Results. Susceptibility data are shown in the Table. Percentages of susceptibility (% S) to the tested agents were 0.3-2.9% lower among *Eba* and *Pae* from bloodstream infections compared to isolates from combined sources in most cases. CAZ-AVI showed potent *in vitro* activity against all *Eba* bloodstream isolates and the CAZ-NS subset (MIC_{90}, 0.5-2 µg/ml, 93.4-98.1% S). Reduced activity against MEM-NS *Eba* was attributable to carriage of class B metallo-β-lactamases (MBLs) because 99% of MEM-NS MBL-negative isolates were susceptible to CAZ-AVI. None of the tested comparators exceeded the activity of CAZ-AVI. CAZ-AVI also showed good *in vitro* activity against the majority of *Pae* bloodstream isolates (MIC_{90}, 16 µg/ml, 89.4% S). Activity was reduced against CAZ-NS and MEM-NS subsets (54.2-63.8% S), which included isolates carrying MBLs, but exceeded the activity of CAZ and MEM against these subsets by 26-31 percentage points. Amikacin was the only tested comparator that demonstrated comparable activity against *Pae* bloodstream isolates.

Table

		CAZ-AVI		CAZ		MEM		TZP		AMK	
Source	Organism/Phenotype (n)	MIC_{90}	%S	MIC_{90}	%S	MIC_{90}	%S	MIC_{90}	%S	MIC_{90}	%S
All	Enterobacterales, All (57048)	0.5	98.6	64	74.5	0.12	95.6	> 64	84.0	8	97.0
Blood	All (7720)	0.5	98.1	64	71.6	0.12	94.2	> 64	83.7	8	96.6
	CAZ-NS (2192)	2	93.4	> 128	0.0	> 8	81.0	> 128	52.8	32	89.7
	MEM-NS (445)	> 128	69.4	> 128	6.5	> 16	0.0	> 128	1.1	> 64	62.9
	MEM-NS, MBL-negative (312)	4	99.0	> 128	9.3	> 16	0.0	> 128	1.0	> 64	69.6
All	*P. aeruginosa*, All (15813)	8	90.9	64	76.5	> 8	73.2	128	72.2	32	89.9
Blood	All (1286)	16	89.4	64	76.9	> 8	71.6	> 64	73.9	> 32	87.0
	CAZ-NS (297)	128	54.2	> 128	0.0	> 16	23.6	> 128	7.7	> 64	53.5
	MEM-NS (365)	128	63.8	> 128	37.8	> 16	0.0	> 128	31.5	> 64	58.1
	MEM-NS, MBL-negative (288)	32	80.2	> 128	47.2	16	0.0	> 128	38.2	64	69.8

CAZ-AVI, ceftazidime-avibactam; CAZ, ceftazidime; MEM, meropenem; TZP, piperacillin-tazobactam; AMK, amikacin; NS, non-susceptible; MBL, metallo-β-lactamase. % Susceptible was determined using CLSI 2020 breakpoints.

Conclusion. CAZ-AVI provides a valuable therapeutic option for treating bloodstream infections caused by MBL-negative *Eba* and *Pae* isolates.

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1570. *In Vitro* Activity of Ceftazidime-Avibactam and Comparator Agents Against Enterobacterales from ICU and Non-ICU Wards Collected in Latin America and Globally as part of the ATLAS Surveillance Program 2017-2018

Sibylle Lob, PhD[1]; Krystyna Kazmierczak, PhD[1]; Greg Stone, PhD[2]; Daniel F. Sahm, PhD[1]; [1]IHMA, Inc., Schaumburg, IL; [2]Pfizer, Inc., Groton, Connecticut

Session: P-71. Treatment of Antimicrobial Resistant Infections

Background. Ceftazidime-avibactam (CAZ-AVI) is a β-lactam/non-β-lactam β-lactamase inhibitor combination with activity against Enterobacterales producing class A, C and some class D β-lactamases. Resistance caused by these β-lactamases is especially high in ICUs. This study evaluated the *in vitro* activity of CAZ-AVI and comparators against Enterobacterales isolates from patients in ICU and non-ICU wards.

Methods. Non-duplicate clinical isolates were collected in 2017-2018 from patients in Asia/Pacific, Europe, Latin America, and Middle East/Africa. Susceptibility testing was performed using CLSI broth microdilution and interpreted using CLSI 2020 and FDA (tigecycline) breakpoints. PCR and sequencing were used to determine the β-lactamase genes present in all isolates with meropenem (MEM) MIC >1 µg/ml, and *Escherichia coli*, *Klebsiella* spp. and *Proteus mirabilis* with aztreonam or ceftazidime MIC >1 µg/ml.

Results. The activity of CAZ-AVI and comparators is shown in the table. Susceptibility rates among global Enterobacterales were generally lower for isolates from patients in ICU than non-ICU wards, but this difference was small for CAZ-AVI, which inhibited ≥97% of isolates from both ward types. Among MEM-nonsusceptible (NS) isolates, CAZ-AVI was active against 66.5% and 68.1% of ICU and non-ICU isolates, respectively (of which 31.8% and 30.8%, respectively, carried metallo-β-lactamases [MBLs]). CAZ-AVI inhibited >97% of MEM-NS MBL-negative isolates collected globally. Antimicrobial activity against all Enterobacterales from both ICU and non-ICU wards in Latin America (LA) was generally similar to the global average. Among MEM-NS isolates, antimicrobial activity of CAZ-AVI and TGC was higher in LA than the global average among isolates from both ward types, at least partly because of a lower proportion of MBL-positive isolates in this subset (15.8% and 17.9% in ICU and non-ICUs, respectively). CAZ-AVI inhibited 100% of MEM-NS MBL-negative isolates from LA.

