

# Two linked cases of legionella with an unusual industrial source

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## Two linked cases of legionellosis with an unusual industrial source

MJA 2005; 183 (9): 491-492

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TO THE EDITOR: A 23-year-old man presented to a Victorian hospital with a 4-day history of fever, rigors, confusion and malaise. A chest x-ray showed left lower-lobe pneumonia, and *Legionella pneumophila* serogroup 1 antigen was detected in his urine. No respiratory specimens were obtained. He recovered completely after treatment for community-acquired pneumonia, including intravenous ampicillin and oral roxithromycin, and returned to work 16 days after onset.

Investigations for the source of the infection included environmental review and sampling of cooling towers near his workplace, home, and other sites visited during the incubation period.

Active workplace surveillance prompted testing for and detection of *L. pneumophila* serogroup 1 urinary antigen in a second employee, a 53-year-old man who had presented 2 days earlier than the patient above to another Victorian hospital with fever, abdominal pain and diarrhoea. Legionellosis was not suspected on presentation. He had no symptoms, signs or radiological evidence of pneumonia. Treatment, including intravenous

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ampicillin and oral roxithromycin, began when the antigen result was obtained, and he was discharged after 10 days in hospital, although he felt unwell for 2 or 3 weeks after discharge.

The two men worked near each other in a welding area. A water tank was placed at the entrance to the area, with the cover left open. This acted as a heat exchange for the welding cooling system. A high count of *L. pneumophila* serogroup 1 (1300 colony-forming units/mL) was grown from a sample of this water. It was common on hot days to cool the work place with an industrial fan. The open water tank was between the fan and the two employees during the incubation period. No *L. pneumophila* isolates were found in any linked cooling towers.

Remedial action included commencing a disinfection program for the water reservoir, and a request to fit the cover correctly and move the fan. No further cases were detected. Because no clinical isolates were obtained, a direct subtype match between clinical and environmental specimens was not possible. Urine antigens are considered definitive laboratory tests given a compatible illness (fever or cough or pneumonia).<sup>1</sup>

Outbreaks of Legionnaire's disease and Pontiac fever (legionellosis without pneumonia) with industrial sources other than cooling towers have been reported.<sup>2,3</sup> This outbreak demonstrates that a simple change in the environment (adding a fan) and an apparently low-risk source (a warm water bath) have the potential to give rise to significant disease. It also shows the value of active workplace surveillance after a single case.

1. Communicable Diseases Network Australia. Legionellosis case definition. Available at:

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[http://www.health.gov.au/internet/wcms/publishing.nsf/Content/cda-surveil-nndss-casedefs-cd\\_legion.htm](http://www.health.gov.au/internet/wcms/publishing.nsf/Content/cda-surveil-nndss-casedefs-cd_legion.htm) (accessed Aug 2005).

2. Allan T, Horgan T, Scaife H, et al. Outbreak of Legionnaires' disease among automotive plant workers — Ohio, 2001. *MMWR Morb Mortal Wkly Rep* 2001; 50: 357-359. <PubMed>
3. Castor ML, Wagstrom EA, Danila RN, et al. An outbreak of Pontiac fever with respiratory distress among workers performing high-pressure cleaning at a sugar-beet processing plant. *J Infect Dis* 2005; 191: 1530-1537. <PubMed>