



Pick Your Poison: Legionella Pneumonia

Legionella spp are a common cause of community acquired pneumonia (CAP).¹ When identified, antibiotic options include macrolides, fluoroquinolones, and tetracyclines. So, when it comes to treating Legionella pneumonia, how do you pick your poison?

Antibiotic Considerations

Efficacy, safety, and antimicrobial stewardship should be considered along with patient specific characteristics when choosing antibiotic treatment for Legionella pneumonia.

	Macrolides	Fluoroquinolones	Tetracyclines
Antibiotic options	Azithromycin, clarithromycin	Levofloxacin, ciprofloxacin, moxifloxacin	Doxycycline, minocycline, tetracycline
Efficacy	No randomized controlled trials exist. Data is conflicting on comparative efficacy between quinolones (primarily levofloxacin) and macrolides. Similar outcomes ² , worse outcomes with macrolides ³ , and worse outcomes with quinolones ⁴ have all been demonstrated.		Limited clinical data, but doxycycline is listed as an alternative empiric option as part of combination therapy for hospitalized CAP patients in 2019 ATS/IDSA guidelines. ¹ <i>L. longbeachae</i> (uncommon species in United States) is typically resistant to tetracyclines ^{5, 6}
Safety ⁷⁻⁹	<ul style="list-style-type: none"> • Moderate risk for <i>C. difficile</i> infection • QTc prolongation • Gastrointestinal side effects • Drug-drug interactions (more with clarithromycin) 	<ul style="list-style-type: none"> • High risk for <i>C. difficile</i> infection FDA warnings: <ul style="list-style-type: none"> • Tendonitis and tendon rupture • Peripheral neuropathy • Central nervous system effects • QTc prolongation • Aortic aneurysm rupture 	<ul style="list-style-type: none"> • Low risk for <i>C. difficile</i> infection • Esophageal injury • Photosensitivity
Antimicrobial stewardship		Broad spectrum: Levofloxacin and ciprofloxacin are the only oral antibiotics with anti-pseudomonal activity	

Key Takeaway: Primary treatment for Legionella pneumonia is azithromycin or levofloxacin. Preference of azithromycin over levofloxacin can preserve *Pseudomonas* spp activity and provide a favorable safety profile.

References:

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