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P1198 *In vitro* activity of ceftolozane-tazobactam against *Pseudomonas aeruginosa* clinical isolates from Southern Brazil

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Background: *Pseudomonas aeruginosa* infections are often difficult to treat, due to both intrinsic and rapidly acquired resistance. Ceftolozane-tazobactam (CTL-TAZ) is a recently release antimicrobial combination with action against beta-lactam resistant *P. aeruginosa* and Enterobacteriacea, even though resistance to this combination has already been reported. Different prevalence of resistance have been reported according to countries/regions, and Latin America data still limited.

Materials/methods: This cohort study was performed in a tertiary hospital located in Porto Alegre, Southern Brazil. All *P. aeruginosa* isolates were prospectively collected, and the study period was from May to November 2018. The isolates were identified by BD Phoenix (Becton Dickinson, USA). Antimicrobial susceptibility tests were performed by BD Phoenix automated test and/or disk-diffusion test, and gradient strips for CTL-TAZ (bioMérieux, France). Carbapenemase detection by Carba NP was also performed. In case of carbapenem-reduced susceptibility, polymyxin B minimum inhibitory concentration (MIC) by broth microdilution was tested - according to EUCAST criteria.

Results: A total of 68 *P. aeruginosa* clinical isolates were included, from patients admitted in ICU and clinical wards. Cultures were from respiratory tract 40 (58.8%), urine 18 (26.5%), blood 7 (10.3%), and skin and soft tissues 3 (4.4%). Susceptibility for different agents were as follows: CTL-TAZ 92.6%, ceftazime (CAZ) 88.2%, cefepime (CEF) 90.4%, piperacillin-tazobactam (PTZ) 85.2%, imipenem 79.4%, meropenem 77.9%, aztreonam (AZT) 79.1%, ciprofloxacin 85.2%, amikacin 95.5%, gentamicin 88.2% and polymyxin B 100% (MIC range <0.125 - 2.0mg/L). CTL-TAZ MIC range, MIC50 and MIC90 are show in table 1. Four isolates were carbapenemase-producers. Considering the CTL-TAZ non-susceptible (non-S) strains, 4/5 were carbapenemase producers, and all present resistance to ciprofloxacin and at least one aminoglycoside.

P. aeruginosa (n)	Ceftolozane-tazobactam			
	MIC Range	MIC50	MIC90	Susceptible (%)
All isolates (68)	0.25 - >256	0.75-1.0	2.0	92.6%
CAZ+CEP non-S (8)	2.0 - >256	4.0-6.0	>256	50.0%
PTZ non-S (10)	1.0 - >256	2.0-4.0	>256	60.0%
CARBA non-S (17)	0.75 - >256	2.0	>256	70.6%
AZT non-S (14)	0.5 - 6.0	1.5-2.0	4.0	92.8%

Minimum inhibitory concentration in mg/L; carbapenem: CARBA.

Conclusions: The overall susceptibility of 92.6% was similar to evidenced in Argentina and higher then previous data from Brazil and other Latin America countries. This study also evidenced high susceptibility to polymyxin B among this isolates, presenting this agent as reasonable treatment option in this setting. *In vitro* results suggest that CTZ-TZO is a potential alternative in carbapenem-resistant and/or multidrug-resistant *P. aeruginosa* infections.