In Vitro Activity of CEM-101 Against Resistant Strains of *Staphylococcus aureus*.

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Background:

CEM-101 is a promising fluoroketolide that has potent activity against bacterial pathogens resistant to other macrolide agents. The activity against a variety of resistant strains of *Staphylococcus aureus* was investigated.

Methods:

The *in vitro* activity of CEM-101 was compared with that of telithromycin, azithromycin, erythromycin, levofloxacin, linezolid and doxycycline against a total of 145 resistant *S aureus* by agar dilution procedures (CLSI, M7-A7, M100-S18). The tested strains included *S. aureus* MRSA (Mec A genotype; 100 isolates), macrolide-resistant (*erm*A, B, C *genotype* or MLSb-resistant; 25) and ciprofloxacin-resistant (gyrA and *par*C genotype; 20).

Results:

Against *S. aureus* MRSA (MecA), CEM-101 (MIC_{90} 0.06 mg/L) and telithromycin (MIC_{90} 0.06 mg/L) were more active than doxycycline (MIC_{90} 1 mg/L), linezolid (MIC_{90} 2 mg/L), levofloxacin (MIC_{90} 16 mg/L), azithromycin (MIC_{90} >32 mg/L) and erythromycin (MIC_{90} >32 mg/L). CEM-101 (MIC_{90} 0.06 mg/L) was significantly superior to linezolid (MIC_{90} 2 mg/L), levofloxacin (MIC_{90} 4 mg/L), telithromycin (MIC_{90} 4 mg/L), azithromycin (MIC_{90} >32 mg/L), and erythromycin (MIC_{90} >32 mg/L) against macrolide-resistant *S. aureus* (*erm*A, B, C *genotype* or MLSb-resistant). Against ciprofloxacin-resistant (gyrA and *par*C genotype) *S. aureus*, erythromycin (MIC_{90} >32 mg/L), levofloxacin (MIC_{90} >32 mg/L), azithromycin (MIC_{90} 16 mg/L), linezolid (MIC_{90} 2 mg/L), and doxycycline (MIC_{90} 1 mg/L) were less active than CEM-101 (MIC_{90} 0.06 mg/L) and telithromycin (MIC_{90} 0.06 mg/L).

Conclusions:

These data confirm the interesting activity of this new fluoroketolide, CEM-101, against resistant *S. aureus*.