00509

Rezafungin Activity against Candidemia Isolates Collected from European Medical Centres (2019–2021)

06. Fungal infection & disease

6c. Antifungal susceptibility testing & resistance (incl. surveillance)

Likely attendance

Onsite

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Background

Rezafungin (RZF) is a once weekly echinocandin (ECH) with a long half-life and front-loaded drug exposure under development to treat candidemia. We evaluated the in vitro activity of RZF, caspofungin (CSF), micafungin (MCF), anidulafungin (ANF), and fluconazole (FLC) against *Candida* spp. causing bloodstream infection in Europe.

Methods

610 isolates were collected (1/patient) in 2019–2021 from 18 medical centres located in Western Europe (W-EU; n=438; 14 centres) and Eastern Europe (E-EU; n=172; 4 centres). Isolates were identified by MALDI-TOF and tested by CLSI broth microdilution. CLSI breakpoints (BP) were applied (provisional values for RZF). RZF non-susceptible (NS) isolates were submitted to whole genome sequencing.

Results

Isolates included *Candida albicans* (CA; 261 isolates), *Candida parapsilosis* (CP; 134), *Candida glabrata* (CG; 121), *Candida tropicalis* (CT; 67), *Candida krusei* (CK; 20), and *Candida dubliniensis* (CD; 7). RFZ inhibited all but 3 *Candida* spp. isolates at the susceptible (S) BP for each species. One CA (Germany), 1 CD (Germany), and 1 CG (Spain) were non-S to RZF. CA and CG non-S strains were resistant to other ECHs and displayed either a S645P alteration in Fks1 or a S663P alteration in Fks2 genes, respectively. No alterations were observed in the CD strain. RZF had similar activity to the other ECHs against CA (98.9–100.0%S), CG (97.6–100.0%S), CP (100.0%S; except ANF, 89.2–95.1%S), CT (100.0%S), CK (100.0%S), and CD (MIC50 range, 0.015–0.12 mg/L), regardless of the region or year. FLC was active against CA (100.0%S) and CT (100.0%S), regardless of the region or year. FLC resistance (R) rates against CP isolates were 31.2%/17.1% from W-EU/E-EU and 18.9%/27.5%/31.6% for CP isolates from 2019/2020/2021, respectively. FLC-R rates against CG isolates were 5.0%/2.4% from W-EU/E-EU and 10.3%/4.4%/2.1% in 2019/2020/2021, respectively.

Conclusions

RZF was very active against CA, CG, CP, CT, CK, and CD causing candidemia in European medical centres. ECHs, including RZF, displayed similar activity against different *Candida* species. RZF and other ECHs S rates were stable over the 3-year period. However, FLC R rates progressively increased against CP and decreased against CG.

Keyword 1
Fungi and clinical mycology
Keyword 2
Antimicrobial susceptibility testing (AST)
Keyword 3
Antimicrobial resistance

Conflicts of interest

Do you have any conflicts of interest to declare?
No