

Rapid communications

A MULTI-COUNTRY OUTBREAK OF *SALMONELLA* AGONA, FEBRUARY - AUGUST 2008

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An outbreak of gastroenteritis affecting residents in the United Kingdom, Ireland and Finland is currently being investigated. As of Wednesday 13 August, a total of 119 cases have been identified. An investigation that includes interviews of persons with *Salmonella* Agona infections, comparison of pulsed field gel electrophoresis (PFGE) profiles of *S. Agona* isolates from cases and also food samples from an Irish food production company and retail outlet chain supplied by the company, suggests that food products from that company may be related to some of these cases. A number of food products including beef steak strips, chicken in various forms, bacon in various forms, and pork have been withdrawn (see: <http://www.fsai.ie/> for details). The investigation is ongoing.

Background

On 15 July, the Irish National Salmonella Reference Laboratory reported to the Health Protection Surveillance Centre six isolates of *S. Agona* received over the previous three weeks. This was an unusual finding as there were a total of three isolates in 2007, five in 2006 and 10 in 2005. The temporal association of six isolates of an uncommon serotype suggested a possible link between cases. Early descriptive data showed that the patients affected were mainly young adult males between 20 and 45 years of age. No link between cases was immediately apparent and a food-borne source was considered most likely. An outbreak was declared on 16 July. Colleagues in United Kingdom Surveillance Centres were notified on 16 July. Colleagues in England, Scotland and Wales informed about an increase in reports of *S. Agona* during the end of June and early July. Alerts were posted through the Food- and Waterborne Diseases (former ENTER-net) network and the European Union (EU) Early Warning and Response System (EWRS) on 23 July. Subsequently, single cases were reported in Northern Ireland and Finland.

The following case definition was used:

TABLE 1

Case definition for *Salmonella* Agona

Case	Definition
Confirmed	<i>S. Agona</i> with PFGE* profile designated as SAGOXB.0066
Probable	<i>S. Agona</i> phage type (PT) 39
Possible	<i>S. Agona</i> where PT unknown or PFGE profile unknown

* pulsed field gel electrophoresis

To date, 119 cases have met the case definition. Of these, 110 cases are confirmed, seven (six in England, one in Wales) are probable and two (in Scotland) are possible awaiting definitive analysis. The most recent date of onset reported is 29 July 2008 (Figure 1). Cases range in age from three months to 79 years with a median age of 27 years. The three-month-old infant is a secondary case. Most cases (56%) are in males, the ratio is 67 male versus 52 female cases (Figure 2).

To date, 14 cases are known to have been or are currently hospitalised.

There has been one death associated with the outbreak. An elderly female patient in the United Kingdom aged 77 years contracted *S. Agona* and subsequently died. The cause of death is reported as ischaemic colitis secondary to *salmonella* infection.

Investigations to date

The epidemiological descriptive study has demonstrated that at least 10 cases had eaten sandwiches containing one of the products from the company in question. A case control study is underway to test the hypotheses that cases are more likely to have eaten at outlets supplied by the company in question, and foods supplied by it. The study is complex due to the multitude of products and outlets involved in this investigation. Microbiological investigations

TABLE 2

Number of confirmed, probable, and possible *Salmonella* Agona cases, by country and month of onset*, 1 February - 13 August 2008 at 16:00 (n=119)

Country	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
England	2	0	7	14	19	27	0	69
Finland	0	0	0	1	0	0	0	1
Ireland	0	0	0	0	2	8	0	10
N. Ireland	0	0	0	1	0	0	0	1
Scotland	0	0	0	4	13	13	0	30
Wales	0	0	0	3	3	2	0	8
Total	2	0	7	23	37	50	0	119

* Date of onset is unknown for n=29 cases; where the date of onset is unknown, the specimen date or a calculated date (lab receipt date - mean diff of lab receipt - onset) is used.

demonstrate *S. Agona* isolates with the identical PFGE profile SAGOXB.0066 in isolates from cases, and food samples in the factory and outlets supplied by the factory.

