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Fungal infective endocardatis: echinocandins and no surgery?

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Background: Fungal endocarditis (FE) is a rare disease associated with a poor outcome. This study examines the clinical characteristics and prognosis of FE and compares them with infective endocarditis (ID) due to bacterial pathogens. Particular attention was focused on antifungal therapy and surgical management of patients with FE.

Material/methods: We included all consecutive patients with IE according to Duke criteria prospectively detected at our hospital between January 2008 and May 2016. Multidisciplinary teams completed a standardized case report form according to the national registry “Spanish Collaboration on Endocarditis (GAMES)” Patients with a diagnosis of FE were compared with the rest of the database.

Results: During the study period, 12 out of 435 episodes of IE had a fungal etiology (2.8 % of IE during the same period). *Candida albicans* was isolated in 5 patients (41.6%), non-albicans species of *Candida* in 3, *A. fumigatus* in 2 and *C. neoformans* and *R. mucilaginosa* in 1 case, respectively. A natural valve was affected in most cases (66.7%) whereas a prosthetic valve was less frequently involved (16.7%). When compared with patients with bacterial IE, those with FE had significantly more neoplastic disease (50% vs 26.2%, p=.06), more hospital-acquired infection (75% vs 33.7%, p=.003) and had more central venous catheters (CVC) in place at the time of IE (58.3%vs 30.5%, p = 0.04). Moreover, in 7 out of 12 cases of FE, CVC was purportedly the source of IE (58.3% vs 30.3%, p=.04). No differences were observed regarding clinical presentation of FE, although more patients with IE had vegetations in non-valvular sites (50% vs 0%, p=0.01). Infection spread to other organs and cardiac abscess rates were similar between groups. Ten patients with FE received systemic combination therapy: echinocandins plus azoles in 6 cases and liposomal amphotericin B plus azoles in 4. One patient received monotherapy with azoles, whereas one patient did not received systemic antifungal therapy because of early death. Median length of antifungal therapy was 140 days. Overall mortality rate was lower in patients receiving echinocandins in comparison with those who did not (83% vs 33%, p=.079). Surgical therapy, although indicated, was performed less often in patients with FE (33% vs 43.3%, p=0.37) who also had a higher overall mortality (50% vs 30.3%, p=0.14). There was no significant difference in mortality between FE patients receiving or not surgical therapy (33% in both cases).

Conclusions: A significant proportion (2.8%) of IE episodes is caused by fungal pathogens. The main differential characteristics of patients with FE included: presence of neoplastic disease, nosocomial acquisition and CVC origin. Although we were not able to demonstrate a beneficial effect of surgery, receiving an echinocandin-based therapy was associated with a better outcome.