

statistically significant difference in both all-cause mortality (24% vs. 73%, $P = 0.006$) and infection related mortality (4% vs. 26%, $P = 0.017$) in the CAZ-AVI and BAT groups, respectively. There was a trend toward a lower overall length of stay favoring the CAZ-AVI cohort as opposed to the BAT cohort (16 days vs. 30 days, $P = 0.082$).

Conclusion. CAZ-AVI therapy was associated with lower mortality rates for CRE infections and have a high attributable mortality, especially with concomitant bacteremia. Future studies are warranted to confirm these results.

Disclosures. All authors: No reported disclosures.

2411. Expanded Susceptibility and Resistance Mechanism Testing Among Carbapenem-Resistant Enterobacteriaceae in Connecticut, 2017

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Background. In Connecticut (CT), submission of clinical carbapenem-resistant Enterobacteriaceae (CRE, resistant to ≥ 1 carbapenem) isolates to the state public health laboratory (SPHL) was mandated in 2017 for expanded susceptibility and carbapenemase testing. To guide empiric treatment, we created a statewide CRE antibiogram and explored the role of carbapenemase production.

Methods. Susceptibility testing was conducted by broth microdilution and disk diffusion and interpreted using Clinical and Laboratory Standards Institute (CLSI) breakpoints, if available. Carbapenemase-producing CRE (CP-CRE) were identified using the modified carbapenem inactivation method (mCIM). Multiplex real-time polymerase chain reaction testing was used to identify genes for common carbapenemases.

Results. Of 198 CRE isolates received by the SPHL in 2017, 166 were confirmed as CRE. After patient deduplication, 147 records remained (46.9% *Enterobacter*, 35.4% *Klebsiella*, 14.3% *Escherichia coli*, and 3.4% other). Most were susceptible to ceftazidime/avibactam (CAZ-AVI) (range: 90–100%) and colistin (range 94–100%). Forty-six (31%) were CP-CRE (39 *bla*_{KPC}, 4 *bla*_{NDM}, 2 *bla*_{OXA-48-like} and 1 gene unknown). Non-CP-CRE were more frequently susceptible ($P < 0.05$) than CP-CRE to levofloxacin (67 vs. 26%), moxifloxacin (64 vs. 20%), tigecycline (84 vs. 35%), and tobramycin (84 vs. 35%).

Conclusion. CP-CRE have demonstrated significant resistance to noncarbapenem antibiotic classes. Most CRE isolates were susceptible to CAZ-AVI and colistin. The predominant carbapenemase gene is *bla*_{KPC}. This statewide antibiogram can guide empiric prescribing and formulary selection for CRE treatment.

	# of isolates	% Susceptible											
		Carbapenems				Other antibiotics							
		Doripenem	Ertapenem	Imipenem	Meropenem	Ceftazidime/Avibactam	Ceftolozone/Tazobactam	Colistin [†]	Fosfomycin [†]	Levofloxacin	Moxifloxacin	Tigecycline	Tobramycin
<i>Klebsiella</i>	52	31	4	27	25	92	10	94	68	35	31	87	40
<i>E. coli</i>	21	60	0	52	50	90	19	100	100	10	10	95	71
<i>Enterobacter</i>	69	82	0	81	81	100	6		72	82	78	78	88
CP-CRE	46	10	2	4	9	91	4	97	80	26	20	35	35
Non-CP-CRE	101	81	3	79	76	98	14	88	71	67	64	84	84

* $P < 0.05$, CP-CRE vs non-CP-CRE, χ^2 or exact test

[†]No CLSI breakpoint. Colistin broth MIC ≤ 2 , fosfomycin disk diameter ≥ 16 mm

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2412. Our Experience With IV Fosfomycin

