R078
Publication Only
Antimicrobials: Resistance surveillance

Detection of MICs of fidaxomicin and comparable antibiotics against a collection of toxin-positive *Clostridium difficile* strains in Hungary

Z. Eitel[1], G. Terhes[1], J. Sóki[1], E. Urbán[1], **E. Nagy**[1]

[1]Insitute of Clinical Microbiology, University of Szeged, Szeged, Hungary

Objective: Fidaxomicin is a new macrocyclic antibiotic, which has a narrow spectrum of activity against gram-positive anaerobes and is bactericidal against *C. difficile*. Fidaxomicin stands out as the first-in-class oral macrocyclic antibiotic with targeted activity against *C. difficile* which has a minimal damage on the normal colonic flora. The aim of this study was to investigate the in vitro activities of fidaxomicin against 188 *Clostridium difficile* strains isolated in different centres of Hungary. The agar dilution method was used to determine the in vitro susceptibility of this new antibiotic.

Methods: Diarrheal stool samples were collected from different areas of Hungary during the routine diagnostic procedure. Faecal samples were plated on CCFA for isolation of C. difficile. The determination of MICs of metronidazole, moxifloxacin, rifampicin and vancomycin has already been done previously by E-test method.The isolates were tested for susceptibility to fidaxomicin using CLSI agar dilution methods. The control strain was *C. difficile* 630 (CD 630).

Results: The *C. difficile* isolates displayed minimum inhibitory concentrations (MIC) for fidaxomicin in the range of <0.008-0.5 µg/ml, with a MIC_{90} of 0.125 µg/ml. Only four isolates (2.1 %) had 0.5 µg/ml MICs to fidaxomicin. One of these strains was moxifloxacin resistant (MIC= 32 mg/L) and there is another strain which had elevated rifampicin resistance (MIC=1 mg/L). The detected MICs displayed an identical distribution with respect to the EUCAST database for wild-type strains. The MICs of fidaxomicin for the control *C. difficile* strain (CD 630) was 0.064 ± 1 dilution. None of the isolates were resistant for metronidazole or vancomycin.

Conclusion: In summary it can be said that fidaxomicin is a therapeutically useful new antibiotic to treat CDI. Strains with elevated MICs values has not been found yet, but required for the screening of numerous clinical isolates to get a wider picture of the current status of *Clostridium difficile* strains for this new antibiotic.