

Do you harvest what you sow?

Keywords - legionella, lung injury, respiratory failure, legionella antigen, legionella test

Diagnosis

The patient had a *Legionella* pneumonia despite a negative urine analysis for *Legionella* antigen. We cultured *Legionella longbeachae* from the bronchoalveolar lavage. Treatment was therefore switched to ciprofloxacin.

The predominant pathogen found in legionellosis patients in the Netherlands is *Legionella pneumophila* (>90%), often found in water reservoirs and mainly distributed by inhalation of aerosols. A recent study by Peci et al. showed that the sensitivity of *Legionella* urinary antigen testing compared with culture was 87% with a specificity of 94.7%, and a sensitivity of 74.7% and specificity of 98.3% compared with PCR.^[1] However, the urinary antigen test only detects the predominant *Legionella pneumophila* serogroup 1.

Legionella longbeachae pneumonia was first isolated in Long Beach, California. It is one of the main pathogens found in legionellosis in New Zealand, Australia and Thailand, and is found in garden soils and compost.^[2]

As our patient's travel history, with a sauna visit abroad, was suspect for *Legionella pneumophila* pneumonia, we started treatment for potential atypical pneumonia at presentation.

The finding of *Legionella longbeachae* prompted us to look further into his history, which revealed that he used potting soil to develop a vegetable patch at home in the weeks prior to his hospital admission. The patient's potting soil was cultured as well; however, no *Legionella longbeachae* could be detected.

As his fever persisted, we switched ciprofloxacin to levofloxacin on day seven. Two days later he was extubated successfully. He was transferred to the medical ward and discharged from the hospital within a week.

Conclusion

A negative urine analysis does not rule out *Legionella* pneumonia. In suspected cases, empirical *Legionella* treatment should be continued until culture results are negative.

References

1. Peci A, Winter AL, Gubbay JB. Evaluation and Comparison of Multiple Test Methods, Including Real-time PCR, for Legionella Detection in Clinical Specimens. *Front Public Health*. 2016;4:175.
2. van Heijnsbergen E, Schalk JA, Euser SM, Brandsema PS, den Boer JW, de Roda Husman AM. Confirmed and Potential Sources of Legionella Reviewed. *Environ Sci Technol*. 2015;49:4797-815.