Consideration of Prophylactic Antibiotic Therapy During an Outbreak of Legionnaires’ Disease

To the Editor—Legionnaires’ disease is becoming a rapidly increasing public health problem in the United States, with the number of reported cases of legionellosis more than tripling since 2000 [1, 2]. Legionellosis, including Legionnaires’ disease, is typically caused by exposure to aerosolized water contaminated with high levels of *Legionella* bacteria. The incubation period for Legionnaires’ disease, the more serious form of legionellosis, is 2–10 days; the mortality rate is estimated to be 5%–30%. More serious illness is likely to occur in those who are elderly, immunosuppressed, or who otherwise have a compromised health status [3]. It is generally recognized that the earlier treatment is begun, the better the outcome [4]. Investigation of outbreaks has largely been focused on determining the source of exposure and remediating the implicated water system. In outbreak settings, relatively little consideration has been given to the potential usefulness of prophylactic therapy for individuals who have likely been exposed to aerosols contaminated with *Legionella* and are possibly in the incubation phase of Legionnaires’ disease.

Reports of outbreaks in institutional, workplace, and residential settings, where illness occurred following recognition of the outbreak, highlight the need to consider the potential usefulness of prophylactic therapy [5–7]. On 9 July 2013, Ohio public health authorities were notified of 2 cases of Legionnaires’ disease linked to a retirement facility in Reynoldsburg. A full investigation was initiated and measures were taken to prevent further exposure. In total, 39 cases were diagnosed between 8 July and 26 July, with the majority of cases diagnosed in the 2 weeks following recognition of the outbreak. Thirty of the 39 cases (77%) and all 6 deaths associated with this outbreak occurred among facility residents (T. Pollock, Ohio Department of Health, written communication, 27 August 2013).

Would prophylactic therapy have diminished the morbidity and/or mortality associated with the outbreak in Ohio or other Legionnaires’ disease outbreaks? There is some precedent for successful use of antimicrobial therapy as prophylaxis for Legionnaires’ disease in healthcare settings, primarily in transplant
units [8–11]. In addition, there is precedent for prophylactic therapy following potential environmental exposures to other infectious agents. During the 2001 anthrax outbreak in the United States, prophylaxis was considered and liberally offered to individuals who were potentially exposed [12].

Consideration should be given to the possible usefulness of antibiotics for prophylaxis after recognition of a legionellosis outbreak. A cluster of cases linked closely in space and time may offer a greater opportunity for prophylactic therapy following recognition of a legionellosis outbreak in a larger, more geographically dispersed population. The benefits and risks of offering such therapy must be considered, as prophylaxis with antibiotics, such as fluoroquinolones, is not without hazard [13].

Of note, recognized outbreaks account for only a small percentage of cases. A high public health priority should be the development of an evidence base for more effective public health policy for primary prevention of legionellosis resulting from contaminated water systems.

**Note**

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