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Abstract (poster session)

**Hospital-endemic *Clostridium difficile* strains are one of the multidrug-resistant organisms in our hospital**

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**Background:** To investigate the difference of antimicrobial resistance rates according to PCR-ribotyping of *Clostridium difficile*, antimicrobial susceptibility test for clinical isolates from healthcare-associated *C. difficile* infection (HA-CDI) was performed. **Methods:** From Sept 2008 through Jan 2010, all the isolates from HA-CDI were included in our study. With cultured *C. difficile* organisms, PCR-ribotyping was performed. Antimicrobial susceptibility test to clindamycin (CM), moxifloxacin (MX), metronidazole (MT), or vancomycin (VC) was performed using E-test, and to rifaximin (RF) by agar dilution test. Distinct PCR-ribotype composed with  $\geq 10$  strains and 4 to 9 strains were regarded as major and minor PCR-ribotypes, respectively. **Results** During study period, 143 *C. difficile* showed 42 distinct PCR-ribotypes with 3 major and 5 minor PCR-ribotypes. There was no resistant strain against MT or VC. Most common PCR-ribotype (AB17) including 37 strains (25.9%) showed resistance rates of 91.7% to CM, 91.9% to MX, and 5.4% to RF. Second most common PCR-ribotype (aB, ribotype 017) comprising 15.4% (22 isolates) of total isolates was also very resistant to antibiotics; CM (100%), MX (95.5%), and RF (95.0%). However, among minor PCR-ribotype strains, only 2 PCR-ribotype strains [AB2(R112), AB8] revealed high resistant rate to CM (100%, 75%) and MX (80%, 75%). Overall resistance rates of 5 minor PCR-ribotype strains were 45.8% to clindamycin, 37.5% to moxifloxacin, and 0% to rifaximin. The other strains which did not belong to major or minor ribotypes revealed lower resistance rate to CM (35.9%), MX (28.9%) and RF (10.3%). Comparing resistance rate between 3 groups of isolates, resistance rates were higher in order; major, minor, and the other PCR-ribotype strains ( $p$  for trend  $< 0.001$ ,  $< 0.001$ , respectively). **Conclusion:** Antimicrobial resistance rate of *C. difficile* isolates was closely correlated with frequency of isolation in hospital. The effect of decreasing antibiotic selection pressure to epidemiology of CDI in the hospital is necessary.