Antimicrobial Activity and Spectrum of Daptomycin Tested Against Gram-positive Strains Collected in European Hospitals: Results from 7 Years of Surveillance (2003-2009)

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AMENDED ABSTRACT

Objective: To evaluate the in vitro activity and spectrum of daptomycin (DAP) and comparators tested against clinical isolates from European (EU) hospitals. DAP is a cyclic lipopeptide approved by the European Medicines Agency (EMA) for the treatment of complicated skin and soft tissue infections (cStSI) and S. aureus (SA) bacteremia and endocarditis.

Materials and Methods: 37,969 consecutive strains were collected in 34 medical centers located in 13 EU countries, Turkey, and Israel, including SA (18,362), 27.2% MRSA, coagulase-negative staphylococci (CoNS) 6.8%, 76.6% oxacillin (OXA)-resistant (OXA-R), Enterococcus spp. (ENT; 24.1; 9.4% vancomycin (VAN)-resistant (VAN-R)). All S. aureus were suscepable to DAP and lower than 0.6% of isolates were resistant to DAP.

Results: DAP was highly active against SA and CoNS (MIC50, 0.25 mg/L; MIC90, 0.5 mg/L; >99.9% susceptible) and its activity was not adversely influenced by OXA-R (MRSA) and VAN-R (MIC90, 0.25 mg/L for both organisms) and its activity was not adversely influenced by OXA-R (MRSA) and VAN-R (MIC90, 0.25 mg/L for both organisms) and its activity was not adversely influenced by OXA-R (MRSA) and VAN-R (MIC90, 0.25 mg/L for both organisms). Emphasizing the evidence of DAP activity against Gram-positive pathogens, particularly MRSA and VRS, the surveillance data generated by the EU-CCE programme demonstrate a consistent and ongoing success in the treatment of infections caused by these pathogens, highlighting the importance of continued monitoring and surveillance to ensure the continued efficacy of DAP against these important pathogens.

Conclusions: The high activity of DAP against Gram-positive pathogens, particularly MRSA and VRS, highlights the importance of continued monitoring and surveillance to ensure the continued efficacy of DAP against these important pathogens.

Introduction

Daptomycin is a natural lipopeptide with rapid in vitro activity against a wide spectrum of Gram-positive and -negative organisms, including multidrug-resistant strains of staphylococci and enterococci. Daptomycin was approved by the European Medicines Agency (EMA) in 2003 for the treatment of complicated skin and soft tissue infections (cStSI) and Staphylococcal aureus (S. aureus) bacteremia and endocarditis. The introduction of daptomycin into clinical practice has been associated with improved outcomes for patients with serious infections caused by these pathogens.

Materials and Methods

Methods: A total of 37,969 consecutive strains were collected in 34 medical centers located in 13 EU countries, Turkey, and Israel, including 18,362 S. aureus, 27.2% methicillin-resistant S. aureus (MRSA), and 9.4% vancomycin-resistant enterococci (VRE). All strains were tested for susceptibility to daptomycin and comparators using EUCAST methodology.

Results: Daptomycin was highly active against S. aureus and VRE (MIC50, 0.25 mg/L; MIC90, 0.5 mg/L; >99.9% susceptible) and its activity was not adversely influenced by OXA-R (MRSA) and VAN-R (MIC90, 0.25 mg/L for both organisms). Emphasizing the evidence of DAP activity against Gram-positive pathogens, particularly MRSA and VRS, the surveillance data generated by the EU-CCE programme demonstrate a consistent and ongoing success in the treatment of infections caused by these pathogens, highlighting the importance of continued monitoring and surveillance to ensure the continued efficacy of DAP against these important pathogens.

Conclusions: The high activity of DAP against Gram-positive pathogens, particularly MRSA and VRS, highlights the importance of continued monitoring and surveillance to ensure the continued efficacy of DAP against these important pathogens.