Correspondence

Guidelines for Vancomycin Use

To the Editor—In the new guidelines for vancomycin monitoring published in August 2009 in *Clinical Infectious Diseases*, Rybak et al [1] state that "continuous infusion regimens are unlikely to substantially improve patient outcome when compared to intermittent dosing" (p 326). In the original text [2] accompanying these guidelines, the authors cite 4 studies by James et al (1996) [3], Lacy et al (2000) [4], and Wysocki et al (1995 [5] and 2001 [6]) to support their claim.

The first study, of which Dr Rybak is final author, was pharmacologic in nature and did not assess clinical outcome. It concluded that continuous infusion and conventional dosing vancomycin therapy "demonstrated equivalent pharmacodynamic activities" [3, p 696], although the serum bactericidal titer in the continuous-dosing group remained >1:8 for 100% of the time and that in the conventional-dosing group remained >1:8 for only 60% of the time. This study was very small, comprising only 10 patients, and had a crossover period of only 2 days.

To our surprise, we found that the second study in question has been flatly misrepresented. Rybak and colleagues assert that Lacy et al "found virtually no difference in activity as measured by bactericidal titers between continuous and intermittent infusions" [2, p 87]. In fact, the study of Lacy and colleagues did not investigate continuous infusion of vancomycin—it only compared vancomycin given as 1 g once a day with vancomycin given as 1 g twice a day.

Furthermore, the authors cite 2 studies by Wysocki et al. In the first (1995) [5], 13 patients were prospectively treated with vancomycin by continuous infusion and matched with historical control subjects. Infection-related mortality was 23% lower in the continuous-infusion group, although the small number of patients as well as confounding factors ultimately precluded the drawing of "definitive conclusions" (p 354). The authors followed this pilot study with a randomized prospective trial in 2001 [6] that compared continuous to intermittent vancomycin infusion among 119 patients with severe staphylococcal infections. Indeed, microbiologic outcomes, clinical outcomes, and safety were similar in both groups. This study was limited, however, by its small sample size and short period of follow-up (10 days).

On a theoretical and pharmacologic level, as demonstrated in Dr Rybak's study [3], the time-dependent nature of vancomycin supports its administration by continuous infusion. On a clinical level, there is currently not enough evidence to claim that treatment with continuous-infusion vancomycin produces a superior outcome; additionally, larger trials are needed. However, there is clearly not enough evidence to suggest the opposite—absence of evidence is not evidence of absence.

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References

1. Rybak MJ, Lomaestro BM, Rotschafer JC, et al. Vancomycin therapeutic guidelines: a summary of consensus recommendations from the Infectious Diseases Society of America, the American Society of Health-System Pharmacists, and the Society of Infectious Diseases Pharmacists. Clin Infect Dis **2009**; 49:325–327.
2. Rybak M, Lomaestro B, Rotschafer JC, et al. Therapeutic monitoring of vancomycin in adult patients: a consensus review of the American Society of Health-System Pharmacists, the Infectious Diseases Society of America, and the Society of Infectious Diseases Pharmacists. Am J Health Syst Pharm **2009**; 66:82–98.
3. James JK, Palmer SM, Levine DP, et al. Comparison of conventional dosing versus continuous-infusion vancomycin therapy for patients with suspected or documented gram-positive infections. Antimicrob Agents Chemother **1996**; 40:696–700.
4. Lacy MK, Tessier PR, Nicolau DP, et al. Comparison of vancomycin pharmacodynamics (1g every 12 or 24 h) against methicillin-resistant staphylococci. Int J Antimicrob Agents **2000**; 15:25–30.
5. Wysocki M, Thomas F, Wolff MA, et al. Comparison of continuous with discontinuous intravenous infusion of vancomycin in severe MRSA infections. J Antimicrob Chemother **1995**; 35:352–354.
6. Wysocki M, Delatour F, Faurisson F, et al. Continuous versus intermitten infusion of vancomycin in severe staphylococcal infections: prospective multicenter randomized study. Antimicrob Agents Chemother **2001**; 45:2460–2467.

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Olympics in the Tropics and Infectious Diseases

To the Editor—The International Olympic Committee has chosen the Brazilian city of Rio de Janeiro to host the 2016 Olympic Games, making it the first South American venue in Olympic history. The Olympic Games are a very popular but also vulnerable global event and thus intrinsically raise the expectations of the international community on all aspects of preparedness, including public health. Communicable diseases have not been a significant cause of health events during recent mass gatherings for major international sporting events. Despite this,