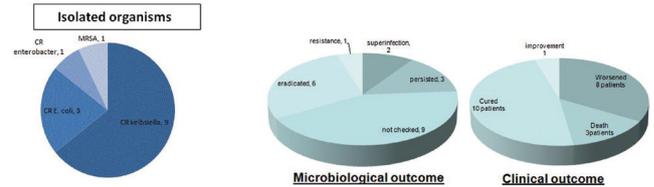
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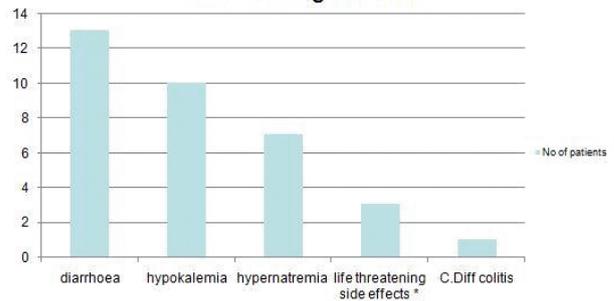
Background. Antimicrobial resistance in Gram-negative organism is a global problem. There is an increased interest in Fosfomycin due to its attractive PK/PD properties. The present study aimed to examine the effectiveness and safety of IV Fosfomycin which has been recently licensed in India.

Methods. We retrospectively studied patients who received IV Fosfomycin from January 2017 to February 2018. Patients with proven or suspected sepsis given IV Fosfomycin were included in the study. Clinical, microbiological outcome, and adverse reactions were noted.

Results. 27 patients received IV fosfomycin. Of these 6 were excluded from the study because 2 had SIRS due to non-infective etiology, 1 had an organism with Fosfomycin resistance and 3 had incomplete clinical records. 7 patients received empirical and 14 received directed treatment. The most frequent isolate was carbapenem-resistant *Klebsiella pneumoniae* found in 8 patients. 1 patient received monotherapy while 20 received combination therapy. 9 patients were clinically cured. 1 showed clinical improvement, 8 worsened on treatment due to adverse drug reactions and 3 patients died while on treatment. Microbiological cure was seen in 6 patients. 3 had persistently positive cultures. 1 patient with bacteremic UTI due to *Klebsiella pneumoniae* received IV fosfomycin for 14 days and relapsed after 1 week of stopping treatment with the same organism showing fosfomycin resistance. 16 patients developed adverse drug reactions. The most common adverse drug reaction was diarrhea in 13, among them 1 had *C. difficile* colitis. Other adverse reactions like hypernatremia and hypokalemia were observed in 7 and 10 patients, respectively. Electrolyte imbalance were seen in patients aged >50 and those who received a higher dose than was appropriate for the creatinine clearance. 2 patients developed noncardiogenic pulmonary edema within 72 hours of starting fosfomycin and 1 developed torsades de pointes with QT prolongation due to hypokalemia



Adverse drug reactions



*Non cardiogenic pulmonary edema - 2 patients, Torsades de pointes with QT prolongation - 1 patient

Conclusion. Fosfomycin appears to be a useful addition to the treatment armamentarium. Although adverse events have not been considered significant in most reviews, they are highly significant in our experience. We recommend careful monitoring of fluid and electrolyte balance in patients receiving IV fosfomycin

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2413. The Role of Minocycline in the Treatment of Nosocomial Infections Caused by Multidrug, Extensively Drug and Pandrug-Resistant *Acinetobacter baumannii*: A Systematic Review of Clinical Evidence

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Background. Treatment options for multi-drug-resistant (including extensively and pandrug-resistant) *Acinetobacter baumannii* strains (herein MDR-AB) are limited. Minocycline, a synthetic tetracycline derivative, has been used alone or in combination in the treatment of infections associated with AB. We systematically reviewed the available clinical evidence regarding its role in the treatment of nosocomial infections caused by MDR-AB isolates in adult patients.

Methods. A systematic review of the published literature examining the clinical use of minocycline in nosocomial infections associated with MDR-AB isolates (defined according to ECDC guidance) was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guidelines. PubMed, Scopus and Web of Sciences™ databases were searched from their inception until the March 20, 2018. Three researchers individually evaluated the available clinical studies according to predefined inclusion and exclusion criteria. No language restrictions were applied.