

LEGIONNAIRES' DISEASE, CRUISE SHIP - EUROPE: SUSPECTED, REQUEST FOR INFORMATION

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A ProMED-mail post <<http://www.promedmail.org>>

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<[http://www.adfero.co.uk/news/news/health/five-britons-hospitalised-in-ship-disease-outbreak-\\$1115928.htm](http://www.adfero.co.uk/news/news/health/five-britons-hospitalised-in-ship-disease-outbreak-$1115928.htm)>

Britons hospitalised in ship disease outbreak

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There are fears of an outbreak of Legionnaires' disease on a cruise ship after 6 passengers fell ill. At least 6 people, including 5 Britons, have been admitted to hospital in Sweden after falling ill on a 17-day cruise of Europe.

The Black Watch ship, owned by Fred Olsen Cruise Lines, is cutting its trip short as a precautionary measure. Swedish disease specialist Jerker Jonsson said the patients were "in [a] stable condition," adding that this was "probably a case of Legionnaires'disease."

The BBC reports that Swedish officials have tested water samples on the ship as part of their investigations into the outbreak of the disease. A spokeswoman for Fred Olsen Cruise Lines said passengers were experiencing "pneumonia-like symptoms."

"It is important to remember that we do not know what the infection is, nor do we know how it was contracted," she added. The spokeswoman said the ship will be thoroughly cleaned and disinfected upon its return to port.

Legionnaires' disease can cause pneumonia and its symptoms are similar to those of the flu. It can be treated with antibiotics.

Communicated by:

ProMED-mail Rapporteur Joseph P. Dudley

[Patients on a cruise ship in Europe were said to have "pneumonia-like symptoms" in the above news release; however the exact etiology has not as yet been determined, although legionnaires' disease is suspected. The diagnosis of legionnaires' disease requires detection of Legionella in respiratory tract secretions by culture or by use of fluorescent antibody; use of Legionella serology; detection of Legionella pneumophila serogroup I urinary antigen, or detection of Legionella DNA by polymerase chain reaction in respiratory secretions.

Cruise ships have been associated with legionnaires' disease in the past. *Legionella* are water organisms. Warm water, for example in water heaters or warm water plumbing systems, at temperatures of 25-40 degrees centigrade (77-104 degrees F) supports the highest concentrations of the organism. Usually the disease is acquired by inhalation by a susceptible person of an infectious dose of the aerosolized organisms. Aerosols can be generated by air conditioning systems, shower heads, whirlpool spas, or water misters. Person-to-person transmission is not known to occur. - Mod.ML]

LEGIONNAIRES' DISEASE, CRUISE SHIP - EUROPE (02)

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A ProMED-mail post <<http://www.promedmail.org>>

Date: Thu 2 Aug 2007

From: Birgitta de Jong [edited]

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Suspected Legionnaires' disease on cruise ship

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On Fri 27 Jul 2007 the Department of Communicable Disease Control and Prevention, Stockholm County Council was informed by one of the infectious diseases hospitals in Stockholm, Sweden, that 3 females from a cruise ship had been hospitalised due to severe pneumonia. The chest X-rays from each of them showed bilateral infiltrates. Based on this information the Stockholm Environmental Health Office was asked to make contact with the ship.

This contact was established and the ship was offered help with sampling for Legionella bacteria from the environment on the ship. A total of 13 water samples and 5 swabs samples were collected during the same day. It was later revealed that 2 more persons were hospitalised in another infectious diseases hospital in Stockholm. One had X-ray verified pneumonia and the other had an exacerbation of COPD [chronic obstructive pulmonary disease], but no pulmonary infiltrates on chest X-ray. Both were discharged on 30 Jul 2007.

The cruise ship left Stockholm on Saturday morning 28 Jul 2007 and returned directly to Dover, UK. More actions have been taken in the UK. Urinary antigen tests from one of the 4 pneumonia patients showed a borderline positive result. PCR on sputum samples from 2 of the 4 were positive for Legionella, one whom also had the borderline positive urinary antigen test.

The water samples showed very low amounts of *L. pneumophila* (10cfu/L) and no Legionella bacteria were detected in the swab samples. However the final laboratory results will be available next week [6-10 Aug 2007].

To conclude there were 4 persons with clinical and radiological symptoms compatible with legionellosis. Of those 4, 2 had PCR positive sputum for Legionella, one of whom also had a positive urinary antigen test. All 4 responded rapidly to treatment directed against Legionella. Taken together with the fact that *L. pneumophila* were detected in low amounts in water samples from the cruise ship it indicates that transmission of Legionella may have occurred in the ship. Further microbiological analyses are needed to confirm this suspicion.

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[We thank Dr. de Jong for her detailed report. Legionella are frequently difficult to culture from environmental water sources. Concentrations of this fastidious organism may vary because of factors such as water temperature and dispersion of the biofilm in which the organism is embedded. It would be helpful if an epidemiologic investigation could suggest a link between the cases and a particular environmental water source. Molecular fingerprinting of the clinical and environmental isolates can then confirm the link. The positive urinary antigen assay from one of the patients suggests that Legionella pneumophila serogroup 1 is involved. Although the exact dates for exposure are not given, with an incubation period usually of up to 10 days (and longer in some outbreaks) more cases of legionnaires' disease are still possible. A discussion of detection and control of Legionella in environmental sources is found at:

<[http://www.osha.gov/dts/osta/otm/otm\\_iii/otm\\_iii\\_7.html](http://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_7.html)>. - Mod.ML]