients died.

Food Inspectorate, Region East, and the SSI instituted an investigation of the outbreak. All isolates were collected from the local DCMs for typing using the MLVA and PFGE methods. Surviving patients were contacted by phone. From the initial interviews it was clear that the patients all subscribed to the food delivery scheme of a catering company. Food Inspectorate, Region East inspected the company and it was established that another four patients had also received food from the company. The only meal all patients had in common was beef stroganoff produced on 18 April 2009.

Commentary

Listeria monocytogenes outbreaks are very rare. When they do occur, they are difficult to resolve due, among others, to a long incubation period and because the bacteria are naturally occurring. The investigation into this outbreak shows that food supply schemes can comprise a risk factor to particularly vulnerable groups. This outbreak was characterised by distribution of refrigerated evening meals, heated by end-users. (B. Smith, J. Larsson, DBMP, M. Lisby Food Inspectorate, Region East)

SHIGELLA SONNEI I SUGAR PEAS

On 1 June 2009, the Norwegian Institute of Public Health (Folkehelseinstituttet) announced a Norwegian outbreak of *Shigella sonnei* with sugar peas from Kenya as its suspected source. In April and May,

an increase in the number of *Shigella sonnei* cases had also been observed in Denmark. A total of 17 *Shigella sonnei* cases were reported from 1 April to 1 June. Phone interviews revealed that eight patients had eaten sugar peas prior to symptom onset. All patients were women with a median age of 31 years (range 11-46 years). Two additional cases were possibly the result of secondary infection. Another six cases were travel-related. Backtracking of the sugar peas via the supermarkets where patients had purchased them revealed that the peas primarily originated from a series of Kenyan producers. The producers were not those who had supplied the Norwegian cases, and MLVA typing showed isolates from the two countries to be different. It is, however, possible that both outbreaks were related to some common regional production hygiene issue, as both producers are located in the same production area in Kenya.

Comment

This outbreak illustrates that fresh vegetables, such as sugar peas, imported to Denmark from tropical production sites and sold as ready-to-eat goods may at times comprise a health risk. *Shigella sonnei* outbreaks have previously been shown to have relation to fresh, imported baby maize, EPI-NEWS 35/07. If such vegetables are boiled briefly, the risk of infection may be reduced without reducing the crispiness of the product.

(L. Müller, Dept. of Epidemiology, on behalf of the Joint Outbreak Group)

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2009 figures are preliminary)

Table 1	Week 35 2009	Cum. 2009 ¹⁾	Cum. 2008 ¹⁾
AIDS	0	28	23
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	1
Creutzfeldt-Jakob	0	9	4
Diphtheria	0	0	0
Food-borne diseases	10	364	531
of these, infected abroad	1	67	87
Gonorrhoea	10	376	256
Haemorrhagic fever	0	0	0
Hepatitis A	1	17	27
of these, infected abroad	1	10	13
Hepatitis B (acute)	0	20	14
Hepatitis B (chronic)	0	117	132
Hepatitis C (acute)	0	13	6
Hepatitis C (chronic)	3	193	258
HIV	0	149	160
Legionella pneumonia	1	90	78
of these, infected abroad	0	18	26
Leprosy	0	0	0
Leptospirosis	0	0	2
Measles	0	9	9
Meningococcal disease	0	45	41
of these, group B	0	24	17
of these, group C	0	15	13
of these, unspec. + other	0	6	11
Mumps	1	11	20
Neuroborreliosis	2	19	31
Ornithosis	0	9	2
Pertussis (children < 2 years)	1	77	77
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	5	3
Listeria monocytogenes	0	3	1
Streptococcus pneumoniae	0	55	67
Other aethiology	0	9	16
Unknown aethiology	0	10	17
Under registration	4	26	-
Rabies	0	0	0
Rubella (congenital)	0	0	1
Rubella (during pregnancy)	0	0	0
Shigellosis	3	68	54
of these, infected abroad	2	47	45
Syphilis	2	173	76
Tetanus	0	0	1
Tuberculosis	16	253	269
Typhoid/paratyphoid fever	1	15	22
of these, infected abroad	1	12	17
Typhus exanthematicus	0	0	0
VTEC/HUS	8	87	93
of these, infected abroad	0	15	31

¹⁾ Cumulative number 2009 and in corresponding period 2008

Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

Table 2	Week 35 2009	Cum. 2009 ²⁾	Cum. 2008 ²⁾
Bordetella pertussis (all ages)	5	153	130
Gonococci	9	303	250
of these, females	2	84	52
of these, males	7	219	198
Listeria monocytogenes	0	50	33
Mycoplasma pneumoniae			
Resp. specimens ³⁾	2	45	51
Serum specimens ⁴⁾	4	79	62
Streptococci ⁵⁾			
Group A streptococci	0	109	108
Group B streptococci	5	81	85
Group C streptococci	0	25	12
Group G streptococci	2	112	94
S. pneumoniae	6	752	663

Table 3	Week 33 2009	Cum. 2009 ²⁾	Cum. 2008 ²⁾
MRSA	12	459	393
Pathogenic int. bacteria ⁶⁾			
Campylobacter	60	1855	1998
S. Enteritidis	15	377	325
S. Typhimurium	15	590	1232
Other zoon. salmonella	19	436	661
Yersinia enterocolitica	0	150	202
Verocytotoxin-producing E. coli	6	84	92
Enteropathogenic E. coli	15	132	91
Enterotoxigenic E. coli	8	181	224

²⁾ Cumulative number 2009 and in corresponding period 2008

³⁾ Resp. specimens with positive PCR

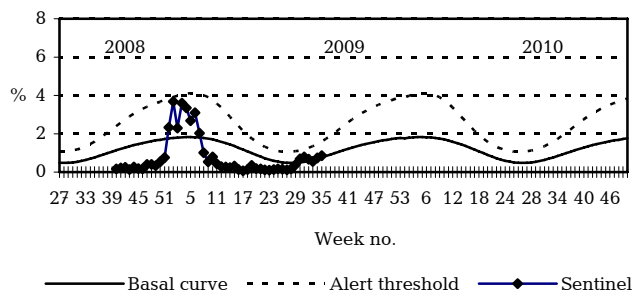
⁴⁾ Serum specimens with pos. complement fixation test

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk

Sentinel surveillance of the influenza activity

Weekly percentage of consultations, 2008/2009/2010



Sentinel: Influenza consultations (as percentage of total consultations)
 Basal curve: Expected frequency of consultations under non-epidemic conditions
 Alert threshold: Possible incipient epidemic

2 September 2009