Date: Fri, 17 May 2002 00:21:44 -0400 (EDT)
From: ProMED-mail <promed@promed.isid.harvard.edu>
Subject: PRO/EDR> Legionellosis - Update

LEGIONELLOSIS - UPDATE
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A ProMED-mail post
<http://www.promedmail.org>
Pro-MED-mail, a program of the International Society for Infectious Diseases
<http://www.isid.org>

[As legionellosis has been increasingly identified and reported in outbreaks world-wide (notice the very abridged version of prior ProMED-mail postings in our "see also" reference section below), we have decided to embark upon periodic legionellosis updates. We will still continue to post alerts for special circumstances, such as identification of an outbreak involving large populations with a potential common exposure such as the outbreak associated with the aquarium in Australia (2000) and the outbreak associated with the flower show in the Netherlands (1999). - Mod.MPP]

[1] USA (Tennessee)
[2] Australia (Victoria)

[1]
Date: Fri 10 May 2002
From: ProMED-mail <promed@promedmail.org>
Source: The Tennessean [edited]

Pontiac Fever in Tennessee

The CDC confirmed what Metro Health Department officials suspected, that about 100 patrons who got sick after dining at [a Cafe in a local] shopping mall came down with Pontiac fever.

The ailment is a mild infection caused by Legionella bacteria found in water. It is different from classical Legionnaires' disease because is causes an influenza-like illness and not pneumonia. It was first identified in Pontiac, Michigan. Legionella bacteria are spread by breathing contaminated water mist from devices like cooling systems, showers, and faucets.

Metro health officials had suspected that a water misting system in the restaurant made the customers sick after food and person-to-person spread from employees were both ruled out. After dining at the restaurant on the weekend of 19 Apr 2002, 24-30 patrons initially complained of low-grade fever, body aches, and headaches. After reports of the problem became known by the public, the number of complaints rose to about 100.

The CDC on 9 May 2002 confirmed that the Legionella bacterium was present in water samples taken from the restaurant's misting system, Metro Health Department spokesman Brian Todd said. Earlier state tests were negative for the bacterium, but Todd said that a different water sample was used.

Metro shut down the restaurant's misting system and is now developing a plan to flush out the system and clean it, Todd said. Once it is free of bacteria, officials will give permission to turn it back on. The department plans to routinely test the system in the future, Todd said.

[The corporation owning the involved cafe], had been cleaning the water system using chlorine to kill bacteria [no longer recommended see below - Mod.LL] and were puzzled why that did not work.
[Byline: Sheila Burke]

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[2] Australia (Victoria)
Date: 10 May 2002
From: ProMED-mail <promed@promedmail.org>
Source: News.com [edited]
<http://www.news.com.au/common/story_page/0,4057,4294559%255E421,00.html>

Legionnaires' outbreak in Victoria

Health authorities have reported another outbreak of Legionnaires' disease in Melbourne, announcing 3 men had been hospitalized with the potentially fatal infection.

Victorian acting chief health officer John Carnie said the men, aged 55, 75, and 84, contracted the disease after visiting suburban Moonee Ponds in late April and early May 2002. Dr Carnie said 2 of the men remain hospitalized, one in intensive care, while the third was recovering at home.

Air conditioning cooling towers in Moonee Ponds Junction have been inspected, tested , and disinfected to destroy any Legionella bacteria which may be present.

After announcing the latest scare, Dr Carnie called for calm."Despite these cases there is no reason for people not to attend events in the area or go about their normal business," he said in a statement. However, Dr Carnie said workers, visitors or residents of Moonee Ponds who had suffered persistent flu-like symptoms over the past 2 weeks should seek medical attention.

Dr Carnie said the possible link between the latest cases had not been made until 10 May 2002 when the third case was reported.

