ACTIVITY OF OMIGANAN AGAINST CONTEMPORARY (2005-2006) GRAM-POSITIVE PATHOGENS RESPONSIBLE FOR CATHETER COLONIZATION AND CATHETER-RELATED BLOODSTREAM INFECTIONS

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ABSTRACT

Background: Omiganan is a novel topical antimicrobial agent with a broad antimicrobial spectrum that includes aerobic and anaerobic, including enterococci and S. aureus, and is currently in a Phase III clinical trial for the treatment of cutaneous infections. In this study, we present the spectrum of activity of omiganan and compared clinical isolates against contemporary Gram-positive pathogens implicated in catheter-related bloodstream infections (CRBSIs). We also present the results of susceptibility tests for bacteria that grow aerobically; approved standard - seventh edition (CLSI). 33: 1712-1715.

Methods: 35 clinical isolates collected from USA medical centers were susceptible to omiganan (MBC, 128 including OXA-, VAN- and PEN-R strains).

Results: Omiganan was four-fold more active against coagulase-negative staphylococci (CNS; 50/90 μg/ml) than against enterococci, and penicillin resistance in streptococci) had the highest (128 μg/ml).

Conclusion: Omiganan should be included.

INTRODUCTION

Omiganan is a novel topical aminocoumarin antimicrobial with a broad spectrum of activity and is currently in development for the treatment of cutaneous infections. In this study, we report on the activity of omiganan against contemporary Gram-positive pathogens implicated in catheter-related bloodstream infections (CRBSIs). We also present the results of susceptibility tests for bacteria that grow aerobically; approved standard - seventh edition (CLSI). 33: 1712-1715.

METHODS

Clinical isolates were obtained from USA medical centers and included subsets R to oxacillin (OXA), vancomycin (VAN), and penicillin (PEN). All tested GP isolates were inhibited by OMI was μg/ml, respectively). Among tested agents, fusidic acid (MIC, >256 μg/ml), neomycin (MIC, ≤10 μg/ml (susceptible); bacitracin at values above 1024 μg/ml have no clinical activity of triple antibiotic ointment: a multiphase study of recent clinical isolates in the United Kingdom. JAC 2005;51(Suppl 1):S83-S91.

RESULTS

All tested Gram-positive isolates were inhibited by ≥128 μg/ml of omiganan (Table 1) with coagulase-negative staphylococci displaying the lowest MIC values (1 μg/ml) and enterococci and viridans group streptococci the highest (128 μg/ml).

Omiganan was four-fold more active against coagulase-negative staphylococci (MIC, 4 μg/ml) than against S. aureus (MIC, 16 μg/ml), although all isolates were inhibited by ≥32 μg/ml.

Omiganan was also consistently more active against E. faecium (MIC, >10 μg/ml) than against E. faecalis (MIC, ≤8 μg/ml).

β-haemolytic streptococci were slightly more susceptible to omiganan than were viridans group streptococci (MIC, ≥32 and 128 μg/ml, respectively).

A combination of lowering resistance mechanisms (resistance to macrolides in streptococci, vancomycin resistance in enterococci, and penicillin resistance in streptococci) had a synergistic effect on MICs, potency measurements of omiganan (Tables 1 and 2).

While a breakthrough for omiganan has not been proposed, MIC values above 1024 μg/ml have not been reported (Sather et al. 2004. Antimicrob. Agents Chemother. 48:3120-3123). The clinical activity of omiganan has been proposed for 10,240 μg/ml.

None of the topically utilized comparator agents tested retained a spectrum that compares with that of omiganan (Table 2). Among tested agents, fusidic acid (MIC, ≤0.12 μg/ml) was active against the highest percentage of strains, and omiganan (MIC, ≤16 μg/ml) was active against the next highest percentage of strains (100% for CNS and ≥97% for VRE).

OMIGANAN ACTIVITY AGAINST CONTEMPORARY GRAM-POSITIVE PATHOGENS

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SELECTED REFERENCES


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