

Chronic Obstructive Pulmonary Disease Exacerbations



Diagnosis

- Distinguishing chronic obstructive pulmonary disease (COPD) exacerbations and community-acquired pneumonia (CAP) in a patient with a known history of COPD can be challenging.
 - If the chest x ray does not show evidence of a new infiltrate, a COPD exacerbation is more likely.
- Antibiotics are recommended for **moderate to severe** COPD exacerbations.
 - Patients admitted for COPD exacerbations usually meet criteria for antibiotic treatment.
 - For outpatients, at least two of the following three symptoms are necessary to diagnose moderate to severe COPD: increased dyspnea, increased sputum volume, or increased sputum purulence.
- The most common bacteria associated with COPD exacerbations are *Haemophilus influenzae* and *Streptococcus pneumoniae*.
- *Pseudomonas* and *Enterobacteriaceae* are less common and observed in COPD patients with extensive antibiotic exposure.

Treatment

- Azithromycin 500 mg orally once daily for 3 days
 - Azithromycin has a long half-life; 3 days provides coverage for ~ 1 week
- If a patient has recently received azithromycin or is taking azithromycin prophylaxis, consider alternative agents for a 5-day course depending on risk factors for *Pseudomonas*
- Prophylactic antibiotics for patients with recurrent COPD exacerbations (at least two per year):
 - Modestly decreases the number of COPD exacerbations
 - Should only be considered in those who are already receiving maximized nonantibiotic options (e.g., bronchodilators, anti-inflammatory agents, anticholinergics).
 - The decision to initiate prophylaxis should be made on a case-by-case basis taking into account frequency of exacerbations, patient preferences, potential risk factors, potential azithromycin-related adverse events, and financial constraints, with input from the the patient's pulmonologist and/or primary care provider.
 - Recommended prophylactic regimens are azithromycin 250 mg orally daily or 250–500 mg three times a week.
 - Azithromycin use has been associated with QTc prolongation, and prolonged use has been associated with ototoxicity; appropriate monitoring should be implemented.

References

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