The possible role of anti-methicillin-resistant *Staphylococcus aureus* antimicrobial agents in spontaneous bacterial peritonitis

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Dear Editor,

We read with great interest the case report by Falcone *et al.* on the treatment of Spontaneous Bacterial Peritonitis (SBP) due to methicillin-resistant *Staphylococcus aureus* (MRSA) with high vancomycin minimum inhibitory concentration (MIC) value.[1] The authors treated a SBP (microbiological results of ascites fluid showed MRSA) in a cirrhotic patient with a documented allergy to tetracycline with daptomycin (6 mg/kg/day) for 12 days.

Tigecycline, a glycylcycline licenced for the treatment of intra-abdominal infections (IAI),[2] unlike daptomycin, that is effective against MDR Gram-positive bacteria, including MRSA and vancomycin-resistant enterococci (VRE) was contraindicated because of the documented allergy to tetracyclines.

The authors state that the linezolid can not be used in the majority of patients with cirrhosis and bacterial infections because of myelotoxicity and thrombocytopenia. Indeed thrombocytopenia is a long term (over two weeks of therapy) reversible adverse effect;[3] however duration of SBP antibiotic treatment is unclear;[4] treatment for 5 days has shown success and longer treatment is recommended if blood cultures are positive.[5]

Furthermore, daptomycin is associated with higher all-cause mortality and trend for higher relapse rate than linezolid.[6] Daptomycin displays a dose-dependent response against VRE with high-dose daptomycin (10-12 mg/kg/day) producing most bactericidal activity,[7] and a daptomycin dosage of 8 mg/kg/day or greater may be safe in patients with complicated gram-positive infections.[8] So in other life-threatening setting such as infective endocarditis, patients had successful outcomes with high-dose daptomycin therapy.[9]

Finally, several reports have linked increases in vancomycin MICs to increases in daptomycin MICs and thus high-dose daptomycin should be in place of standard dosing.[10,11]

In conclusion, according to current evidence the low-dose daptomycin used in the case report does not seem to be the best therapeutic choice for the treatment of gram-positive SBP.

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Key words: Daptomycin; tigecycline; linezolid; spontaneous bacterial peritonitis.

Contributions: the authors contributed equally.

Conflict of interest: the authors declare no potential conflict of interest.

Received for publication: 1 November 2015.
Accepted for publication: 9 December 2015.

Infectious Disease Reports 2015; 7:6286
doi:10.4081/idr.2015.6286

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