



Three fatalities in Listeria outbreak linked to hospital sandwiches and salads

Three people have died in England from listeriosis, which has been linked to the consumption of pre-packed sandwiches and salads.

Cases of Listeria infection were found in six hospital patients in England. There have been no cases reported in Scotland or Wales. Sandwiches and salads linked to the sick people have been withdrawn and the supplier, The Good Food Chain, has voluntarily ceased production while the investigation continues.

The patients died at Manchester University NHS Foundation Trust and Aintree University Hospital NHS Foundation Trust in Liverpool.

Nik Phin, who is the deputy director at the National Infection Service at Public Health England stated "We, along with the Food Standards Agency, colleagues in local authorities and the NHS have worked quickly to determine the likely cause of this outbreak and taken action to reduce the risk to the public's health. To date, there have been no associated cases identified outside healthcare organisations, and any risk to the public is low".

The Good Food Chain was supplied with meat produced by North Country Cooked Meats where testing found a positive result for the outbreak strain of Listeria. This company (along with their distribution company North Country Quality Foods), have voluntarily stopped production, and products were withdrawn from hospitals when the link to the Listeria infections was identified.

This outbreak further illustrates the problems caused by Listeria to vulnerable groups of the population. This is reflected in the criteria set for Listeria in ready-to-eat foods which allow "safe" levels of <math><100\text{cfu/g}</math> for most foods, but have a much tighter criteria of Not Detected in 25g for foods intended to be consumed by infants or RTE foods intended for "special medical purposes". Effectively this means food supplied to hospitals or likely to be consumed by the very young, the very old, or people whose immune system may be compromised, making them more vulnerable to contracting Listeriosis.

WHO Europe publish figures on foodborne illness to highlight World Food Safety Day

Published to coincide with the inaugural World Food Safety Day on June 7th, a report from the World Health Organisations European Region made for sombre reading, as it published figures for global foodborne illnesses.

The report stated that analysis of data compiled in 2010 showed that in the European region there were 23 million foodborne related illnesses and 4,700 deaths, but it was claimed that these figures were very much "the tip of the iceberg" and the true number of cases remains unknown.

Globally, it is estimated that more than 600 million, or almost one in 10 people, fell ill after consuming contaminated food in 2010. Of these, 420,000 died, including 125,000 children younger than 5 years old.

With an obvious link to the previous article, Dina Pfeifer, acting food safety technical officer at WHO/Europe, stated that World Food Safety Day is important as it highlights and illustrates the efforts to keep food safe. She stated "for those with chronic underlying conditions, vulnerable children, the immuno-deficient population with HIV or Aids or those having chemotherapy for cancer, what is a small bout of diarrhoea for healthy people can be a life-threatening illness."

The overall burden of foodborne disease in Europe is estimated to be more than 400,000 disability-adjusted life-years (DALYs), which is a statistical tool for measuring years in which a person's life is adversely affected by a disease.

The most frequent causes of foodborne illness are Norovirus with an estimated 15 million cases, followed by Campylobacter, which in turn is estimated to be responsible for almost 5 million infections. Salmonella causes the most deaths followed by Campylobacter, norovirus and Listeria.

These statistics hopefully emphasise the vitally important work carried out by all ALS employees in the Food and Pharmaceutical Division. The diligence, hard work and attention to detail of our staff has resulted in many product recalls which has inevitably averted numerous potential food safety and public health issues.

Dutch Legionnaire's outbreak in 1999 caused by untreated hot tubs

An interesting article has recently emerged which has shed light on Europe's most deadly Legionnaires outbreak. The outbreak began on 25th February 1999, in Bovenkarspel Northern Holland at a National Flower Festival. Upon investigation, one of the vendors at the flower show was found to have used some untreated hot tubs as part of their display.

While no one was allowed into the hot tubs, the conditions present provided an ideal breeding ground for *Legionella pneumophila*. Water pumped into the hot tubs was kept at around 37°C, since no one was permitted to use the hot tubs, chlorine was not added, and the hose used to fill the tubs had not been used in some time. Aerosols generated from the hot tubs contained high levels of the *Legionella* bacteria and infected many of the visitors to the Flower Show.

A precise number of the people affected by the Bovenkarspel outbreak is not known. However, 32 deaths that could be attributed to the outbreak were confirmed. It was estimated that 206 people who were affected by the outbreak survived their illnesses.

The first recorded outbreak of Legionnaires disease occurred at an American Legion convention at the Bellevue-Stratford hotel in Philadelphia in 1976 (hence the name of the bacteria and associated illness), and affected 182 people with 29 fatalities. The hotel's cooling tower and air conditioning systems were found to be the source of the outbreak. Once again, this is an example of how the effects of an outbreak are exacerbated when the pathogen comes into contact with a vulnerable group (in this case most of the affected people were elderly).

Cheesecakes involved in product recall due to possible Listeria

The Food Standards Agency has recently reported that Müller UK is recalling Cadbury Dairy Milk Cheesecake and Cadbury Dairy Milk Caramel Cheesecake dessert products as a precaution due to the possible presence of *Listeria monocytogenes* in the products.

Air France issue warning over possible Listeria

Air France has issued a warning after *Listeria* was detected in tuna sandwiches served on certain flights in May. Servair, the supplier of the airline's on-board catering service, reported the pathogen was found in the sandwiches from self-service on-board buffets. It was revealed during quality check procedures on foodstuffs distributed aboard Air France flights and as a precautionary measure Servair withdrew all products from the implicated supplier from the services on board Air France flights. Air France and Servair have as yet not been informed of any cases of illness.

New compound discovered which is claimed to be effective against conventional antibiotic resistant bacteria

A new compound which visualises and kills antibiotic resistant superbugs has been discovered by scientists at the University of Sheffield and Rutherford Appleton Laboratory (RAL).

The team, led by Professor Jim Thomas, from the University of Sheffield's Department of Chemistry, is testing new compounds developed by his PhD student Kirsty Smitten on antibiotic resistant gram-negative bacteria, including the STEC group of pathogens.

Antimicrobial resistance is already responsible for 25,000 deaths in the EU each year, and unless this rapidly emerging threat is addressed, it's estimated by 2050 more than 10 million people could die every year due to antibiotic resistant infections. Doctors have not had a new treatment for gram-negative bacteria in the last 50 years, and no potential drugs have entered clinical trials since 2010.

The researchers claim that the new drug compound has a range of exciting opportunities. Professor Thomas stated "as the compound is luminescent it glows when exposed to light. This means the uptake and effect on bacteria can be followed by the advanced microscope techniques available at RAL. This breakthrough could lead to vital new treatments to life-threatening superbugs and the growing risk posed by antimicrobial resistance."

The studies at Sheffield and RAL have shown the compound seems to have several modes of action, making it more difficult for resistance to emerge in the bacteria. The next step of the research will be to test it against other multi-resistant bacteria.

Update on the Sweden/Denmark Yersinia outbreak

In a follow-up on the ongoing *Yersinia enterocolitica* outbreak in Sweden and Denmark, which we reported on in last month's bulletin, the number of affected people in this cross-border outbreak has been revised to a cumulative total of 57.

The investigation now shows that the source of infection was probably fresh spinach as the majority of affected individuals reported consuming spinach bought from two retailers before being ill. As no new cases have been reported, it is assumed that the contamination was limited to just one batch of product.