

Approaching Aspiration Events: Pneumonia or just aspiration pneumonitis?

Diagnosis¹

- Aspiration pneumonitis is an abrupt chemical injury caused by inhalation of sterile gastric contents.
 - It can progress quickly to a decline in respiratory status followed by rapid improvement within 48 hours of the insult.
 - Chest x rays appear similar to multifocal pneumonia.
- Patients with aspiration events are usually unlikely to produce significant sputum, making the utility of sputum cultures low.
 - Sputum Gram stain and cultures should be considered when the diagnosis is unclear, if purulent sputum is being produced, or if antibiotic treatment is initiated in a hemodynamically unstable patient.

Treatment

- **Hemodynamically stable patients with aspiration events**
 - Antibiotics are not warranted, and supportive care is the mainstay of therapy.¹
 - Prophylactic antibiotics have not been shown to be helpful in preventing the development of pneumonia after aspiration events.^{1,2}
- **Hemodynamically unstable patients with aspiration events**
 - **Anaerobic coverage is NOT necessary in the absence of the following:**
 - **Severe periodontal disease, necrotizing pneumonia, or lung abscess^{1,6}**
 - Treatment with regimens for community-acquired pneumonia (CAP) are recommended in most patients^a
 - Ampicillin-sulbactam is considered first-line based on non-inferiority to ceftriaxone and data suggesting it may be lower risk of *Clostridioides difficile* infection.^{1,3-6}
 - For patients with a history of severe penicillin allergy, ceftriaxone is preferred due to low-risk of cross-reactivity.
 - It is not necessary to add atypical coverage.
 - Reassess at 48 hours.
 - If clinical symptoms resolve, antibiotics can be discontinued.
 - If no or minimal improvement and bacterial pneumonia is suspected, treat for 5–7 days.⁶
- **Patients with aspiration events not treated initially with no improvement in 48–72 hours**
 - A proportion of patients (20–25%) may develop bacterial pneumonia 48–72 hours after an aspiration event.¹
 - If there is no improvement or there is clinical worsening within the first 48–72 hours, consider a course of antibiotic therapy (as above).

^a Coverage for MRSA and/or *Pseudomonas aeruginosa* may be considered in patients that either: 1). Had MRSA or *P. aeruginosa* isolated from respiratory cultures in the past year or 2). Received IV antibiotics during a hospital admission within past 90 days

1. Mandell LA, Niederman MS. Aspiration Pneumonia. *N Engl J Med*. 2019;380(7):651-63.
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 3. Kato H, et al. Comparison between Ceftriaxone and Sulbactam-Ampicillin as Initial Treatment of Community-Acquired Pneumonia: A Systematic Review and Meta-Analysis. *Antibiotics (Basel)*. 2022;11(10):1291.
 4. Hasegawa S, et al. Ceftriaxone versus ampicillin/sulbactam for the treatment of aspiration-associated pneumonia in adults. *J Comp Eff Res*. 2019; 8(15):1275-84.
 5. Webb BJ, et al. Antibiotic Exposure and Risk for Hospital-Associated *Clostridioides difficile* Infection. *Antimicrob Agents Chemother*. 2020;64(4):e02169-19.
 6. Metlay JP, et al. Diagnosis and Treatment of Adults with Community-acquired Pneumonia. An Official Clinical Practice Guideline of the American Thoracic Society and Infectious Diseases Society of America. *Am J Respir Crit Care Med*. 2019;200(7):e45-e67.