KEY POINT SUMMARY

OBJECTIVES

This article aimed to suggest management approaches for Legionnaires' disease and strategies for prevention by conducting a review of the current literature on Legionnaires' disease in long-term care facilities.

DESIGN IMPLICATIONS

Environmental surveillance of Legionella in long-term care facilities should be performed annually and positive surveillance cultures for Legionella in the potable water should lead physicians caring for long-term care residents to entertain a high degree of suspicion for legionellosis. As a designer and an architect, it is important to think through how facility design can support the process of environmental surveillance of Legionella and reduce the prevalence of Legionella in long-term care facilities.

Legionnaires' Disease in Long-Term Care Facilities: Overview and Proposed Solutions

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Key Concepts/Context

Legionnaires' disease is a notable problem in acute care settings. Legionnaires' disease has been shown to be an important cause of community- and hospital-acquired pneumonia. In hospitals with Legionella colonization of the water systems, hospital-acquired legionellosis is frequently endemic, accounting for 10% to 40% of hospital-acquired pneumonias. Legionnaires' disease also accounts for 2% to 15% of community-acquired pneumonia. In contrast, the incidence of Legionnaires' disease in long-term care residents is not clearly delineated.

Methods

This study reviewed the current literature on Legionnaires' disease in long-term care facilities.

Findings

Given that negative publicity and the possibility of litigation have sometimes accompanied identification of cases of Legionnaires' disease within a healthcare facility, some medical directors and administrations may be reluctant to undertake active surveillance for environmental Legionella or for cases of Legionnaires' disease. Nevertheless, concern for patient safety should be the primary driver of the development and adoption of effective guidelines for prevention of infection in long-term care facilities.

Based on this review, the following approach for prevention and management of Legionnaires' disease in long-term care facilities is offered. Environmental surveillance of Legionella in long-term care facilities should be performed annually.
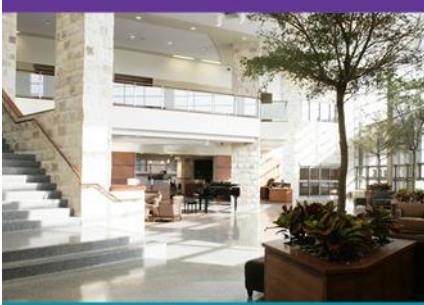
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If environmental surveillance shows the presence of L. pneumophila serogroup 1, then the urinary Legionella antigen test, a simple yet sensitive test for diagnosis of pneumonia due to L. pneumophila serogroup 1, should be available in-house for use by long-term care facilities. Positive surveillance cultures for Legionella in the potable water should lead physicians caring for long-term care residents to entertain a high degree of suspicion for legionellosis. In pneumonias of undiagnosed etiology, a quinolone or macrolide should be added for anti-Legionella activity, and sputum when available should be sent for culture and DFA. Disinfection of the water supply should not be instituted automatically upon discovery of Legionella in environmental cultures. It may be cost-effective to focus on early diagnosis and specific antimicrobial therapy in facilities colonized with Legionella. If clinical and laboratory surveillance for legionellosis demonstrates multiple cases and high levels of colonization of the water system, one would have the option of installing a disinfection system to eradicate the organism.

Limitations

No limitations were listed in the article.