

TWO OUTBREAKS OF NOROVIRUS INFECTIONS ASSOCIATED WITH THE CONSUMPTION OF IMPORTED FROZEN RASPBERRIES, DENMARK, MAY-JUNE 2005

B Korsager¹, S Hede², H Bøggild³, B Böttiger⁴, K Mølbak⁵

1. Department of Clinical Microbiology, Aalborg Sygehus, Denmark.
2. Regional Food Inspectorate, Northern Jutland, Aalborg, Denmark.
3. Medical Officer of Northern Jutland County, Aalborg, Denmark.
4. Department of Virology, Statens Serum Institut, Copenhagen, Denmark.
5. Department of Epidemiology, Statens Serum Institut, Copenhagen, Denmark.

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On the weekend of 21-22 May, it was reported that 101 patients and 76 employees at the two Aalborg Hospitals, South and North, in Northern Jutland, were ill with vomiting and diarrhoea. In the following four days, a further 43 patients and 52 employees, as well as 4 relatives, were reported to be ill. Because of simultaneous outbreaks in the two physically separated hospitals, a foodborne source of infection was suspected. Cohort isolation of the sick patients was implemented, and some admissions, as well as a total of 43 operations, were cancelled. Sick employees were requested not to turn up for work until they had been well for at least 24 hours (48 hours for kitchen staff). In order to reduce the risk of infection, kitchen areas were disinfected and cleaning staff were instructed in disinfection of toilet areas. Infection control nurses and the Regional Food Inspectorate provided disinfection guidelines, for which a disinfectant that is active against norovirus was used.

Case-control studies were conducted among a total of 120 employees and inpatients at the hospitals. The studies showed that the sick employees had all been at work on Thursday (odds ratio (OR) 15; 95% confidence interval (CI) 3.4 to 71) and that the consumption of a 'fromage blanc' (fresh cheese) dessert containing frozen pieces of raspberries in the canteen that day was associated with an increased risk of disease (OR infinite, lower CI 3.4). Consumption of the same dessert with raspberries was also associated with illness in patients (OR 6.2; 95% CI 1.6 to 26). The suspicion of a norovirus infection was confirmed by the results of investigation of faecal specimens.

Outbreak on Sjaelland

From 3 June, several cases of gastrointestinal infection were also registered among the elderly in several areas in Sjaelland, and in the Greater Copenhagen area. The patients had received food from one particular food caterer supplying 12 municipalities with a 'meals on wheels' service as part of a home nursing scheme. On the basis of the experience from Aalborg, the possibility that this was another norovirus outbreak was thought to be likely, and the most likely source of infection a raspberry dessert that had been served to around

1100 people between Wednesday 1 June and Friday 3 June. The frozen raspberries used were bought from the same importer that supplied the raspberries implicated in the outbreak in the Aalborg Hospitals.

As of 23 June, there appear to be at least 289 cases associated with this second outbreak. Several stool specimens collected from patients at Sjaelland were found positive for norovirus.

Discussion

This is a preliminary report of large foodborne outbreaks of norovirus infections associated with consumption of desserts made from frozen raspberries. The overall extent of these outbreaks, including secondary transmission, will be elucidated in ongoing investigations. Microbiological analyses of the raspberries as well as further analyses of stool specimens, including genotyping of norovirus, are also in progress. Preliminary results suggest that there may be more than one genotype involved.

It is important to note that the source of infection was recognised rapidly due to the swift response from the Medical Officer of Health, the Regional Food Inspectorate and the infection control department at Aalborg Hospital. Unfortunately, immediate withdrawal of the frozen raspberries from the market was not immediately implemented, and this delay resulted in another outbreak in Sjaelland that has afflicted at least 289 people in a very vulnerable age group. This outbreak could have been prevented by a more efficient recall.

After the cases at Sjaelland, the Danish Veterinary and Food Administration reinforced the recall, and the Danish importer has now withdrawn all similarly sourced raspberries from the market. The raspberries were imported from Poland, and were not distributed to ordinary retail outlets. It is not known if the raspberries were distributed to other countries. Immediately after the recognition of the outbreak in Aalborg, the Food-borne viruses in Europe network (FBVE, <http://www.eufoodborneviruses.co.uk>) was informed, and international warnings were sent through both the European Early Warning and Response System (EWRS) and the Rapid Alert System for Food and Feed (RASFF, http://europa.eu.int/comm/food/food/rapidalert/index_en.htm).

Raspberries have previously been associated with outbreaks of norovirus, most recently in March, when a French school was affected [1]. However, the same producer was not involved as in the Danish outbreaks, and the strain in the outbreak in France (genogroup I genotype 5; Musgrove strain) has not been found so far in the recent Danish outbreaks.

References

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SHORT REPORTS

WORLD STOP TB DAY 2005: TUBERCULOSIS CARE PROVIDERS AND MONITORING OF TREATMENT OUTCOME IN EUROPE

A Infuso, D Falzon

EuroTB, Institut de Veille Sanitaire, Saint-Maurice, France

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Tuberculosis (TB) is still a major global disease threat. Each year, there are over 8 million estimated cases and over 2 million deaths. In the World Health Organization European Region in 2003, 416 085 TB cases were reported. There were different trends in three distinct areas of the Region (Figure 1). In most countries of the Commonwealth of Independent States of the former Soviet Union

(CIS), notification rates continued to increase and exceeded 100 cases per 100 000 population in 2003. In the centre (Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Macedonia, Serbia & Montenegro, Romania, Turkey), the overall rate was stable at around 50 cases per 100 000, with the notable exception of Romania (142 per 100 000 in 2003). In the European Union plus Andorra, Iceland, Israel, Monaco, Norway, San Marino and Switzerland (EU & West), there has been an overall decrease in annual cases from 18.1 per 100 000 in 1995 to 13.6 in 2003, but numbers have been stable in recent years in several countries. The proportion of cases of foreign origin is increasing steadily (31% in 2003).