PHARMACOECONOMIC ANALYSIS OF ACUTE EXACERBATION OF CHRONIC BRONCHITIS TREATMENT WITH TELITHROMYCIN OR CEFUROXIME-AXETIL

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OBJECTIVE: A pharmacoeconomic analysis was carried out comparing the efficiency of two treatment options for acute exacerbation of chronic bronchitis (AECB): Telithromycin and Cefuroxime-axetil. METHODS: Retrospective analysis using a decision tree model. The efficacy of the 2 treatment options was estimated from a randomised, double-blind clinical trial, in which 800mg/day (5 days) of Telithromycin was compared to 1,000mg/day (10 days) of Cefuroxime-axetil in patients with AECB (140 and 142 respectively). The utilisation of resources was estimated from the clinical trial and Spanish sources, and the unit costs from a Spanish health costs database. Costs were evaluated for the acquisition of antibiotic treatments, change of antibiotic due to therapeutic failure, hospital admissions, adverse reactions treatment, primary care visits, tests and indirect costs (working days lost). The model was validated by a panel of Spanish clinical experts. RESULTS: As the clinical trial was designed to show equivalence, there were no significant differences in efficacy between the treatment options (clinical cure rate 86.4% and 83.1% respectively), and a cost minimisation analysis was performed. In the base case, the average cost of the disease per patient was €174.83 with Telithromycin and €194.68 with Cefuroxime-axetil (a difference of €19.85). The results were stable in the sensitivity analysis, with differences favourable to Telithromycin ranging between €18.04 and €22.25. CONCLUSIONS: Telithromycin results in a cost saving of up to €22 per patient with AECB compared to Cefuroxime-axetil.
OBJECTIVES: To evaluate the cost-consequence of LVP/r compared with NFV in treating antiretroviral (ARV) naïve HIV patients. METHODS: A decision tree model was developed based on the Department of Health and Human Services (DHHS) guidelines and the survey of HIV treating physicians. The model was used to reanalyze the ABT-M98-863 pivotal clinical trial data submitted to FDA/EMEA, a randomized phase III study of LVP/r vs. NFV plus d4T/3TC in 653 ARV naïve HIV patients. Therapeutic failure was defined as 2 successive (4 weeks apart) viral loads (VL) >400 copies/ml. In the model, therapeutic responders continued with their initial treatment, while failures received drug resistance tests and additional monitoring. Failures who developed drug resistance switched to a 2PIs + 2NRTIs regimen, while others stayed in the PI + 2NRTIs regimen class. A maximum of 1 therapy switch was allowed. Failures were at risk for AIDS events determined by CD4 count and VL. Cost analysis in 2002 U.S. dollars was performed from a third party payer's perspective. One-way sensitivity analysis tested the robustness of the assumptions. RESULTS: The model showed that after 60 weeks of therapy, compared to NFV, 22.1% more patients who started on LVP/r remained as responders, yielding a net savings of $1,454.14 per patient. Reduced treatment costs for therapy failures and AIDS events were the main contributions to the net savings. In sensitivity analysis, when the VL threshold for therapeutic failure was set at 50, 1,000, or 5,000 copies/ml, cost savings remained at $1,520.15, $1,233.52, and $1,062.26, respectively. When the regimen for all failures was changed to 2PI + 2NRTIs, PI + NNRTI + 2NRTIs, or PI + 2NRTIs, the estimated savings changed to $2,704.38, $1,928.46, and $838.35, respectively. CONCLUSIONS: The results suggest that if treatment guidelines are applied in the management of ARV naïve HIV patients, LVP/r may reduce the number of patients switching regimens and consequently may decrease total costs when compared with NFV.

INFLUENZA TREATMENT WITH OSELTAMIVIR IN A HIGH RISK POPULATION—A COST-EFFECTIVE OPTION FOR THE HEALTH CARE PAYER
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OBJECTIVES: To evaluate health outcomes and costs to the health care payer of treating influenza in an at-risk population with anti-virals (oseltamivir). METHODS: Based on clinical trial data and data from the literature a microsimulation model incorporating first- and second-order Monte Carlo simulation was developed. The underlying clinical pathway predicts morbidity and mortality due to influenza and its specified complications. Health outcomes (QALYs, days to return to normal activity) and costs were estimated for events in the model. The model compares various scenarios, which are defined by alternative treatment schemes within defined populations and other parameters. Robustness of the results is tested by probabilistic and univariate sensitivity analysis. The model is used to simulate the results for an at-risk population in the UK comparing Oseltamivir with usual care. RESULTS: Treatment with Oseltamivir within 48 hours results in reduced morbidity, which translates into faster recovery and faster return to normal activities (by 5.28 days). Lower morbidity and mortality make this a cost-effective intervention from a health care payer perspective with Oseltamivir being dominant compared to usual care in both cost-effectiveness and cost-utility analysis. CONCLUSION: Treatment with Oseltamivir is effective

ECONOMIC BURDEN OF CHRONIC HEPATITIS B VIRUS INFECTION AND POTENTIAL COST SAVINGS WITH LAMIVUDINE
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OBJECTIVE: The present study was carried out to evaluate the economic burden of chronic hepatitis B (CHB) and its complications, and to evaluate the clinical and economic benefits of treatment of CHB patients with lamivudine for one year in Shanghai, China. METHODS: The components of the economic burden of disease included direct medical costs, non-medical costs and indirect work related costs per patient per year in CHB patients (n = 634), those who had progressed to compensated hepatocirrhosis (n = 294), decompensated hepatocirrhosis (n = 231) and hepatocellular carcinoma (n = 236), respectively. The direct medical costs per patient per year were calculated according to the mean expenses and utilisation rate for each outpatient visit and hospitalisation. The direct non-medical costs were estimated based on expenses for nutrition products and transportation. Mean indirect costs were calculated using average time lost from work in one year. Clinical and economic benefits of CHB treatment with lamivudine were estimated using cost data from the burden of illness study in Shanghai and seroconversion rate data in Asian patients and cirrhosis progression rates from lamivudine clinical trials. RESULTS: Treatment of patients with ALT >2xULN with lamivudine for 1 year is estimated to result in net total cost savings of US$51 per patient. CONCLUSION: Chronic hepatitis B infection not only compromises the patient’s normal daily activities, but also imposes a significant economic burden on patients and their families. By reducing the rate of progression to cirrhosis, treatment of CHB patients with lamivudine for one year can result in overall net cost savings.