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Abstract (publication only)

Activity of moxifloxacin tested against 14,930 clinical isolates of Enterobacteriaceae from Europe

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Objective: To determine the activity of moxifloxacin and selected antimicrobial agents tested against Enterobacteriaceae (ENT) isolated from Europe (EU) over a five year period. Moxifloxacin is a broad-spectrum bactericidal fluoroquinolone (FQ) with potent activity against Gram-positive and -negative pathogens. **Methods:** 14,930 ENT were analyzed from the SENTRY Antimicrobial Surveillance Program platform collected from 13 countries (2005-2009). The distribution of isolates by infection type (n) was: blood stream infection (12,126), intra-abdominal infection (854), respiratory tract infection (1,690), hospital-acquired pneumonia (878), ventilator-associated pneumonia (262), urinary tract infection (1,671), and complicated skin and skin structure infection (1,114). Isolates were tested for susceptibility by CLSI broth microdilution methods (M07-A8 and M100-S21). Susceptibility interpretations were determined using EUCAST (2010) and CLSI breakpoints. **Results:** The table shows the cumulative percentage MIC frequency against the species/groups tested. Against all ENT, 20.8% of isolates were resistant (R) to moxifloxacin compared to 17.8 and 19.3% for levofloxacin (LEV) and ciprofloxacin (CIP), respectively. R against all ENT was lowest for imipenem (0.4%) and meropenem (0.3%). Against *E. coli*, 23.2% of isolates were R to moxifloxacin compared to LEV (22.6%) and CIP (22.9%). R to ceftazidime (CAZ) and ceftriaxone (CRO; surrogate markers for ESBL production) were 5.2 and 8.9%, respectively. Against *K. pneumoniae*, 19.5% of isolates were R to moxifloxacin compared to 16.1% for LEV and 18.4% for CIP (18.4%) with 20.2% R to CAZ and 23.9% R to CRO. **Conclusions:** Similar to LEV and CIP, moxifloxacin demonstrated a stable susceptibility and MIC distribution pattern in ENT clinical isolates from EU patients over a 5 year period (2005-2009).

Species (no. tested)	No. (cum. %) of isolates inhibited at moxifloxacin MIC (mg/L)					MIC ₅₀	MIC ₉₀
	≤0.5	1	2	4	>4		
All ENT (14930)	11439 (76.6)	388 (79.2)	247 (80.9)	262 (82.6)	2594 (100.0)	≤0.5	>4
<i>E. coli</i> (8159)	6167 (75.6)	99 (76.8)	33 (77.2)	60 (77.9)	1800 (100.0)	≤0.5	>4
<i>K. pneumoniae</i> (2180)	1661 (76.2)	94 (80.5)	55 (83)	65 (86)	305 (100.0)	≤0.5	>4
<i>E. cloacae</i> (1147)	901 (78.6)	57 (83.5)	39 (86.9)	22 (88.8)	128 (100.0)	≤0.5	>4
<i>P. mirabilis</i> (607)	439 (72.3)	18 (75.3)	4 (75.9)	16 (78.6)	130 (100.0)	≤0.5	>4
<i>S. marcescens</i> (554)	393 (70.9)	43 (78.7)	48 (87.4)	37 (94)	33 (100.0)	≤0.5	4