Update: Outbreak of legionnaires' disease in Norway traced to air scrubber

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As of 8 June 2005, 55 cases of legionnaires' disease including ten deaths have been diagnosed associated with an outbreak in southeast Norway [1,2]. The mean age of patients is 69 years, the median 66 years. All of the patients are Norwegian residents; 33 are men and 22 are women. The last case was in a patient who fell ill on 25 May.

The outbreak investigation included:

1. A population-based retrospective cohort study where the exposure was the location of the cases' residence in relation to several potential sources, and the outcome was legionnaires' disease.
2. A comparison of patient and environmental samples by restriction fragment length polymorphisms (RFLP) and random amplification of polymorphic DNA (RAPD) methods.

Both approaches indicated the same source, an air scrubber in a lignin production plant. The scrubber cleans particles in the air used in the production process by exposing it to a strong counterflow of water. The water in the scrubber has a high organic content and is circulated by a pump. A continuous input of fresh water helps to keep the dry-matter level constant and replace water lost as aerosol. The scrubber operates at 40°C and expels more than 4 cubic metres of water/hour as aerosol, with an airflow of 60 000 cubic metres/hour and velocity of about 20 metres/second. The tank of the scrubber was routinely cleaned with high-pressure hot water every 3-4 weeks, but no disinfection was used. The pump and pipes had not been manually cleaned.

The scrubber has been closed and there are no risks to tourists visiting the area or to other parts of Norway.

A risk assessment of air scrubbers regarding conditions facilitating legionella growth (such as temperature and biofilm formation) must be done when investigating outbreaks of legionellosis.

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Tickborne encephalitis outbreak in Estonia linked to raw goat milk, May-June 2005

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In May and June 2005, 27 cases of tickborne encephalitis (TBE) were reported to the Estonia's Tervisekaitseinspektsioon (Health Protection Inspectorate). All the cases occurred in two administrative territories: Tallinn city and Harju county. Of the 27 patients was 15 were female and 12 were male, and their ages ranged between four and 69 years.

The dates of symptom onset ranged from 9 May to 1 June. Fifteen patients had influenza-like symptoms (fever and/or headache); four patients reported vomiting and eight patients were admitted to hospital with neurological symptoms.

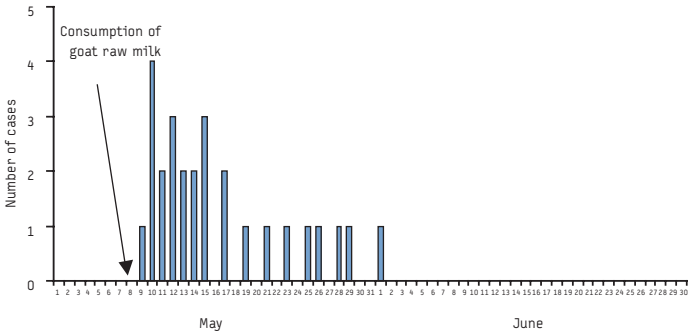
A total of 24 patients were admitted to hospital. All clinical cases were laboratory confirmed, and no deaths have been reported. None of the patients had been vaccinated against TBE, and none of them reported being bitten by ticks before symptom onset.

Based on the results of the descriptive epidemiological investigation all cases were associated with consumption of raw (unpasteurised) goat milk that had been offered to customers to taste at a supermarket in Tallinn on 7 and 8 May 2005 as part of promotion.

Serum specimens of 5 goats from the private breeding farm that supplied the milk were investigated for TBE virus neutralisation by the virology department of Smittskyddsinstitutet (the Swedish Institute for Infectious Disease Control) in Stockholm, Sweden. The results showed that one goat was clearly positive for TBE infection, and one goat showed borderline neutralisation.

Figure

Epidemic curve of the tickborne encephalitis outbreak linked to raw goat milk, Estonia, May – June 2005.



Discussion

Information about the outbreak was disseminated to ministries of health and public health institutes throughout Europe via the Early Warning and Response System (EWRS), in order to seek information on TBE cases in tourists who may have visited a supermarket in Tallinn and tasted raw goat milk. No additional cases in other countries have yet been identified.

Other recent outbreaks of tickborne encephalitis associated with the consumption of raw goat and cow milk notified in Estonia include:

- 1990: household outbreak involving 3 family members.
- 1992: outbreak involving 10 military recruits.
- 2004: household outbreak involving 3 family members and one guest.

The milkborne route of transmission for TBE infection has been recognised since at least the 1950s [1-4].

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