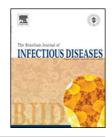


The Brazilian Journal of INFECTIOUS DISEASES



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Letter to the Editor

Clinical implications of vancomycin susceptibility testing in Staphylococcus aureus

Dear Editor,

I read the very interesting report by Zriouil et al.¹ Although I understand it was not the aim of the study to evaluate specifically the vancomycin susceptibility of the isolates, I would like to make a comment regarding the laboratory methods of choice for this evaluation.

The authors state that all isolates "were still susceptible to vancomycin" and that vancomycin was "100% active against the two groups of Staphylococcus aureus". It is important to remember that vancomycin disk-diffusion test is not sufficient to rule out vancomycin intermediate resistance in S. aureus, and a minimum inhibitory concentration (MIC) test should be performed routinely in clinical isolates. One important obstacle is the heterogeneity of the results of different vancomycin MIC methods, including microdilution and Etest. Nevertheless, these tests provide results with critical clinical implications.

There is also discussion in the literature about the possible association between increased MICs within the susceptible range and mortality in S. aureus infections. In this case MIC results should be used only as an additional parameter for therapeutic decisions, being the clinical response the primary one

Of note, elevated vancomycin MIC has been also associated with mortality in patients with methicillin-susceptible S. aureus infections treated with oxacillin. Phenotypic alterations that usually occur in vancomycin-intermediate Staphylococcus aureus, including but not limited to cell wall thickening, may prevent other antimicrobial agents, as beta-lactams and daptomycin, to fully exert their mechanism of action.⁵

Conflict of interest

The author declares to have no conflict of interest.

REFERENCES

1. Zriouil SB, Bekkali M, Zerouali K. Epidemiology of Staphylococcus aureus infections and nasal carriage at the Ibn

- Rochd University Hospital Center, Casablanca, Morocco. Braz J Infect Dis. 2012;16:279–83.
- Clinical and Laboratory Standards Institute. Performance standards for antimicrobial susceptibility testing; twenty-second informational supplement. M100-S22. Wayne, PA, USA: Clinical and Laboratory Standards Institute; 2012.
- Mason EO, Lamberth LB, Hammerman WA, Hulten KG, Versalovic J, Kaplan SL. Vancomycin MICs for Staphylococcus aureus vary by detection method and have subtly increased in a pediatric population since 2005. J Clin Microbiol. 2009;47:1628–30.
- van Hal SJ, Lodise TP, Paterson DL. The clinical significance of vancomycin minimum inhibitory concentration in Staphylococcus aureus infections: a systematic review and meta-analysis. Clin Infect Dis. 2012;54:755–71.
- Holmes NE, Turnidge JD, Munckhof WJ, et al. Antibiotic choice may not explain poorer outcomes in patients with Staphylococcus aureus bacteremia and high vancomycin minimum inhibitory concentrations. J Infect Dis. 2011;204:340–7.

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> Received 10 August 2012 Accepted 24 August 2012

Available online 28 February 2013

1413-8670/\$ – see front matter © 2013 Elsevier Editora Ltda. All rights reserved. http://dx.doi.org/10.1016/j.bjid.2012.08.030