ABSTRACT

Background: This study utilized a MIC checkerboard method against 2 primary community acquired pneumonia (CAP) pathogens, S. pneumoniae and H. influenzae, to perform determinations on whether any synergistic or antagonistic effects for the in vitro efficacy of azithromycin with dalbavancin. Methods: Synergy testing by checkerboard broth microdilution was set against 8 S. pneumoniae and 5 H. influenzae isolates in 2 different broth media (CAMHB and HA). The concentration of dalbavancin–azithromycin MBC was calculated based on microliter MBC (MBC MICs). The combination of dalbavancin and azithromycin against S. pneumoniae and H. influenzae was performed in Lysed Horse Blood (LHB) and cation-adjusted Mueller Hinton (CAMHB). Results: Based on evaluation of FIC indices, there was no synergy or antagonism detected (Tables 1–3). The combination of dalbavancin and azithromycin showed no significant increase or decrease in each agent's in vitro activity by checkerboard methodology based on the MIC IC50 evaluation. In conclusion, the combination of dalbavancin and azithromycin showed no significant increase or decrease in each agent's in vitro activity by checkerboard methodology based on the MIC IC50 evaluation.

INTRODUCTION

Dalbavancin was recently approved by the U.S. Food and Drug Administration for the treatment of adult patients with severe bacterial skin and skin structure infections (BSI) caused by susceptible isolates of Staphylococcus aureus (including methicillin-susceptible and methicillin-resistant strains) and Streptococcus pyogenes, and is an excellent alternative to 14 or 21 days of IV therapy. 1–3 S. pneumoniae and H. influenzae are the two major pathogens contributing to the pathogenesis of community acquired pneumonia. 1–3 Dalbavancin is active against S. pneumoniae in vitro and, if administered with azithromycin for treatment of CAP, because of the long half life of both agents in the body, may provide effective therapy for S. pneumoniae infections (ABSSSI) caused by susceptible isolates of S. pneumoniae and H. influenzae. 2,5,6,9 The combination of dalbavancin with azithromycin using H. influenzae S. pneumoniae was performed in Haemophilus Test Media (HTM), HTM+0.002% P80 and cation adjusted Mueller Hinton (CAMHB) +5% LHB+20 mg/L antibiotics. Dalbavancin – 0.004 – 0.25 (SP Plate Format 1) Azithromycin – 0.03 – 32 (CAMHB Plate Format 1). * Preferred media for both species; initial dalbavancin MIC results for S. pneumoniae were in vitro activity by checkerboard methodology based on the MIC IC50 evaluation. In conclusion, the combination of dalbavancin and azithromycin showed no significant increase or decrease in each agent's in vitro activity by checkerboard methodology based on the MIC IC50 evaluation.

RESULTS

Dalbavancin and azithromycin showed no significant increase or decrease in each agent's in vitro activity by checkerboard methodology based on the MIC IC50 evaluation.