

P0284

Poster Session I

EUCAST antimicrobial susceptibility testing

**EVALUATION OF THE EUCAST DISK DIFFUSION METHOD FOR ANTIMICROBIAL SUSCEPTIBILITY TESTING OF THE BACTEROIDES FRAGILIS GROUP ISOLATES**

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**Objective:** The objective of this study was to evaluate disk diffusion method for susceptibility testing of *Bacteroides fragilis* group strains by comparing disk diffusion results with MICs and propose zone diameter breakpoints, which correlate for the EUCAST or CLSI (if there is no resistance breakpoints data in EUCAST database) breakpoints recently published.

**Methods:** 400 *B. fragilis* group clinical isolates from 11 different European countries were included in this study. All strains were tested to amoxicillin-clavulanic acid, ceftiofloxacin, clindamycin, imipenem, metronidazole, moxifloxacin, piperacillin/tazobactam and tigecycline by agar dilution method previously during a European antibiotic surveillance study. The same antibiotics were used for the disc diffusion measuring the inhibition zones on Brucella Blood Agar supplemented with haemin and vitamin K1 (Becton Dickinson). Meropenem and tetracycline was only tested by the disc diffusion method. The inoculum was prepared in physiological saline (McFarland 1), and the plates were incubated in 37 °C in an anaerobic atmosphere (10% H<sub>2</sub>, 10% CO<sub>2</sub>, 80% N<sub>2</sub> - anaerobic chamber) for 24 hours. The EUCAST rule of 15-15-15 minutes was kept all the time. The zone diameters were read at 100% inhibition with naked eye.

**Results:** The imipenem-susceptible isolates had zone diameters between 26 and 44 mm. Two isolates, which had imipenem MIC 16 mg/L, had zone diameters 17 and 18 mm and other two isolates, which had MIC 64 mg/L, had no inhibition zone. The metronidazole-susceptible isolates had zone diameter between 23 and 40 mm. There was only one metronidazole-resistant isolate (MIC 8 mg/L) which showed no inhibition zone. There were 2 tigecycline-resistant isolates (MIC 16 and 32 mg/L) and they had no inhibition zones. The tigecycline-susceptible strains had zone diameters between 23 and 34 mm, with min 75% of the values within 7 mm. All of the moxifloxacin-resistant strains (MIC ≥ 8 mg/L) had no inhibition zone. The reduced susceptible isolates for moxifloxacin had zone diameters between 11 and 18 mm. The moxifloxacin-susceptible strains had zone diameters between 25 and 31 mm.

**Conclusion:** In the case of imipenem, metronidazole, tigecycline, and moxifloxacin susceptible isolates were clearly separated from non-susceptible isolates by the disc diffusion method. Further studies are needed to understand the factors which influence disc diffusion data for the other antibiotics tested.