ECONOMICS ANALYSIS OF DIAGNOSTIC METHODS FOR CLOSTRIDIUM DIFFICILE INFECTION

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OBJECTIVES: Several molecular diagnostic assays (MDA) are now commercially available for the diagnosis of Clostridium difficile infection (CDI). These assays detect genomic material associated with the pathogen's toxin A, B, and/or other genes in stool samples. Compared with the traditional CDI laboratory assay diagnostics, MDA has a higher sensitivity and better specificity but requires more expensive instrumentation. The impact of routine use of MDA on the economics of CDI disease (via shorter hospitalization and less morbidity) is not clear. We evaluated whether a future use of MDA reduces the healthcare costs and the quality-adjusted life years (QALYs) for CDI patients. METHODS: We performed a decision tree analysis to compare cost effectiveness of MDI with enzyme immunoassay (EIA) and cytotoxin assay (CA) respectively, using data from published literature and economic perspective. Analyses were conducted from the societal perspective. Both osmotic and two-way sensitivity analyses were performed. RESULTS: The main analysis shows that 60% of Micafungin patients were successfully treated and survived at the end of study compared to 54% and 58% in the treatment of pf-7 and CEI respectively. The costs associated with the higher success rate of Micafungin are smaller than the costs of a Caspofungin treatment (CHF 56,704). This results in a lower cost-effectiveness ratio for Micafungin (CHF 91,356) than for Caspofungin (CHF 98,900). Moreover, Micafungin dominates Caspofungin in the incremental cost-effectiveness threshold. Sensitivity analysis shows similar findings. CONCLUSIONS: This study demonstrates that the cost-effectiveness of Micafungin, as compared to Caspofungin, for the treatment of systemic candida infections in Switzerland. Both lower costs and higher effectiveness of Micafungin render Micafungin as more cost-effective than Caspofungin.

PINS5
MUCAFUNGIN VERSUS CASPOFUNGIN FOR THE TREATMENT OF SYSTEMIC CANDIDA INFECTIONS: A COST-EFFECTIVENESS ANALYSIS FOR SWITZERLAND

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OBJECTIVES: To compare the cost-effectiveness of micafungin versus caspofungin for the treatment of systemic candida infections (including invasive candidiasis and candidaemia) in Switzerland. METHODS: To this end, a health economic decision model was developed. The global patient cost-effectiveness data is used. Hospitalization and primary medication costs are based on official Swiss data. The effectiveness outcome is defined as successfully treated and alive patients at the end of the study period. To study for robustness of cost-effectiveness results, a subgroup analysis, a two-way sensitivity analysis and probabilistic sensitivity analysis (PSA) are performed. RESULTS: The main analysis shows that 60% of Micafungin patients were successfully treated and survived at the end of study compared to 54% and 58% in the treatment of pf-7 and CEI respectively. The costs associated with the higher success rate of Micafungin are smaller than the costs of a Caspofungin treatment (CHF 56,704). This results in a lower cost-effectiveness ratio for Micafungin (CHF 91,356) than for Caspofungin (CHF 98,900). Moreover, Micafungin dominates Caspofungin in the incremental cost-effectiveness threshold. Sensitivity analysis shows similar findings. CONCLUSIONS: This study demonstrates that the cost-effectiveness of Micafungin, as compared to Caspofungin, for the treatment of systemic candida infections in Switzerland. Both lower costs and higher effectiveness of Micafungin render Micafungin as more cost-effective than Caspofungin.