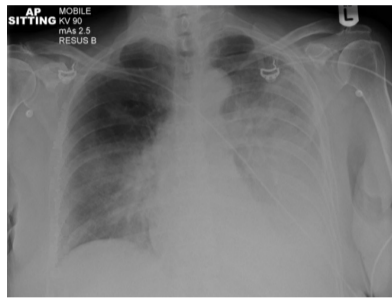
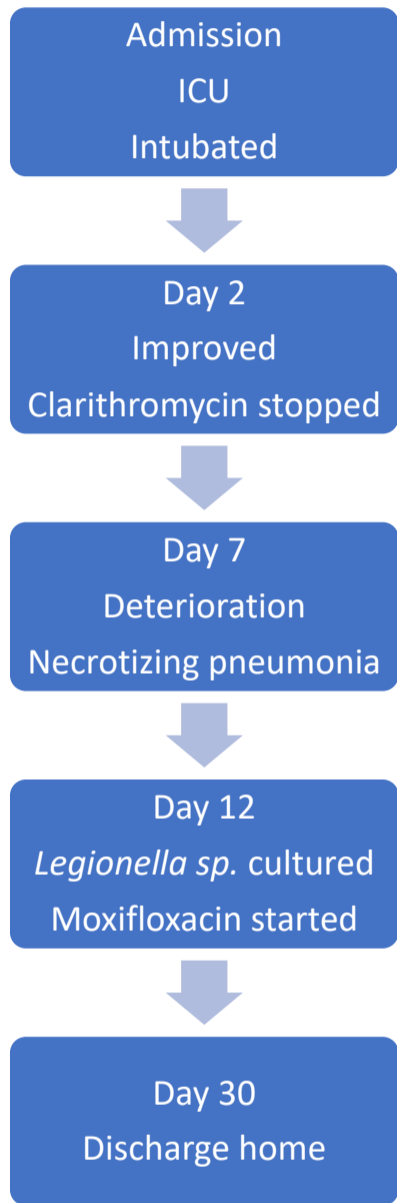


Compost and Charcoal Culture in a Challenging Case of Legionnaires Disease

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Case Summary

A previously healthy 69 year old keen gardener presented with 5 days of dry cough and fever. She was diagnosed with severe community acquired pneumonia and admitted directly to intensive care. She deteriorated over the following week developing multiorgan failure. 2 weeks into admission, BAL cultures grew *Legionella longbeachae* on Buffered Charcoal Yeast agar (BCYE). Treated with Moxifloxacin and was discharged home 3 weeks later.



Diagnostics negative Including: Urinary Legionella antigen x3, Respiratory PCR, BAL VAP PCR and MCS.

Legionella longbeachae Overview

- Fastidious, intracellular, gram negative rod.
- One of >50 species of the Legionellaceae family.
- First reported 1980 in Long Beach, California, USA.
- Associated with compost and soil exposure.
- In Australasia, causes up to 50% of Legionnaires cases.
- In Europe, rare (<1%) but cases are rising.

Compost and Climate Change

Legionella longbeachae is associated with non peat based compost, used more widely in Australasia than in Europe.

EU climate change directives to:




- 1) reduce peat use by 2030 and
- 2) increase composting of green waste will likely result in more cases of *L. longbeachae* infection.

Public health measures like those in Australia may be introduced to increase awareness.



Diagnostic Challenges

Likely underreporting of non *L. pneumophila* sg 1 cases due to challenges obtaining deep resp samples and specific diagnostic media needed. Novel UATs targeting non serogroup 1 antigens are being evaluated.

	 Urinary Antigen Test (UAT)	 Culture (BCYE Agar)	 Resp PCR
Strains detected	<i>L. pneumophila</i> sg1	All species	Variable per assay
Time to result	< 1 hour	3-8 days	1-2 hours
Sensitivity	70-80%	20-80%	95-99%
Specificity	99%	100%	>99%
Sample	Urine	Lower Resp tract (BAL/sputum)	Lower Resp tract (BAL/sputum)