



Symposium 10.3

Vancomycin Dosing – Can we do better?

Robert C. Moellering, Jr, M.D.

Harvard Medical School
Boston, Massachusetts, USA

Studies from a number of medical centers in different geographical areas have suggested that the effectiveness of vancomycin, particularly for serious staphylococcal infections, has diminished during the past 5-10 years. The bactericidal activity of vancomycin against staphylococci has apparently decreased and reports of vancomycin failures, despite “adequate” blood levels, are being seen with increasing frequency. As a result of these changes, the CLSI (formerly NCCLS) has recently altered the susceptibility breakpoints for vancomycin to reflect the fact that staphylococci for which the MIC of vancomycin is 4 have a high likelihood of failing therapy. Unfortunately, many of the organisms which fail therapy are staphylococci which exhibit heteroresistance to vancomycin but have MICs of 2 or less. Such organisms are difficult to pick up in the clinical microbiology laboratory. It has been suggested that increasing doses of vancomycin, or giving vancomycin in such a way that trough levels are elevated into the 15-20 µg/mL range might overcome some of the difficulties presently being seen with vancomycin. Unfortunately, there is only anecdotal evidence to suggest that increased vancomycin levels might be associated with fewer organisms developing resistance. There are even less data to suggest a better clinical outcome from increased trough levels but several recently presented papers suggest that maintaining increased trough levels of vancomycin may result in increased nephrotoxicity.