Impact of Routine Infectious Diseases Service Consultation on the Evaluation, Management, and Outcomes of Staphylococcus aureus Bacteremia

To the Editor—Jenkins et al. [1] analyzed the role of routine infectious diseases consultation on Staphylococcus aureus bacteremia. The study did not show, however, a statistical difference in terms of treatment failure (such as bacteremia recurrence or death) between the group of patients who received routine infectious diseases consultation and the group of patients who did not receive it. With a clinically and statistically significant difference in median duration of therapy between 2 groups (29 vs. 16 days), it may be possible to argue that the infectious diseases consultation may be simply increasing the duration of therapy but not improving the outcome of patients.

We do not consider that this is the case, however. The investigators reviewed cases for up to 12 weeks by protocol and actually followed-up patients for a median of ~60 days for both groups. However, late recurrence of S. aureus infection is common, and it may have been missed in the study. A different study showed a recurrence rate of 12.3% for S. aureus bacteremia [2]. Another study reviewed 10 cases of genetically confirmed, recurrent S. aureus bacteremia, and 5 of these cases involved recurrence after an interval >60 days (range, 68 days–9 months) [3].

We think that it is too early to conclude that infectious diseases consultation does not have an impact on the clinical outcome of S. aureus bacteremia. An evaluation for a longer period of time will provide more insight into this issue.

Acknowledgments
Potential conflicts of interest. S.Y. and K.I.: no conflicts.

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Reply to Yamamoto and Iwata

To the Editor—We appreciate the comments of Yamamoto and Iwata [1] regarding our study of the effects of routine infectious disease specialist consultation on the management and outcomes of Staphylococcus aureus bacteremia [2]. The authors suggest that we may have failed to show a statistically significant decrease in the risk of treatment failure with routine infectious disease consultation because of an inadequate duration of patient follow-up. They cite a small study in which recurrent infection occurred after 9 weeks in 5 of 10 cases of S. aureus bacteremia [3]. However, the authors fail to note that, in 3 of these cases, molecular analysis demonstrated that recurrent bacteremia was due to infection with a new strain of S. aureus, rather than a relapse attributable to the initial strain.

Twelve weeks is a commonly used follow-up period in studies of S. aureus bacteremia. The largest of such studies reported that 70 recurrent infections occurred in 724 patients within 12 weeks after the initial positive blood culture result [4]. In our study, we reviewed all clinical, radiographic, and microbiologic data that was obtained within 12 weeks after the initial culture, and the median time to the last clinical encounter in that period was ~8 weeks. This likely reflects that most patients were cured of their infection and required no additional visits during the remainder of the follow-up period. We have no reason to suspect that extending the follow-up period would have resulted in the detection of substantially more cases of treatment failure (e.g., recurrent infection or death).

We are in agreement with Yamamoto and Iwata [1] that one should not conclude from our study that routine infectious disease consultation does not lead to improved clinical outcomes. Prior studies have demonstrated that adherence to standards of care for the management of S. aureus bacteremia (e.g., removal of intravascular catheters and use of β-lactam antimicrobial agents when possible) decreases the risk of recurrent infection [5, 6]. Our intervention resulted in markedly better adherence to such standards and more frequent detection of complications, such as infective endocarditis and metastatic infection. Therefore, one might expect routine infectious disease consultation to result in improved clinical outcomes. Although we demonstrated a nearly 30% relative reduction in the risk of treatment failure (17% vs. 12%), this difference did not reach statistical significance. In fact, our study only had 50% power to detect a large (50%) reduction in the risk of treatment failure. Therefore, we believe that inadequate statistical power, rather than inadequate patient follow-up, resulted in the failure to demonstrate a statistically significant improvement in outcomes.

Acknowledgments
Potential conflicts of interest. T.C.J. and W.J.B.: no conflicts.

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