



Dalbavancin and oritavancin demonstrate efficacy and safety comparable to standard care in well-designed RCTs and result in cost savings when standard care is treatment that covers MRSA” Agarwa et al (2017).

Abstract:

Objectives: Skin and soft tissue infections (SSTIs) carry significant economic burden, as well as morbidity and mortality, especially when caused by methicillin-resistant *Staphylococcus aureus* (MRSA). Several new MRSA-active antibiotics have been developed, including semisynthetic glycopeptides (telavancin, dalbavancin and oritavancin). Of these, dalbavancin and oritavancin offer extended dosing intervals.

Methods: We performed a systematic review, network meta-analysis and cost analysis to compare the newer glycopeptides to standard care and each other for the treatment of complicated SSTIs (cSSTI). A search for randomized controlled trials (RCTs) was conducted in MEDLINE, EMBASE and the Cochrane Central Register of Controlled Trials. We also developed a model to evaluate the costs associated with dalbavancin and oritavancin from the third-party payer perspective.

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Results: Seven RCTs met inclusion criteria. Network meta-analyses suggested that the clinical response to telavancin, dalbavancin and oritavancin was similar to standard care (odds ratio [OR] 1.09, 95% confidence interval [CI] 0.90-1.33; OR 0.78, CI 0.52-1.18; and OR 1.06, CI 0.85-1.33, respectively). Head-to-head comparisons showed no difference in clinical response between oritavancin and dalbavancin (OR 1.36; CI 0.85-2.18), oritavancin and telavancin (OR 0.98; CI 0.72-1.31) or dalbavancin and telavancin (OR 0.72; CI 0.45-1.13). Telavancin had a higher incidence of overall adverse events compared to standard care (OR 1.33; CI 1.10-1.61). Compared to telavancin, there were fewer overall adverse events with dalbavancin (OR 0.58; CI 0.45-0.76) and oritavancin (OR 0.71; CI 0.55-0.92). Studies were of high quality overall. Our cost analyses demonstrated that dalbavancin and oritavancin were less costly compared to standard care under baseline assumptions and many scenarios evaluated. The use of dalbavancin could save third-party payers \$1,442 to \$4,803 per cSSTI, while the use of oritavancin could save \$3,571 to \$6,932 per cSSTI.

Conclusions: Dalbavancin and oritavancin demonstrate efficacy and safety comparable to standard care in well-designed RCTs and result in cost savings when standard care is treatment that covers MRSA.

### Reference:

Agarwa, R., Bartsch, S.M., Kelly, B.J., Prewitt, M., Liu, Y., Chen, Y., and Umscheid, C.A. (2017) Newer glycopeptide antibiotics for treatment of complicated skin and soft tissue infections: a systematic review, network meta-analysis and cost analysis. *Clinical Microbiology and Infection*. September 4th. .

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