Developing Local Treatment Guidelines for Healthcare-Associated Pneumonia

To the Editor—We read with interest the meta-analysis by Chalmers et al [1], which demonstrates that the healthcare-associated pneumonia (HCAP) definition poorly predicts the presence of resistant pathogens. Based on these findings, the authors encourage treatment for HCAP to be guided by the local prevalence of multidrug-resistant pathogens.

In hopes of constructing a local syndromic antibiogram specific to HCAP, we retrospectively identified inpatients treated for pneumonia at our facility, the Richard L. Roudebush VA Medical Center, between 1 January 2011 and 31 December 2012. The Roudebush center is a tertiary care facility that provides complete medical care for 85,000 adults in Indianapolis, Indiana. Potential cases were identified by the following International Classification of Diseases, Ninth Revision codes: 480.0–480.9, 481, 482.0–482.9, 483.0–483.8, 484.1–484.8, 485, 486, and 487. All medical records were reviewed, and only cases that met criteria for HCAP were selected for further analysis [2]. A total of 113 cases of HCAP were identified; 98% of patients were men, and the mean age was 71 years. Blood cultures were obtained in 103 patients (91%), sputum cultures in 47 (42%), and bronchoalveolar lavage specimens in 2 (2%). The sputum specimen was graded as good in 15 (32%), fair in 29 (62%), and poor in 3 (6%). At least 1 microbiologic pathogen was identified by either blood or respiratory samples in only 26 cases (23%). Enterobacteriaceae were isolated in 10 cases (38%), methicillin-susceptible Staphylococcus aureus in 5 (19%), Pseudomonas aeruginosa in 4 (15%), Streptococcus pneumoniae in 4 (15%), and methicillin-resistant S. aureus (MRSA) in 3 (12%).

Although we collected 2 years of data, our sample size of culture-positive cases (n = 26) was small. The culture-positive rate of 23% is similar to that in several other HCAP studies [3–7]. This low culture-positive rate may reflect both the difficulty of collecting sputum samples in nonventilated patients and the poor quality of the samples that were collected [8].

To augment our limited microbiologic data, we have also monitored clinical outcomes in patients who had no microbiologic
pathogen identified. Of the 87 patients with HCAP without a microbiologic diagnosis, 17 (20%) were entirely treated with a community-acquired pneumonia (CAP) antibiotic regimen, and in 33 (38%), treatment was deescalated within 3 days from a HCAP regimen to an empiric oral CAP regimen (eg, a respiratory fluoroquinolone) [9]. Of these 50 patients, 92% had a MRSA-negative nasal swab sample at admission, and 96% had no history of a multidrug-resistant infection. The mean duration of antibiotic treatment was 10 days. There was no statistically significant difference in the 30-day mortality rate (15% vs 6%; P = .24) or the 30-day readmission rate (29% vs 24%; P = .79) between culture-positive HCAP cases and culture-negative cases empirically treated as CAP.

We agree with Chalmers et al [1] that local microbiologic data will provide more meaningful guidance than a global HCAP definition. However, given the difficulty of establishing a microbiologic diagnosis in this patient population, local guidelines can also be informed by monitoring clinical outcomes in patients who meet the HCAP definition but are empirically treated as if they have CAP.

Note

Potential conflicts of interest. Both authors: No potential conflicts of interest.

Both authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

Daniel Livorsi1,2 and Mary Kathryn Eckerle3

1Department of Medicine, Richard L. Roudebush VA Medical Center; 2Division of Infectious Diseases, Indiana University School of Medicine, Indianapolis; and 3Internal Medicine and Pediatric Combined Residency, University of Maryland, Baltimore

References


Correspondence: Daniel Livorsi, MD, MSc, Division of Infectious Diseases, Indiana University School of Medicine, 545 Barnhill Dr, EH 421, Indianapolis, IN 46202 (dlivorsi@iu.edu).