

Antimicrobials: in vitro antibacterial susceptibility

Ceftaroline susceptibility against clinically relevant skin and soft tissue infection pathogens collected from hospitalized patients in the European Union: 2013 AWARE surveillance programme

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Objectives: To evaluate ceftaroline (CPT) and comparator susceptibility against clinically relevant skin and soft tissue infection SSTI pathogens collected from hospitalized patients in 2013 from representative European Union (EU) Member States.

Methods: 5,033 SSTI isolates were collected from 66 hospitals in 17 EU Member States : Austria (2), Belgium (4), Czech Republic (3), Denmark (2), France (6), Germany (7), Greece (3), Hungary (3), Ireland (1), Italy (7), Netherlands (2), Poland (3), Portugal (4), Romania (3), Spain (7), Sweden (4), United Kingdom (5) in 2013. Broth microdilution susceptibility testing was performed according to CLSI guidelines and percent susceptibility (%S) interpreted using EUCAST breakpoints. *Enterobacteriaceae* were screened for extended-spectrum β -lactamases (ESBLs) using ceftazidime and aztreonam MIC values <2 mg/L.

Results: Percent susceptibility (%S)/MIC₉₀ (mg/L) of SSTI pathogens versus antimicrobials tested are presented in the table.

Pathogen (n)	CPT	AMC	FEP	TZP	LVX	AZT	TGC	ERY
<i>S. aureus</i> (3111)	97.4/1	-	-	-	58.4/>2	-	97.3/0.5	57.0/>4
<i>E. coli</i> (605)	75.2/128	63.5/>16	83.6/>16	86.1/16	71.6/>4	81.5/16	99.2/0.5	-
ESBL-negative (488)	91.8/0.5	71.9/>16	98.0/≤0.12	91.6/8	81.4/>4	100/0.25	99.0/0.5	-
<i>K. pneumoniae</i> (278)	52.9/>128	52.5/>16	59.4/>16	57.9/>128	66.9/>4	56.8/>128	82.4/2	-
ESBL-negative (154)	94.8/0.5	89.6/16	98.1/≤0.12	89.0/16	94.2/0.5	100/0.12	86.4/2	-
<i>K. oxytoca</i> (110)	86.4/64	87.3/16	91.8/0.25	89.1/16	91.8/0.25	88.2/32	93.6/1	-
ESBL-negative (96)	97.9/0.5	99.0/8	100/≤0.12	100/4	99.0/0.06	100/0.5	96.9/0.5	-
<i>Proteus mirabilis</i> (189)	85.2/4	82.0/>16	92.1/0.5	97.4/2	75.7/>4	94.7/>16	10.1/8	-
ESBL-negative (174)	92.5/0.5	86.2/16	98.3/0.25	99.4/1	81.0/2	100/0.06	99.4/1	-

AMC=amoxicillin-clavulanate, FEP=cefepime, CPT=ceftaroline, TZP=piperacillin-tazobactam, LVX=levofloxacin, AZT=aztreonam, TGC=tigecycline, ERY=erythromycin, "-"(not indicated or no breakpoints)

3111 *S. aureus*: 1453 MSSA (CPT MIC₉₀ 0.25mg/L and 1658 MRSA (CPT MIC₉₀ 1.0 mg/L).

CPT was highly active (MIC₉₀ of 0.015 mg/L) against 740 β -haemolytic streptococci, 501 *Streptococcus pyogenes*, 117 *S. agalactiae*, 122 *S. dysgalactiae* (collected) not shown in table.

Conclusions: CPT was active against clinically-relevant SSTI isolates collected in 2013 from 17 EU Member States. Against Gram-positive pathogens 97.4% of *S. aureus* isolates including 1658 MRSA were CPT susceptible (MIC₉₀ of 1 mg/L), all 740 β -haemolytic streptococci tested were ceftaroline susceptible (MIC₉₀ of 0.015 mg/L). Of the 1182 *Enterobacteriaceae* tested 77.1% were ESBL screen negative, CPT was active against the majority of ESBL-negative isolates of *E. coli*, *K. pneumoniae*, *K. oxytoca* and *P. mirabilis* (MIC₉₀ of 0.5 mg/L).