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Abstract (poster session)

Activity of JNJ-Q2 against *Staphylococcus aureus* isolated from patients with acute bacterial skin and skin structure infection obtained during a phase II clinical trial

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Objective: To determine the activity of JNJ-Q2 against *S. aureus* isolated from patients with clinically diagnosed acute bacterial skin and skin structure infection (ABSSSI) in the United States (USA) during a phase II clinical trial and to determine the mechanisms of fluoroquinolone (FQ) resistance (R) in FQ-R strains. JNJ-Q2 is a broad-spectrum bactericidal 4-fluoroquinolone with potent activity against Gram-positive and -negative pathogens. **Methods:** Of 280 pathogens isolated, *S. aureus* (n=248; 88.6%) was the predominant pathogen isolated (including 45.2% methicillin-susceptible [MSSA and 54.8% methicillin-resistant [MRSA]). Susceptibility testing was performed by the CLSI broth microdilution. Type II topoisomerase quinolone-resistant determinant regions (QRDR) were amplified by PCR and sequenced for FQ-R strains. **Results:** JNJ-Q2 demonstrated good activity against all *S. aureus* and was very active against both MSSA (MIC_{50/90}, 0.008/0.12 mg/L) and MRSA (MIC_{50/90}, 0.12/0.12 mg/L). 107 strains had moxifloxacin (MOX) MIC values of ≥ 1 mg/L (non-S); 102/107 had only *gyrA* S84L with 4/5 of the remaining strains also having *parC* E84G (2 strains), E84I (1), *parE* T461I (1). No QRDR mutations were found in the remaining strain. 101/107 strains had a JNJ-Q2 MIC of 0.12 mg/L (range, 0.06-0.25 mg/L). All isolates were susceptible to linezolid (LZD) and vancomycin (VAN). JNJ-Q2 was the most active agent tested with a MIC₉₀ 16-, 64-, and eight-fold lower than MOX, levofloxacin (LEV), LZD and VAN, respectively. **Conclusions:** JNJ-Q2 demonstrated very potent activity against contemporary *S. aureus* isolated from patients in the USA with clinically diagnosed and microbiologically confirmed ABSSSI's. JNJ-Q2 exhibited greater activity compared to LEV and MOX, including strains R to currently utilized FQs. These encouraging results support the further clinical development of JNJ-Q2 for ABSSSIs.

Species (no. tested)	No. (cum. %) of isolates inhibited at JNJ-Q2 MIC (mg/L)						
	≤ 0.004	0.008	0.015	0.03	0.06	0.12	0.25
<i>S. aureus</i> (248)	70 (28.2)	56 (50.8)	12 (55.6)	3 (56.9)	2 (57.7)	101 (98.4)	4 (100.0)
MSSA (112)	48 (42.9)	33 (72.3)	10 (81.3)	2 (83.0)	0 (83.0)	18 (99.1)	1 (100.0)
MRSA (136)	22 (16.2)	23 (33.1)	2 (34.6)	1 (35.3)	2 (36.8)	83 (97.8)	3 (100.0)