Appropriateness of Echinocandin Use in Siriraj Hospital

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Background: Echinocandin is a unique class of antifungal agent with activity mainly against Candida. As a part of antifungal stewardship, appropriate use of echinocandin must be monitored to reduce emergence of antifungal resistance.

Objective: The aim of this study was to determine the appropriateness of echinocandin use in Siriraj Hospital.

Methods: We performed a retrospective study in patients admitted at Siriraj Hospital who received echinocandin between January and December 2016. Data collection included demographics, co-morbidities, underlying diseases, corticosteroid and immunosuppressive drug use, and indication for echinocandin treatment. Appropriateness was determined by assessing the indication, dose, and duration of echinocandin prescribed.

Results: A total of 75 patients were enrolled. Mean age was 68 years and 50.7% were male. Micafungin was used in 65 patients (86%), while 10 patients were prescribed caspofungin. The most common indication for echinocandin use was treatment for invasive candidiasis (63 patients, 84%), followed by empirical antifungal therapy in febrile neutropenic patients (11 patients, 14.6%) and 1 patient with echinocandin as antifungal prophylaxis in solid organ transplantation. Appropriate use of echinocandin was observed in 59 patients (78.7%); whereas, 5 patients (6.7%) were inappropriate and 11 patients (14.7%) were considered equivocal. All patients who had inappropriate or equivocal echinocandin use were prescribed for specific treatment in invasive candidiasis. The most common situation of equivocal use was for empirical treatment in critically-ill patients who were suspected of invasive candidiasis. Inappropriate use of echinocandin was found in patients with caniduria and other conditions that did not fit to echinocandin indications.

Conclusion: Appropriate use of echinocandin is identified in 78.7% at Siriraj Hospital. The most common inappropriate/equivocal use of echinocandin was for empirical treatment in critically-ill patients who were suspected of invasive candidiasis. Rapid and accurate diagnostic tests for candidiasis are crucial for antifungal stewardship program.

Keywords: Echinocandin, Appropriate use, Antifungal treatment, Antifungal stewardship