

## Propensity Score Analysis of the Role of Initial Antifungal Therapy in the Outcome of *Candida glabrata* Bloodstream Infections

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### ABSTRACT

*Candida glabrata* isolates have reduced *in vitro* susceptibility to azoles, which raises concerns about the clinical effectiveness of fluconazole for treating bloodstream infection (BSI) by this *Candida* species. We aimed to evaluate whether the choice of initial antifungal treatment (fluconazole versus echinocandins or liposomal amphotericin B [L-AmB]-based regimens) has an impact on the outcome of *C. glabrata* BSI.

We analyzed data from a prospective, multicenter, population-based surveillance program on candidemia conducted in 5 metropolitan areas of Spain (May 2010 to April 2011). Adult patients with an episode of *C. glabrata* BSI were included. The main outcomes were 14-day mortality and treatment failure (14-day mortality and/or persistent *C. glabrata* BSI for  $\geq 48$  h despite antifungal initiation). The impact of using fluconazole as initial antifungal treatment on the patients' prognosis was assessed by logistic regression analysis with the addition of a propensity score approach.

A total of 94 patients with *C. glabrata* BSI were identified. Of these, 34 had received fluconazole and 35 had received an echinocandin/L-AmB-based regimen. Patients in the echinocandin/L-AmB group had poorer baseline clinical status than did those in the fluconazole group. Patients in the fluconazole group were more frequently (55.9% versus 28.6%) and much earlier (median time, 3 versus 7 days) switched to another antifungal regimen. Overall, 14-day mortality was 13% (9/69) and treatment failure 34.8% (24/69), with no significant differences between the groups. On multivariate analysis, after adjusting for baseline characteristics by propensity score, fluconazole use was not associated with an unfavorable evolution (adjusted odds ratio [OR] for 14-day mortality, 1.16, with 95% confidence interval [CI] of 0.22 to 6.17; adjusted OR for treatment failure, 0.83, with 95% CI of 0.27 to 2.61).

In conclusion, initial fluconazole treatment was not associated with a poorer outcome than that obtained with echinocandins/L-AmB regimens in patients with *C. glabrata* BSI.

(This study has been registered at ClinicalTrials.gov under registration no. NCT01236261.)