Table

		Drug (% Susceptible)					
Region/phenotype	**Ward type (n)**	**CAZ-AVI**	**CAZ**	**MEM**	**TZP**	**AMK**	**TGC**
Global[a]							
All Enterobacterales	ICU (6896)	97.0	66.6	91.5	77.7	94.5	97.0
	Non-ICU (19259)	98.6	75.0	96.1	85.8	97.6	96.7
MEM-NS	ICU (585)	66.5	6.8	0.0	1.9	58.0	93.0
	Non-ICU (759)	68.1	8.0	0.0	4.5	68.8	90.5
MEM-NS MBL-negative	ICU (399)	97.5	10.0	0.0	2.3	66.4	93.5
	Non-ICU (525)	97.9	11.6	0.0	5.5	74.7	93.9
Latin America							
All Enterobacterales	ICU (1166)	98.2	61.7	89.7	78.0	94.5	97.0
	Non-ICU (3101)	99.1	70.0	95.7	84.9	97.0	97.2
MEM-NS	ICU (120)	84.2	2.5	0.0	0.8	70.0	97.5
	Non-ICU (134)	82.8	9.0	0.0	3.7	67.9	95.5
MEM-NS MBL-negative	ICU (101)	100	3.0	0.0	1.0	75.3	97.0
	Non-ICU (110)	100	10.9	0.0	2.7	72.7	98.2

[a]Includes isolates from Asia/Pacific (excluding mainland China), Europe, Latin America, and Middle East/Africa
CAZ-AVI, ceftazidime-avibactam; CAZ, ceftazidime; MEM, meropenem; TZP, piperacillin-tazobactam; AMK, amikacin; TGC, tigecycline; NS, non-susceptible; MBL, metallo-β-lactamase

Conclusion. CAZ-AVI provides a valuable treatment option for infections caused by Enterobacterales that do not carry MBLs, including those among patients in ICU wards, where antimicrobial resistance is typically higher.

Disclosures. Sibylle Lob, PhD, IHMA (Employee)Pfizer, Inc. (Consultant) Krystyna Kazmierczak, PhD, IHMA (Employee)Pfizer, Inc. (Consultant) Greg Stone, PhD, AztraZeneca (Shareholder, Former Employee)Pfizer, Inc. (Employee) Daniel F. Sahm, PhD, IHMA (Employee)Pfizer, Inc. (Consultant)Shionogi & Co., Ltd. (Independent Contractor)

1571. *In Vitro* Activity of Ceftazidime-Avibactam and Comparator Agents Against MDR Enterobacterales and *Pseudomonas aeruginosa* Collected in Latin America During the ATLAS Global Surveillance Program 2017-2018

Krystyna Kazmierczak, PhD[1]; Sibylle Lob, PhD[1]; Greg Stone, PhD[2]; Daniel F. Sahm, PhD[1]; [1]IHMA, Inc., Schaumburg, IL; [2]Pfizer, Inc., Groton, Connecticut

Session: P-71. Treatment of Antimicrobial Resistant Infections

Background. Ceftazidime-avibactam (CAZ-AVI) is a β-lactam/non-β-lactam β-lactamase inhibitor combination that can inhibit class A, C and some class D β-lactamases. Resistance caused by these β-lactamases often results in multidrug-resistance (MDR). This study evaluated the *in vitro* activity of CAZ-AVI and comparators against MDR Enterobacterales and *Pseudomonas aeruginosa* isolates collected from patients in Latin America.

Methods. Non-duplicate clinical isolates were collected in 2017-2018 in 10 countries in Latin America. Susceptibility testing was performed using CLSI broth microdilution and interpreted using CLSI 2020 and FDA (tigecycline) breakpoints. MDR was defined as resistant (R) to ≥3 of 7 sentinel drugs: amikacin (AMK), aztreonam (ATM), cefepime (FEP), colistin (CST), levofloxacin (LVX), meropenem (MEM), and piperacillin-tazobactam (TZP).

Results. The activity of CAZ-AVI and comparators against all isolates and MDR subsets is shown in the table. MDR rates for the studied species ranged from 17.6% among *E. cloacae* to 31.0% among *K. pneumoniae*. CAZ-AVI was active against 99% of Enterobacterales isolates and maintained activity against 85-99% of MDR isolates of the examined species. Only tigecycline showed comparable or higher activity. Among *P. aeruginosa*, CAZ-AVI was active against 86% of all isolates and 45% of MDR isolates; no other studied drug was more active. The three most common MDR phenotypes among Enterobacterales were 1) R to ATM, FEP, and LVX (n=538, 50% of all MDR Enterobacterales; 100% susceptible (S) to CAZ-AVI), 2) R to all sentinel drugs except AMK and CST (n=112, 10% of all MDR isolates; 88% S to CAZ-AVI), and 3) R to ATM, FEP, LVX, and TZP (n=111, 10% of all MDR Enterobacterales; 100% S to CAZ-AVI). The three most common MDR phenotypes among *P. aeruginosa* were 1) R to all sentinel drugs except CST (n=70, 22% of all MDR isolates; 20% S to CAZ-AVI), 2) R to AMK, LVX, and MEM (n=33, 10% of all MDR isolates; 33% S to CAZ-AVI), and 3) R to all sentinel drugs except AMK and CST (n=30, 9% of all MDR isolates; 70% S to CAZ-AVI).