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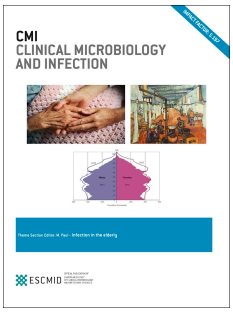

Re: 'How I manage a patient with MRSA bacteraemia' by Davis et al.

Jodie Langbeen, Alexander Dumoulin, Steven Vervaeke, Laetitia Missiaen, Dirk Vogelaers, Stijn Blot

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Re: 'How I manage a patient with MRSA bacteraemia' by Davis et al.

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To the editor. With great interest we have read the comprehensive and clinical practice driven narrative review by Davis JS et al. "How I manage a patient with MRSA bacteraemia".[1] We would like to highlight the possibility of further optimizing vancomycin administration through continuous infusion, which is not mentioned in the paper. In our opinion, there is accumulating evidence for preferring continuous infusion of vancomycin (CIV) over intermittent infusion of the drug (IIV).

Regarding several pharmacokinetic parameters, CIV is likely to be superior to IIV.[2-5] Various publications report that the steady-state of vancomycin is reached faster (earlier target attainment), easier and with lower daily doses in CIV compared to IIV.[2-4] Together with the requirement of higher daily doses, the risk of adverse drug events is also greater in patients receiving IIV compared to CIV.[2,6] Additionally, red man syndrome may be more likely in IIV.[6]

Moreover, CIV offers the advantage of only requiring monitoring of steady-state concentrations, avoiding the variabilities due to timing of peak and trough levels.[5] These consistent serum levels may contribute to the prevention of vancomycin-intermediate *S. aureus* (VISA) and heterogeneous VISA (hVISA), as well as nephrotoxicity.[3,5]

The decreased risk of nephrotoxicity in CIV compared to IIV has been reported in different publications.[2,3,5,6] A meta-analysis of six studies concluded that CIV was associated with a lower relative risk of nephrotoxicity than IIV, while other studies remained equivocal.[5] Due to the potential renal failure associated with IIV, a higher incidence of drug discontinuation is observed in these patients.[2]

It is plausible to conclude that the complexities of dosing and monitoring IIV can be reduced by moving to a CIV strategy.[3] CIV can substantially improve adherence to vancomycin target attainment through less management issues.[4,5] Reaching target concentrations with less drug, less dosing adjustments and less therapeutic drug monitoring can therefore reduce costs and contribute to improved logistics, such as less time needed to prepare and adjust infusions.[2,4,6]

We therefore believe that CIV should be considered as a valuable option in optimizing vancomycin treatment, particularly in the critically ill. Hence, we are interested in the arguments of Davis JS et al. for not mentioning CIV as a possible therapeutic option for the treatment of MRSA bacteraemia.

Transparency declaration

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Authors' contributions

Jodie Langbeen: investigation, writing – original draft

Alexander Dumoulin: conceptualization, writing – review & editing

Steven Vervaeke: conceptualization, writing – review & editing

Laetitia Missiaen: conceptualization

Dirk Vogelaers: conceptualization, writing – review & editing, supervision, project administration

Stijn Blot: conceptualization, investigation, writing – review & editing

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