Bacterial Pathogen–Positive Patients Hospitalised With Suspected Community-Acquired Bacterial Pneumonia (CABP) Have Worse Outcomes Than Those With Negative or No Culture: A Multi-Centre Retrospective Cohort Study

Andrew F. Shorr, Ying P. Tabak, Elizabeth Alexander, Kalvin C. Yu, Vikas Gupta, Patrick J. Scoble, Marya D. Zilberberg

INTRODUCTION & PURPOSE

• Community-acquired pneumonia affects >1.5 million admissions each year in the United States and is associated with significant morbidity and mortality.

• The unadjusted mortality rate was highest among bacterial pathogen–positive patients and lowest among bacterial pathogen–negative patients and those with no culture.

METHODS

• Among 35,673 adults with suspected CABP, 33,752 (94.6%) had a respiratory culture, urine culture, blood culture, and/or paired blood/serology performed.

• Multivariable mixed models to estimate the impact of pathogen identification from blood and/or respiratory cultures on mortality, healthcare utilisation, and total cost of care.

RESULTS

• The risk-adjusted incremental cost was $3606 higher per case for the bacterial pathogen–positive group compared to the culture-negative and no-culture groups.

• The risk-adjusted mortality odds ratio for bacterial pathogen–positive patients was 1.22 (95% CI: 1.18–1.26).

• The authors thank John Murray, MPH, Latha Vankeepuram, MS, and Stephen Kurtz, MS, for their contributions.

CONCLUSIONS

• Suspected CABP remains a significant burden, resulting in substantial mortality, morbidity, and cost.

• Patients with an identified bacterial pathogen had a higher mortality, longer LOS, and higher total cost than those with negative or no culture.

• The vast majority (95%) of patients hospitalised with suspected CABP had at least one documented culture, obtained of, which one-third identified a bacterial pathogen.

• The impact of antibiotic therapy by bacterial pathogen–positive status should be further evaluated.

REFERENCES


ACKNOWLEDGMENTS & DISCLOSURES

The authors have disclosed that they have no financial interests, arrangements, agreements, or agreements that might be perceived as posing a conflict or bias. This study was supported by National Institutes of Health, Center for Medicare and Medicaid Services (CMMI-1304586), and AstraZeneca. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health, CMMI, or AstraZeneca.

Scan the QR code with your mobile device to receive a PDF file of the paper or visit posterschrine.com/BCBD.