Background: Dalbavancin (DAL) is a recently approved antimicrobial for the treatment of acute limb and skin infections. Resistance surveillance is essential to ensure appropriate treatment and avoid resistance development. Vancomycin (VAN) susceptibility test results can be used as a surrogate marker for dalbavancin susceptibility (ABSSSI). Newly released antimicrobial agents are rarely found on susceptibility databases; therefore, there may be an option for clinical microbiology laboratories. This study evaluated the use of vancomycin (VAN) results for predicting DAL susceptibility in clinical practice.

Methods: A total of 33,688 (VAN, 2,082) and dalbavancin (DAL, 3,406) susceptibility test results, respectively, were collected at the regulatory agency (USA-FDA) and at the Clinical and Laboratory Standards Institute (CLSI) during 2011-2013. Included: Streptococcus pneumoniae (2,800; including four groups with >100 strains); and Enterococcus faecalis (4,576, including five major species with >200 isolates); enterococci (6,515; mostly Enterococcus faecalis); and 5,722 beta-hemolytic streptococci. Only 48 (0.14%) very major errors were observed against the BHS group were obtained with dalbavancin (0.25 or 0.5 µg/ml). When MIC correlations were analyzed against indicated BHS species (susceptible at ≤0.03 µg/ml), one VISA strain was included. Similar CA rate (99.75%) between agents was observed against MRSA.

Results: The dalbavancin MIC ≤0.12 µg/ml was selected as the surrogate dalbavancin susceptibility breakpoint. A similar CA rate (99.75%) between agents was observed against MRSA. When MIC correlations were analyzed against indicated BHS species (susceptible at ≤0.03 µg/ml), one VISA strain was included. Similar CA rate (99.75%) between agents was observed against MRSA.

Conclusions: Dalbavancin, among the clinically approved lipoglycopeptides, has been studied extensively for its pharmacokinetics and rationale for once-weekly dosing. It is the first clinically available AMP to achieve this dosing regimen. While dalbavancin MIC results from year 2011-2013 surveillance strains in the USA and Europe (SENTRY Antimicrobial Surveillance Program; 64,815 strains). Dalbavancin MIC results from year 2011-2013 surveillance strains in the USA and Europe (SENTRY Antimicrobial Surveillance Program; 64,815 strains).

Table 1: Dalbavancin MIC results from year 2011-2013 surveillance strains in the USA and Europe (SENTRY Antimicrobial Surveillance Program; 64,815 strains).