As it may take several weeks from onset of illness to the results of detailed molecular analysis it is expected that more cases fitting the case definition will be diagnosed.

Control measures to date

Working closely with the Food Safety Authority of Ireland, the Department of Agriculture Fisheries and Food, the company has ceased production from the implicated part of the plant that is a focus of concern. In addition, the company has instituted a product withdrawal of some product lines from an implicated production line/thermal zone in the plant. The withdrawal has focused on products intended primarily for consumption in the made-to-order sandwich trade.

The withdrawal also includes selected batches of cooked beef, cooked chicken and cooked bacon products processed on the same line for the made-to-order sandwich trade. The company has an extensive product distribution list with produce from the plant distributed through UK, Republic of Ireland and many European countries. A confirmed case in Finland has eaten beef strips in Finland from a branch of the retail outlet chain implicated in Ireland and the UK.

Certain other cooked meat products from this production line/thermal zone have not been withdrawn at this point on the basis that they are intended for further cooking before consumption. This position remains under review.

A Rapid Alert System for Food and Feed (RASFF) was released on 4 August and updated on 8 and 11 August by the Food Safety Authority of Ireland (see: <http://www.fsai.ie>).

Acknowledgements:

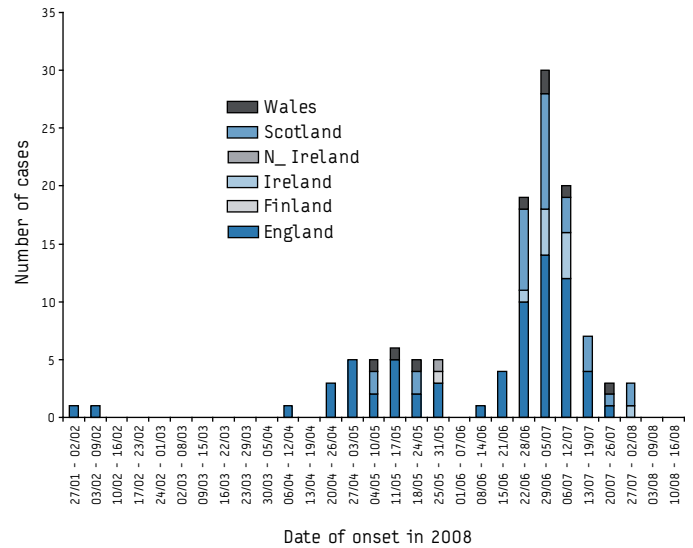
National Salmonella Reference Laboratory, Health Protection Surveillance Centre Health Service Executive Ireland, Health Protection Agency Centre for Infections, London, National Public Health Service for Wales, Health Protection Scotland, Scottish National Salmonella Reference Laboratory, HPA CDC and PHL Northern Ireland, Food Safety Authority Ireland, Food Standards Agency UK, Department of Agriculture, Fisheries and Food Ireland, Environmental and Public Health Departments in United Kingdom, the Republic of Ireland and other European countries who have supported this investigation, the Food- and Waterborne Diseases and Zoonoses Programme at the European Centre for Disease Prevention and Control

This article was published on 14 August 2008.

Citation style for this article: O'Flanagan D, Cormican M, McKeown P, Nicolay N, Cowden J, Mason B, Morgan D, Lane C, Irvine N, Browning L. A multi-country outbreak of *Salmonella Agona*, February - August 2008. *Euro Surveill.* 2008;13(33):pii=18956. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=18956>

FIGURE 1

Reported number of confirmed, probable, and possible *Salmonella Agona* cases by date of onset* and country, 1 February - 13 August 2008 at 16:00 (n= 119)



* Date of onset unknown for n=29 cases
Where the date of onset is unknown, the specimen date or a calculated date (Lab receipt date - mean diff of lab receipt - onset) is used.

FIGURE 2

Reported number of confirmed, probable, and possible *Salmonella Agona* cases by age and gender, 1 February - 13 August 2008 at 16:00 (n=119)

