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Abstract (poster session)

Activity of ertapenem and comparators against Gram-positive and Gram-negative anaerobes in Europe, 2010-2011

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Background: Anaerobic bacteria are frequently involved in intra-abdominal infections (IAI), and have remained largely susceptible to many antimicrobics approved for use against them. Ertapenem, a class I carbapenem, is indicated for use in intra-abdominal (IAI) as well as other types of infections. There have been many reports on the activity of ertapenem and comparators against aerobic pathogens from the Study for Monitoring Antimicrobial Resistance Trends (SMART), but that surveillance program does not include anaerobic isolates. The present analysis was undertaken to ascertain the in vitro activity of ertapenem and comparators against a relatively large collection of anaerobes collected recently in Europe. Methods: 974 anaerobic isolates collected in 2010-2011 from a variety of specimen types (including, but not limited to, IAI) in the UK, Germany, France, Hungary, Czech Republic, and Belgium were tested at the IHMA central laboratory in Schaumburg, IL, USA using CLSI agar dilution methodology; MICs for ertapenem, cefoxitin (gram-neg only), clindamycin, meropenem, metronidazole, penicillin (gram-pos only), piperacillin-tazobactam, and tigecycline were interpreted using EUCAST and CLSI guidelines. Results: 400 Bacteroides (incl. 265 B. fragilis), 248 Clostridium (incl. 151 C. difficile), 169 Prevotella, 72 Peptostreptococcus, 46 Finegoldia magna, 21 Peptoniphilus assacharolytica, and 18 Anaerococcus spp. were tested. Percent susceptible values using EUCAST and CLSI breakpoints (FDA in the case of tigecycline), and MIC50/90 are shown in the following table: Conclusions: Except for clindamycin and penicillin, all drugs tested inhibited >=96% of the isolates. Although EUCAST breakpoints were lower than CLSI's for all drugs except clindamycin, % susceptible values were within 0-7% of each other. Ertapenem's in vitro activity against this collection of anaerobes was essentially equivalent to that of meropenem, metronidazole, piperacillin/tazobactam, and tigecycline.

	EUCAST		CLSI		
Drug	C. difficile	Others	All	MIC50	MIC90
Ertapenem	-	96.0%	97.9%	0.12 mg/L	2 mg/L
Cefoxitin	-	-	94.2%[1]	4 mg/L	16 mg/L
Clindamycin	-	77.1%[2]	72.9%[3]	0.5 mg/L	>8 mg/L
Meropenem	-	97.2%	98.7%	≤0.06 mg/L	1 mg/L
Metronidazole	98.7%[4]	100%	100%	0.5 mg/L	2 mg/L
Penicillin	-	65.2%[3]	71.7%[3]	≤0.25 mg/L	2 mg/L
Piperacillin/Tazobactam	-	97.0%	99.7%	0.12 mg/L	8 mg/L
Tigecycline	98.0%[4]	-	99.5%[5]	≤0.06 mg/L	0.5 mg/L
	[1]Gram-neg only				
	[2]Gram-neg and gram-pos				
	[3]Gram-pos only				
	[4]Epidemiologic cutoff; no clinical breakpoints				
	[5]FDA breakpoint; no CLSI breakpoint exists				