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Abstract (poster session)

Susceptibility of *Clostridium difficile* from the UK to alternative agents

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Objectives: *Clostridium difficile* is a leading cause of nosocomial diarrhoea worldwide and is associated with high rates of morbidity and mortality. A 35-fold increase in the reported incidence of *C.difficile* Infection (CDI) in the United Kingdom over the last decade has been associated in part with the emergence of the highly virulent clone PCR-ribotype 027. Recommended empiric therapy for CDI is currently metronidazole or oral vancomycin but as rates of relapse and re-infection increase, new pharmacological approaches are needed. This study aimed to investigate the antimicrobial susceptibilities of *C.difficile* strains to some less commonly used agents. **Methods:** 276 *C.difficile* isolates from 38 different ribotypes (of known susceptibility to vancomycin and metronidazole) submitted to the UK Anaerobe Reference Unit between 2001 and 2011 were tested. Susceptibility was assessed by agar dilution MIC by the CLSI method for rifaximin, rifampicin, fusidic acid and teicoplanin. **Results:** Summary MIC data presented by ribotype are shown in the table. The "Other" category consists of 110 isolates from 34 less common ribotypes. The great majority of isolates were susceptible to all of the agents tested, irrespective of ribotype (or indeed year of isolation). The one isolate resistant to vancomycin (MIC 4 mg/L) remained sensitive to teicoplanin (MIC 0.25 mg/L). Of note, 2 isolates were resistant to both rifampicin and rifaximin, while 4 isolates were resistant to rifampicin but remained sensitive to rifaximin. **Conclusions:** Recent isolates of *C. difficile* from across the UK appear sensitive to rifampicin, rifaximin, teicoplanin, and fusidic acid. This suggests that they may be effective alternative agents in the treatment of severe CDI.

Table: MICs (mg/L) for different ribotypes

Ribotype	Rifampicin		Rifaximin		TEI		FUS	
	Range	MIC90	Range	MIC90	Range	MIC90	Range	MIC90
001	<0.002 – 32	<0.002	<0.002 – >32	0.008	0.125-0.5	0.25	0.06-16	2
027	<0.002 – >32	0.004	<0.002 – >32	0.008	0.125-0.5	0.25	0.06-16	2
078	<0.002 – 0.004	<0.002	<0.002 – 0.008	0.008	0.125-1	0.25	0.06-2	1
106	<0.002 – >32	<0.002	<0.002 – 0.008	0.008	0.125-1	0.5	0.03-2	2
Other	<0.002 – >32	<0.002	<0.002 – >32	0.008	0.06-1	0.25	0.03->128	2