Introduction

JNJ-Q2 is a novel fluorinated 4-quinolone with potent activity against a panel of genetically defined strains representative of global MRSA clones. Along with its potent activity against community-acquired and hospital-acquired infections, JNJ-Q2 inhibited all ten VRSA strains at a MIC of 0.25µg/ml, Table 3) against this clone and demonstrated much greater activities than the fluoroquinolone comparator, MIC values of 2–64 µg/ml. The MIC50/90 of JNJ-Q2 for ST239 Hungarian/Brazilian clone (MIC50/90, 0.25/0.25 µg/ml) was 16-, 64- and 128-fold higher.

Materials and Methods

Sensitivity testing: MIC values were determined using the reference CLSI broth microdilution method as described in M11-A9 (2006) for the fluoroquinolones; M11-A7 (2006) for the tetracycline; M100-S21 (2011) for S. aureus and its derivatives (including USA300) clonal group. The quality control bacterial strain, S. aureus ATCC 29213, was used as the control organism.

Results

40 strains assessed (111 strains, Tables 1 and 2). The MIC values for JNJ-Q2 were determined against a panel of strains inhibiting all 111 strains at a MIC of ≤0.06 µg/ml. The MIC50/90 for these strains were 0.12/0.25 µg/ml. JNJ-Q2 demonstrated much greater activities than the fluoroquinolone comparator, MIC values of 2–64 µg/ml. The MIC50/90 of JNJ-Q2 for ST239 Hungarian/Brazilian clone (MIC50/90, 0.25/0.25 µg/ml) was 16-, 64- and 128-fold higher.

References


Activity of JNJ-Q2 and Comparators against Genetically Defined MRSA Clones

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References


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Conclusions

Overall, JNJ-Q2 inhibited an 111 major clinical strains at a MIC of 31 µg/ml (MIC90, 0.25-0.50 µg/ml). All strains were susceptible to daptomycin, levofloxacin and ciprofloxacin.

JNJ-Q2 retained activity (MIC90, 0.12 to 1 µg/ml) against these strains with lower MIC50/90 values regardless of antimicrobial resistance phenotype. ST22 clonal type, PVL positivity, and agr of SCCmec type.