In Victoria this year there has been 48 cases of Legionnaires' disease, including 5 cases contracted from a cooling tower system of an inner-city building that houses a police station and a backpackers' inn. Over the same period last there were 51 cases.
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[Background information on legionellosis can be found on the CDC website and GIDEON (The Global Infectious Disease and Epidemiology Network). Legionellosis is an infection caused by the bacterium Legionella pneumophila. The disease has 2 distinct forms: Legionnaires' disease, the more severe form of infection which includes pneumonia, and Pontiac fever, a milder illness. Legionnaires' disease acquired its name in 1976 when an outbreak of pneumonia occurred among persons attending a convention of the American Legion in Philadelphia. The etiologic agent is Legionella pneumophila and other Legionella species. At least 43 species and 65 serogroups have been identified. L.pneumophila, an ubiquitous aquatic organism that thrives in warm environments (32-45 degrees C) causes over 90 percent of legionellosis in the United States. Transmission is from inhalation of contaminated aerosols from devices such as cooling towers, showers, and faucets, and aspiration of contaminated water. Person-to-person transmission does not occur. Identified high risk groups for severe illness include the elderly, cigarette smokers, persons with chronic lung or immunocompromising disease, and persons on immunosuppressive drugs.
<http://www.cdc.gov/ncidod/dbmd/diseaseinfo/legionellosis_g.htm> and
<http://www.cdc.gov/ncidod/dbmd/diseaseinfo/legionellosis_t.htm>

Legionellosis is often acquired in proximity to central air conditioning, building construction, saunas, whirlpools, etc during summer or warmer months. Cases are reported worldwide, and account for 1-5 percent of community-acquired pneumonia. Community outbreaks have most commonly been associated with aerosolization from contaminated cooling towers.

1242 cases were reported for Europe in 1993; 1161 in 1994. 1255 cases were reported by 24 countries in 1995 (including 22 outbreaks or clusters) - 96 percent of isolates were characterized as Legionella pneumophila (79 percent of these serogroup 1 and 4 percent serogroup 3). 1563 cases were reported in 1996; 1360 in 1997 (64.2 percent serogroup 1); 1442 in 1998 (including 32 outbreaks or clusters); 2136 in 1999 (including 32 outbreaks or clusters).

Approximately 20 of over 40 Legionella species are found in man - but the vast majority of infections are caused by L. pneumophila (notably groups 1 and 6) and L. micdadei. Pontiac fever (caused by L. anisa, L. micdadei, L. feeleii and L. pneumophila serogroup 1) is characterized by epidemics of mild 'flu-like' illness without pneumonia. GIDEON (The Global Infectious Disease and Epidemiology Network)
<http://www.GideonOnline.com>

The cluster of 3 cases of legionellosis in Melbourne reported in this posting is a different cluster of cases from that reported in the ProMED-mail posting in April 2002 (Legionellosis - Australia (Melbourne): alert 20020417.3977). In both instances, the health authorities identified distinct neighborhoods where the cases had presumed exposure to the causative legionella sp. organism.

Now that misting of salad bars and grocery produce sections has become vogue (at least in the southeastern USA states from personal anecdotal observation), one wonders how many outbreaks of Pontiac fever may have gone undetected, as most people (and their physicians) do not usually associate a mild flu-like syndrome (fever, myalgia and headache) with the meal they may have eaten out several days earlier, or shopping at their local supermarket.

1: Gotz HM, Tegnell A, De Jong B, Broholm KA, Kuusi M, Kallings I, Ekdahl K. A whirlpool associated outbreak of Pontiac fever at a hotel in Northern Sweden. Epidemiol Infect. 2001 Apr;126(2):241-7.

2: Fenstersheib MD, Miller M, Diggins C, Liska S, Detwiler L, Werner SB, Lindquist D, Thacker WL, Benson RF. Outbreak of Pontiac fever due to Legionella anisa. Lancet. 1990 Jul 7;336(8706):35-7.

