

P1146 *In vitro* activity of ceftazidime-avibactam and comparator agents against *Enterobacteriaceae* and *Pseudomonas aeruginosa* collected from paediatric patients as part of the ATLAS Global Surveillance Program 2012-2017Meredith Hackel¹, Krystyna Kazmierczak¹, Greg Stone², Dan Sahn¹¹ IHMA, Inc., Schaumburg, United States, ² Pfizer, Inc., Groton, United States

Background: Ceftazidime-avibactam (CAZ-AVI) is a β -lactam/non- β -lactam β -lactamase inhibitor combination approved in Europe and the United States for treatment of adults with complicated intra-abdominal (IAI), urinary tract (UTI), and lower respiratory tract (LRTI) infections caused by *Enterobacteriaceae* and *Pseudomonas aeruginosa* carrying Class A, C and some Class D serine β -lactamases. We examined the *in vitro* activity of CAZ-AVI and comparator agents against isolates collected from pediatric patients (newborn to 17 years old) as part of the INFORM surveillance program in 2012-2017.

Materials/methods: 7776 non-duplicate isolates were collected from 188 hospital laboratories in Europe (4073), Latin America (1596), Asia/Pacific (925, excluding China), and the Middle East/Africa region (1182) from UTI (2273), LRTI (2133), skin and soft tissue (SSTI; 1520), IAI (1260), bloodstream (563 [2015-2017]), and other (27) sources. Susceptibility testing was performed by CLSI broth microdilution and values were interpreted using EUCAST 2018 breakpoints. CAZ-AVI was tested at a fixed concentration of 4 mg/L AVI.

Results: The *in vitro* activity of CAZ-AVI was greater than that of meropenem and ceftazidime against *Enterobacteriaceae* and *P. aeruginosa* collected from different infection sources (*Enterobacteriaceae*: MIC₉₀, 0.25-0.5 mg/L, >98% susceptible; *P. aeruginosa*: MIC₉₀, 4-8 mg/L, >93% susceptible) (Table).

Organism	Source (n)	Drug (MIC ₉₀ [mg/L]/% Susceptible)				
		CAZ-AVI		CAZ		MEM
		MIC ₉₀	% S	MIC ₉₀	% S	MIC ₉₀
<i>Enterobacteriaceae</i>	UTI (2025)	0.25	99.4	64	75.7	0.12
	LRTI (1385)	0.5	99.1	64	69.5	0.12
	SSTI (1152)	0.25	98.8	32	75.8	0.12
	IAI (1087)	0.25	99.3	32	80	0.06
	Blood (466)	0.5	98.3	128	61.6	0.12
<i>P. aeruginosa</i>	UTI (248)	4	94.4	32	85.5	4
	LRTI (748)	8	94.3	32	81.6	>8
	SSTI (368)	8	96.5	32	86.4	8
	IAI (173)	4	94.2	32	86.7	>8
	Blood (97)	8	93.8	64	81.4	>8

UTI, urinary tract infection; LRTI, lower respiratory tract infection; SSTI, skin and soft tissue infection; IAI, intra-abdominal infection; Blood, bloodstream infection; CAZ-AVI, ceftazidime-avibactam; CAZ, ceftazidime; MEM, meropenem. % Susceptible was determined using EUCAST 2018 breakpoints.

Conclusions: CAZ-AVI demonstrated potent *in vitro* activity against *Enterobacteriaceae* and *P. aeruginosa* isolates collected globally from pediatric patients in 2012-2017, regardless of infection site.

