Candida infections: A cost-effectiveness analysis for Switzerland

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OBJECTIVES: To compare the cost-effectiveness of micafungin against 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. All double-radii cost-effectiveness analyses use the same global patient dataset. 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 test 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% of Caspofungin patients. The costs of the Micafungin treatment 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 analysis. For European patients only, who can be assumed to be a more homogenous group and a better approximation of Swiss patients, the cost-effectiveness ratio for Micafungin is CHF 88,474 compared to CHF 105,202 for Caspofungin. Two-way sensitivity analyses for both, total sample and European subgroup, render Micafungin more cost-effective than Caspofungin in 20 out of 20 scenarios (highest incremental cost-effectiveness for Micafungin amounts to CHF 16,382). Probabilistic sensitivity analysis shows similar findings. CONCLUSIONS: This study presents the first 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
COST-EFFECTIVENESS OF BECAPLERMIN GEL ON WOUND CLOSURE IN THE TREATMENT OF PRESSURE ULCERS

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OBJECTIVES: To determine the cost-effectiveness of becaplermin gel on wound healing in the treatment of pressure ulcers. METHODS: As part of a clinical trial and cost data was based on China’s practical situation. In the sensitivity analysis, a two-way and probabilistic sensitivity analysis was performed to evaluate the cost-effectiveness of becaplermin gel once daily and 30 for placebo gel. Patients in both arms received dressing changes twice daily. Patients in the treatment arm received becaplermin gel once daily followed by placebo gel. Transition probabilities for the Markov states were estimated from the clinical trial. Ulcer recurrence rates were derived from FU literature. Utilization for becaplermin gel was calculated using the manufacturer’s recommended dosage algorithm for diabetic foot ulcers. Costs were derived from standard references such as drug price, wholesale and national data. The incremental cost-effectiveness ratio was calculated as the net benefit of the intervention divided by the incremental health outcome.

Conclusions: European pressure ulcer patients treated with becaplermin gel once daily had substantially higher ulcer-free weeks compared to placebo patients (13.5 versus 0.0, respectively). Patients treated with becaplermin gel incurred higher total costs (€2,534 versus €1,222 for placebo gel). Incremental cost-effectiveness ratios for becaplermin gel vs placebo were €2,313 per quality-adjusted-life-year gained. During the follow-up period, the becaplermin gel once daily regimen resulted in an additional 12.5 quality-adjusted-life-years and a cost of €2,313, thereby providing a cost-effectiveness ratio of €192 per quality-adjusted-life-year gained. Therefore, becaplermin gel can be considered as an efficient intervention for treating pressure ulcers when compared to placebo. However, further efficacy studies are necessary to confirm these findings.

PINS6
COST-EFFECTIVENESS OF MICAFUNGIN VERSUS CASPOFUNGIN IN THE TREATMENT OF INVASIVE CANDIDA INFECTION IN CHINA

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OBJECTIVES: To evaluate the cost-effectiveness of micafungin compared to caspofungin for the treatment of infections caused by multidrug-resistant (MDR) candida in Mexico. METHODS: A 2-stage Markov model was used to predict expected costs and outcomes of wound healing for becaplermin gel once daily compared to placebo gel over a 1-year time period. Outcome data used in the analysis were derived from a 16-week randomized clinical trial. Primary outcome was wound closure (CU), which is defined as 75% or more wound shrinkage. To this end, a health economic decision model was developed to estimate the cost-effectiveness of micafungin compared to caspofungin from the perspective of the whole society. In the model, outcome on effectiveness was derived from the Phase III clinical trial and cost data was based on China’s practical situation. In the sensitivity analysis we use relative measurement method and absolute measurement method to analyze the results. RESULTS: At the end of all antifungal therapy, the treatment success rate of micafungin 100 mg/d group, micafungin 150 mg/d group and