Risk assessment for vulnerable consumers from Listeria monocytogenes in blue cheese

Area of research interest: Foodborne pathogens
Planned completion: 25 May 2023
Project status: Completed
Project code: G1000067
Authors: Victoria Cohen, Svetlozara Chobanova, Iulia Gherman
Conducted by: Food Standards Agency and Food Standards Scotland
Date published: 30 November 2023
DOI: https://doi.org/10.46756/sci.fsa.tqb580

Background

This assessment was commissioned to inform a revision of FSA and FSS guidance on foods to avoid in pregnancy, to ensure that advice to pregnant women is based on the best available evidence. The assessment also considered the risk to other vulnerable groups as well as pregnant consumers.

Summary

Listeria monocytogenes are bacteria that cause listeriosis, a disease which is very severe in vulnerable people. Vulnerable people include pregnant women, people over 65 years of age, infants, and those with a weakened immune system. While most semi-soft cheeses do not let *L. monocytogenes* grow, blue cheeses may be an exception, and pose a risk to vulnerable groups.

L. monocytogenes is widespread in the environment and can grow at refrigeration temperatures. This makes it a particular problem in ready-to-eat foods such as cheese. It can also remain in the environment in food factories for several years as it can be difficult to remove.

Foodborne listeriosis is a relatively rare illness in comparison to other foodborne diseases. A search found two potential listeriosis outbreaks and one individual case may have been caused by blue cheese worldwide. No listeriosis illnesses due to blue cheese were identified in the UK.

Blue cheese is not frequently consumed by vulnerable consumers. When consumed, it is usually in low amounts.

Published data from Scottish local authorities and the Food Standards Agency suggest that overall percentage of blue cheeses contaminated with *L. monocytogenes* in the UK is low. A search of the scientific literature on contamination in blue cheese from European countries found that most of these studies examined Gorgonzola cheese. The rinds of Gorgonzola were much more likely to be contaminated than the centre of the cheese. Research also shows that the acidic levels and levels of moisture in blue cheese can support *L. monocytogenes* growth. Most of these studies showed only a small amount of bacterial growth in the centre of the cheese.

Outcome

The risk assessment concludes that the severity of *Listeria monocytogenes* infection in vulnerable people is **high** (severe illness: causing life-threatening or substantial chronic complications or

illness of long duration), with a significant mortality rate. There is a **low** level of uncertainty due to the strong evidence.

The frequency of occurrence of listeriosis in vulnerable people from consumption of blue cheese is considered **very low** (very rare but cannot be excluded), based on the evidence gathered for blue cheese including outbreaks, typical L. monocytogenes contamination levels, typical consumption levels and typical L. monocytogenes growth. The uncertainty of occurrence is considered to be **medium**.

England, Northern Ireland, Scotland and Wales

PDF
View The risk to vulnerable consumers from Listeria monocytogenes in blue cheese.pdf as PDF(Open in a new window) (619.92 KB)