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ePoster Viewing

Antifungal drug susceptibility and resistance

Antifungal susceptibility profiles of pathogens of invasive candidiasis in Russia

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Objectives: To study etiologic agents of invasive candidiasis (IC) and the susceptibility to fluconazole and voriconazole.

Methods: A total of 150 clinical isolates from patients with IC from different hospitals of Russia during 2011-2013 were prospectively studied. *Candida* spp. were identified with MALDI-TOF mass-spectrometry, 95 of 150 strains were identified with DNA-sequencing. Agreement of results between DNA- sequencing and MALDI-TOF mass-spectrometry was 98,95%. In vitro susceptibilities to fluconazole and voriconazole were studied by CLSI M27-A3 method (microdilution) with interpretation criteria CLSI M27-S4 (December, 2012).

Results Etiologic agents of IC included 8 species: *C.albicans* (52,6%), *C.parapsilosis* (16%), *C. glabrata* (13,3%), *C.tropicalis* (9,3%), *C.krusei* (5,4%), *C.guilliermondii* (1,4%), *C.pararugosa* (1,4%), and *C.dublinskiensis* (0,6%).

In vitro to fluconazole were susceptible 115 (76.6 %) strains, susceptible dose dependent (SDD) – 21 (14%), and resistance (R) - 14 (9.4%). In *Candida albicans* were susceptible 77/79 (97.4%) and R - 2 (2.8%). MICs for one strain of *C.dublinskiensis* and two strains of *C.pararugosa* were respectively 0.125 µg/ml and 1 µg/ml. In *Candida non-albicans* were susceptible 39 (54.9%) strains; SDD were 20 (28.2%) and R – 12 (16.9%). All 20 *C.glabrata* isolates were SDD to fluconazole. Twenty *C.parapsilosis* strains were identified as susceptible, SDD – 1 strain, R - 3. All 14 *C.tropicalis* and 2 *C.guilliermondii* strains were susceptible to fluconazole.

We found that 149 (99.3 %) strains were susceptible and 1 (0,7%) strain was SDD (*C.tropicalis*) to voriconazole.

Conclusion The most common species among etiologic agents of invasive candidiasis in Russia was *C. albicans* (52,6 %) followed by *C.parapsilosis* (16%) and *C. glabrata* (13,3%). Using new interpretative criteria of CLSI M27-A3 we found that 76.6 % *Candida* spp. strains from patients with invasive candidiasis in Russia were susceptible to fluconazole and 99.3% - to voriconazole.