Berberine: Best Alternative Medicine Insight Abating Global Challenges for Treatment of MRSA Infections – Response to Comments of Savita V Jadhav [Response to Letter]

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Dear editor

Thanks to Dr. Savita V Jadhav and the medical stuff for their interest in our article. We would like to make it clear about the specific comments.

Firstly, the concern regarding "the CLSI guidelines in methodology with reference number 19" may be the result of a misunderstanding. In the context, what we mentioned was that the MIC determination method was recommended by CLSI guideline rather than why RIF and CLI were selected to be tested. Secondly, the comments about RIF prescription should be avoided in diseases other than Mycobacterial diseases are very constructive. Currently, our research remains at the laboratory stage; it is necessary to put into practice in vivo to evaluate the clinical effects because the RIF alone is rarely used to treat MRSA. However, no papers or guidelines show that the RIF cannot treat MRSA infection. According to the updated MRSA treatment guidelines from UK,² RIF is recommended in combination with other agents to treat MRSA infections. Our study found that berberine in combination with RIF has an excellent synergistic effect which is not in conflict with clinical application. Furthermore, the synergistic activities in vivo are on-going and it is our pleasure to improve the clinical practices expanding RIF indication if the experimental results are satisfactory. Lastly, regarding your advice for us to further evaluate other synergistic effects with oxacillin, azithromycin and levofloxacin as well as additive effects with ampicillin and cefazolin, these have already been reported in previous studies.^{3,4} We consider it a meaningful proposal and will perform the experiments in vivo in the near future.

Disclosure

The authors report no conflicts of interest in this communication.

References

- 1. Xia S, Ma L, Wang G, et al. In vitro antimicrobial activity and the mechanism of berberine against methicillin-resistant staphylococcus aureus isolated from bloodstream infection patients. *Infect Drug Resist.* 2022;15:1933–1944. doi:10.2147/IDR.S357077
- 2. Brown NM, Goodman AL, Horner C, Jenkins A, Brown EM. Treatment of methicillin-resistant Staphylococcus aureus (MRSA): updated guidelines from the UK. *JAC Antimicrob Resist*. 2021;3(1):dlaa114. doi:10.1093/jacamr/dlaa114
- 3. Yu HH, Kim KJ, Cha JD, et al. Antimicrobial activity of berberine alone and in combination with ampicillin or oxacillin against methicillin-resistant Staphylococcus aureus. *J Med Food*. 2005;8(4):454–461. doi:10.1089/jmf.2005.8.454
- Zuo GY, Li Y, Han J, Wang GC, Zhang YL, Bian ZQ. Antibacterial and synergy of berberines with antibacterial agents against clinical multi-drug resistant isolates of methicillin-resistant Staphylococcus aureus (MRSA). Molecules. 2012;17(9):10322–10330. doi:10.3390/molecules170910322

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