



Microbiology bulletin 57

September 2018

STEC implicated in Egyptian holiday fatalities

Shiga Toxin E coli (STEC) may have played some part in the deaths of a British couple who died while on holiday in the Egyptian resort of Hurgada in August according to the Egyptian general prosecutor who issued a statement this week saying post-mortem examinations showed E. coli was a factor in both deaths.

The communique stated that John Cooper, 69, had acute intestinal dysentery caused by E. coli and Susan Cooper, 63, developed haemolytic uremic syndrome, probably due to the pathogen. The findings have however been met with some incredulity by the couples family who have requested independent tests be carried out in the UK.

The package tour operator Thomas Cook have revealed that it commissioned an independent hygiene and air quality specialist to conduct tests covering food, water and air at the hotel. Tests on the food identified a high level of E. coli and Staphylococcus bacteria, but it was not made clear in the press reports whether the STEC strains were isolated.

FSA publish final report on AMR in UK retail chicken and pork

The Food Standards Agency (FSA) have recently published the final report on their surveillance study of antimicrobial resistance (AMR) in bacteria isolated from chicken and pork sampled on retail sale in the United Kingdom. The executive summary of the report states that the survey provides a baseline of the prevalence, types and levels of AMR bacteria found in UK retail chicken and pork mince which the FSA can use to monitor its progress in reducing AMR in these foods and inform UK AMR strategy.

Antimicrobial resistance was detected in a proportion of all the types of bacteria examined, with resistance to the most

clinically important drugs generally appearing to be more prevalent in chicken isolates than pork. The study has provided some reassurance that AMR prevalence is currently low in Enterococci and Klebsiella species, but has highlighted the potential need for continued monitoring relating to extended spectrum beta lactamase (ESBL) producing E. coli and erythromycin resistance in Campylobacter species.

However it is acknowledged in the report that the risk of acquiring AMR related bacterial infections from these foods is very low provided that they are cooked and handled hygienically.

Coincidentally a report published in August on AMR associated with beansprouts in the Netherlands found that 19% of bean sprout samples were contaminated with ESBL-Enterobacteriaceae.(mainly Klebsiella spp). The isolates were resistant to several other classes of antibiotics and the report's authors concluded that bean sprouts are a possible community source of ESBL-producing *Klebsiella* spp.

Campylobacter levels show little change

The top nine retailers across the UK have recently published their latest testing results on Campylobacter contamination in UK-produced fresh whole chickens (covering samples tested from April to June 2018).

The latest figures show that on average, across the major retailers, 3.7% of chickens tested positive for the highest level of contamination (more than 1,000cfu/g). The corresponding figure for the previous set of results (Jan-March 2018) was 3.8%, while for the first publication (July-September 2017) it was 4.6%.

Michael Wight, Director of Policy at the Food Standards Agency said: "these latest figures are consistent with

previous results and show consolidation on the progress made so far in our mission to reduce Campylobacter levels to as low as reasonably achievable. Evidence has shown that Campylobacter tends to be more prevalent during warmer times of the year; so, to have seen the results holding steady during this period is encouraging”.

Product recalls and outbreaks due to Salmonella

This month has provided more examples of how Salmonella has the ability to survive and persist in a viable state in the most hostile of environments. This has been illustrated by a recent outbreak in the US and a product recall in the UK.

Kellogg's have recalled over 1.3 million cases of their breakfast cereal Honey Smacks after the product was linked to 130 Salmonellosis cases across 36 US states. How the contamination of the product occurred has not yet been revealed, but the product will certainly have a very low water activity and it seems reasonable to assume that many bacteria would struggle to remain viable on this type of product matrix.

In the UK the FSA has announced the recall of a batch of processed liquid egg white. Egg white is rich in the natural antimicrobial agent lysozyme, so even if on this occasion there has been either a problem with the thermal process which is applied to the product or post processing contamination, the antimicrobial lysozyme action may have inhibited lesser bacteria than the robust and persistent Salmonella.

Salmonella outbreaks double in Denmark

There were double the amount of Salmonella outbreaks detected in Denmark last year compared to 2016, according to the recently published 2017 annual report.

A total of 63 foodborne disease outbreaks with 1,151 patients were recorded last year compared to 49, in 2016. This figure includes 25 Salmonella outbreaks, which is twice as many as the year before and three times the number in 2015. Danish officials said the increase is primarily because of new methods to detect more outbreaks.

The source of Listeria contamination identified

As a follow up to the Listeria outbreak which was linked to the consumption of raw frozen sweetcorn (as mentioned in the July bulletin), the company which was linked to the

outbreak has revealed it has found the cause of contamination at its Hungarian processing plant.

Greenyard said it found a persistent presence of Listeria monocytogenes in one of the freezing tunnels and as a result, will close down this tunnel at the Baja-based plant.

The Hungarian frozen vegetable factory is believed to be the source of a Listeria outbreak that caused illness in 54 people in six countries.. Eighteen outbreak cases were reported in 2018 with the latest having disease onset in May 2018.

Rise in recorded Hepatitis E cases in France

There has been a dramatic increase in the number of hepatitis E cases in France since 2010, according to French National Reference Centre.

The rise can be attributed to the availability of hepatitis E virus (HEV) diagnostic tests and a better understanding of infection causing an increase in the number of people being tested. Pork, the main reservoir of HEV in France, can be the origin of food transmission, especially products made from raw liver. Research has shown swine are the main reservoir because of a high prevalence of HEV infection on pig farms. Prevention is based on informing consumers about the need to thoroughly cook such products.

Other sources of contamination are suspected such as consumption of shellfish, vegetables or fruits tainted by contact with dirty water. Contamination related to insufficient hand hygiene or through direct contact with live animals or their carcasses has also been suspected.

South African Listeria outbreak officially over

The South African Health Minister recently announced that the largest Listeria outbreak in recorded history was declared over. The last known outbreak case of listeriosis was identified in the first week of June 2018. According to the National Institute for Communicable Diseases there were 1,060 cases with 216 deaths between January 2017, and July 2018.

The outbreak was linked to a ready-to-eat processed meat plant, the Enterprise Foods production facility in Polokwane. Enterprise Foods exported products to 15 countries in the African region, but none of the other countries reported any Listeria cases linked to the outbreak.