**Antimicrobial Guidance in Ventilator-Associated Pneumonia With Routine Endotracheal Cultures**

To the Editor:

In an issue of CHEST (July 2013), Lama et al.1 presented a well-designed study to help elucidate the controversy on routine surveillance respiratory cultures to guide antibiotic treatment of ventilator-associated pneumonia (VAP) compared with the current practice of empirical, broad-spectrum antibiotic therapy with de-escalation based on American Thoracic Society/Infectious Diseases Society of America guidelines. We commend the authors on their effort in using a prospective randomized protocol hybridized with a generated theoretical outcome for their intervention arm, such that no patients were harmed in this study. However, their findings did raise a question we cannot answer: Why were there fewer days of antimicrobial exposure in the surveillance endotracheal aspirate (ETA) group relative to the guideline-treated group?

It was unclear from the article if the length of duration was shorter in the ETA group due to death foreshortening the planned time frame or if a short duration was intentional, thus, leading to death from inadequate dosing, which is a possible confounding factor of the difference in outcomes between the two groups. Their hypothesized protocol involved holding off on the initiation of antibiotics with a negative ETA. A delay in antibiotic administration is known to be associated with mortality, so empirical antibiotics are recommended prior to culture results.2 With the risk of mortality outweighing the benefit of expediting de-escalation of antimicrobials, most physicians will not change this practice. Those treated based on guidelines would be expected to have a shorter duration as the days on empirical therapy could be factored into the overall planned duration, while the ETA group will need a longer antibiotic duration with drug escalation. The authors also did not state clearly if the guideline-treated group had stopped treatment with antimicrobials within 48 to 72 h based on negative BAL or if the duration often deviated from the 7- to 8-day minimum or 10-day Pseudomonas recommended treatment to longer regimens based on clinician preference.

In an era of increasing antimicrobial resistance, the need for antibiotic stewardship is important, and we applaud the authors in investigating a modality that could potentially shorten antimicrobial duration. However, due to the risk of excessive mortality and morbidity of VAP, our conclusion is that we will not change our clinical practice from the current recommended guidelines.

Sarah J. Lee, MD
Kelly Cavcett, MD

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**Response**

To the Editor:

We thank Dr Lee and colleagues for their interest in our recent article in CHEST1 and their comments about some of our findings. They have asked the question, “Why were there fewer days of antimicrobial exposure in the surveillance endotracheal aspirate (ETA) group relative to the guideline-treated group?”

It is important to keep in mind that our study evaluated a theoretical model, performed on the data retrieved from a cohort of patients who were mechanically ventilated, which compared two different strategies in the management of ventilator-associated pneumonia (VAP). This comparison was based on the data retrieved during our surveillance study, when it was extrapolated at the time of the clinical diagnosis of VAP. The duration of appropriate therapy was established to be 10 days in all cases; death of patients was not taken into account. There were fewer antimicrobial-days with the ETA-based strategy because in those cases in which the result of the ETA coincided with the final microbiologic diagnosis of VAP, the result could have been no therapy at all in the ETA-guided therapy, if the result was negative, compared with 2 days of three antimicrobials (this is 6 antimicrobial-days) if the group had received American Thoracic Society/Infectious Diseases Society of America (ATS/IDSA) guideline-guided therapy.

Sarah J. Lee, MD
Kelly Cavcett, MD

References


Affiliations: From the Division of Pulmonary and Critical Care Medicine (Drs Lee, Cavcett, and Mona) and Division of Infectious Disease (Dr Cavcett), Mayo Clinic.

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Correspondence to: Sarah J. Lee, MD, Division of Pulmonary and Critical Care Medicine, Mayo Clinic, 200 First Ave NW, Rochester, MN 55902; e-mail: lee.sarah3@mayo.edu.

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