3: Friedman S, Spitalny K, Barbaree J, Faur Y, McKinney R. Pontiac fever outbreak associated with a cooling tower. Am J Public Health. 1987 May;77(5):568-72.

4: Kaufmann AF, McDade JE, Patton CM, Bennett JV, Skaliy P, Feeley JC, Anderson DC, Potter ME, Newhouse VF, Gregg MB, Brachman PS. Pontiac fever: isolation of the etiologic agent (Legionella pneumophilia) and demonstration of its mode of transmission. Am J Epidemiol. 1981 Sep;114(3):337-47. - Mod.MPP]

[Without appropriate molecular epidemiologic tools, it is not always correct to assume that if Legionella is isolated from a water system, cases of the disease found near the water must be linked to the water. It is common that if one searches for Legionella in the environment, it will be found. Mist machines have been associated with this infection in the past (Ref. 1). According to Yu (Ref. 2), the use of chlorination of water to disinfect a water source is no longer recommended because the organism is relatively chlorine-tolerant and breakthroughs occur. A copper-silver ionization appears effective and provides residual protection throughout the system as well (Ref. 3). Superheating the water to at least 60 degrees C for several days and flushing distally for 30 minutes can be useful for urgent disinfection but can be logistically difficult.

1. Mahoney FJ, Hoge CW, Farley TA, et al: Community-wide outbreak of legionnaire's disease associated with a grocery store mist machine J Infect Dis 1992; 165: 736-739.

2. Yu VL: Legionella pneumophila (Legionnaires' disease). In: Principles and Practice of Infectious Diseases, (5th ed) Mandell GL, Bennett JE, Dolin R (eds) Churchill Livingstone, Philadelphia, 2000, 2424-35.

3. Stout JE, Lin YSE, Goetz AM, Muder RR: Controlling Legionella in hospital water systems: experience with the superheat-and-flush method and copper-silver ionization. Infect Control Hosp Epidemiol 1998; 19: 911-14. -
Mod.LL]

[see also:
Legionellosis - Australia (Melbourne): alert 20020417.3977
2001

Legionellosis - Norway 20010831.2076
Legionellosis - Spain (Pamplona) 20010815.1929
Legionellosis - Spain (Murcia) 20010710.1331
Legionellosis - Austria ex Croatia 20010701.1253
Legionellosis - UK (London): alert 20010630.1249
Legionellosis, automobile plant - USA (Ohio) 20010315.0531
2000

Legionellosis, potting soil - USA: May-Jun 2000 20000904.1503
Legionellosis, public bath - Japan (Ibaraki) 20000628.1069
Legionellosis - Australia (Melbourne) 20000328.0451
Legionellosis - France (Paris) 20001230.2300
Legionellosis - France (Rennes) 20001222.2256
Legionellosis - New Zealand, UK, ex Australia 20000503.0673
Legionellosis - Spain (Barcelona) 20001116.2005
Legionellosis - Spain (Vigo, Arbizu) 20001018.1796
Legionellosis - Spain: 2000 20001209.2163
1999

Legionella advisory, spa - Netherlands 19990404.0546
Legionellosis, flower show - Netherlands: RFI 19990315.0384
Legionellosis, imported - Thailand 19990320.0442
Legionellosis, trade fair - Belgium: alert 19991114.2028
Legionellosis - Australia 19990801.1309
Legionellosis - Australia (Victoria) 19990801.1310
Legionellosis - France 19990921.1687
Legionellosis - Italy (Turin, Milan) 19990730.1290
Legionellosis - Singapore 19991024.1913
Legionellosis - Spain (Benidorm) 19990128.0128
Legionellosis - Spain (Guipuzcoa) 19990604.0934
Legionellosis - UK (Wales) 19990122.0104
Legionellosis - UK ex Thailand 19990422.0673
Legionellosis - USA (Illinois) 19990322.0457
Legionellosis - USA (Maryland) 19990709.1142
Legionellosis - USA (Pennsylvania) 19990918.1675]

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