Refining the management of community-acquired pneumonia (CAP): the latest American Thoracic Society (ATS)-Infectious Diseases Society of America (IDSA) clinical practice guideline

Professor Ron Grossman, reviewing Metlay JP, *et al*. *Am J Respir Crit Care Med* 2019; **200**: e45–e67.

The 2019 ATS-IDSA clinical practice guideline for CAP includes key revised recommendations for empirical treatment strategies and other management decisions

Building on the widely accepted joint guideline on the management of community-acquired pneumonia (CAP) published in 2007 (1), the American Thoracic Society (ATS) and Infectious Diseases Society of America (IDSA) published a new clinical practice guideline for the diagnosis and treatment of CAP in adults in October 2019 (2). The key changes in the new guideline recommendations relate to diagnostic test utilisation and empiric antibiotic treatment options, accounting for drug-resistant pathogens, antimicrobial stewardship and the role of corticosteroids.

Diagnostic testing

- Inpatients with severe CAP empirically treated for methicillin-resistant *Staphylococcus aureus* (MRSA) or *Pseudomonas aeruginosa* should now have sputum and blood cultures routinely done.

Empirical antibiotic therapies

- In the outpatient setting, the use of macrolide monotherapy is now restricted to where local pneumococcal resistance to macrolides is <25%.
- Monotherapy with a β-lactam, e.g. amoxicillin, has been included as a first-line approach for adult outpatients without comorbidities.
- For severe CAP, both β-lactam + macrolide and β-lactam + respiratory fluoroquinolone combinations remain the treatments of choice, and the final choice of therapy should reflect a risk versus benefit assessment for the individual patient.

Drug-resistant pathogens

- The category of healthcare-associated pneumonia (HCAP), originally defined to predict those patients who had any one of several potential risk factors for antibiotic-resistant pathogens, has been abandoned.
- Provide empiric broad-spectrum antibiotic therapy to cover MRSA or *P. aeruginosa* only if the local epidemiology and validated risk factors suggest the presence of either pathogen.

Antimicrobial stewardship

- De-escalate to standard CAP therapy if microbiological tests do not show MRSA or *P. aeruginosa* in patients given initial empirical therapy covering these pathogens and the patient begins to show a clinical improvement within 48 hours.

Corticosteroids

- Corticosteroids are not recommended as part of routine care of patients with CAP, but may be considered in patients with refractory septic shock.

Comment

In refining and updating recommendations for the management of CAP, the new ATS-IDSA clinical practice guideline acknowledges that while pathogen-directed treatment is clearly preferable, the reality is that pathogen identification is too uncommon and antibiotic treatment strategies therefore remain largely empirical. Thus, the updated recommendations for empiric antibiotic therapy focus on the usual bacterial pathogens identified in CAP patients, with broader coverage recommended for outpatients with co-morbidities or inpatients, especially those with severe CAP. The choice of β-lactam monotherapy in the ambulatory care setting is debatable, because this therapeutic option essentially overlooks the role of atypical pathogens such as *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, and *Legionella* species. In this setting, the goal of therapy is reduction of the duration of illness not mortality reduction, and there is good evidence that atypical coverage will shorten the duration of illness among patients infected with atypical organisms; use of β-lactam monotherapy defeats that purpose. Abandoning the category of HCAP recognised that this definition did not usefully guide empirical antibiotic regimens covering multidrug-resistant bacteria. Finally, the new guidance emphasises that while adverse events have been reported for individual classes of antibiotics, such effects do not invalidate the existing evidence from randomised clinical trials that have demonstrated therapeutic equivalence across drug classes, although the potential impact of these on

treatment outcomes should always be considered. This is particularly important to allow empirical therapeutic approaches to be tailored to local infection control strategies.

References

1. Mandell LA, Wunderink RG, Anzueto A, *et al*., Infectious Diseases Society of America/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults. *Clin Infect Dis* 2007; **44**(Suppl 2): S27–S72.
2. Metlay JP, Waterer GW, Long AC, *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**: e45–e67.