The Role of Empiric Antibiotics in COVID-19 Pneumonia

Clinical Considerations

Natural course of COVID can include:

Persistent fever (10+ days)

Worsening of symptoms around Day 7-10 from progression of viral illness

Superimposed bacterial co-infections are uncommon in COVID-19 pneumonia

Bacterial co-infection rates only 3.5% at time of admission

Most bacterial co-infections occur post-admission

Hospital-acquired infections occurred in 14.3% of patients with COVID-19

Unnecessary antibiotic use is harmful

Can result in escalation to broader antibiotics if true bacterial infections arise during admission

*Empiric atypical coverage with **Azithromycin** is not routinely recommended*

Clin Microbiol Infect. 2020 Dec;26(12):1622-29.
Ontario COVID-10 Clinical Practice Guidelines.

Role of Antibacterial Management

Mild/Moderate Illness – Medical/COVID-19 Ward

Require no supplemental O_2 or low-flow O_2 via nasal prongs

Empiric antibiotic therapy not routinely recommended
Consider discontinuing antibiotics if currently prescribed

Critical Illness – ICU/CCRT Involvement

Require high-flow O_2 or AIRVO or mechanical ventilation

Bacterial co-infection is uncommon in COVID-19 pneumonia at the time of presentation

Do not initiate empiric antibiotics unless a superimposed bacterial infection is strongly suspected – consider the following circumstances

Radiographic evidence of superimposed bacterial pneumonia
Unilobar or unilateral focal infiltrate and lower respiratory tract symptoms

"Double sickening" presentation
Period of improvement followed by worsening lower respiratory tract symptoms, fever

If Antimicrobial Therapy Appropriate

Ceftriaxone 1 g IV q24h x 5 days
If anaphylaxis to beta-lactams – Levofloxacin 750 mg IV/PO q24h

Consider step down to oral beta-lactam therapy when clinically stable