THE ECONOMIC IMPACT OF SINGLE-DOSE AZITHROMYCIN MICROSPHERES FORMULATION FOR THE MANAGEMENT OF ACUTE STREPTOCOCCAL PHARYNGITIS (ASP) IN MEXICO

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OBJECTIVE: The ASP is one of the most frequent infectious diseases and represents one of the principal causes of outpatient services demand in Mexico. The purpose of this study was to estimate the cost-effectiveness between single-dose azithromycin microspheres formulation vs. other usual antibiotics in the management of ASP from the Mexican Health Service perspective.

METHODS: A three-month Bayesian decision tree model was performed to estimate costs and effectiveness. Effectiveness measure used was the percentage of clinical success rate (significant improvement of symptoms in a period not longer than a 4-day treatment). Comparators employed were single-dose azithromycin oral suspension (60 ml); amoxicillin (1000 mg/day); penicillin (600,000 U/day); ampicillin (1500 mg/day); clarithromycin (500 mg/day); erythromycin (1000 mg/day) trimetoprim + sulfametoxazol and azithromycin (500 mg/day per 3 d). Clinical efficacy was obtained from international published literature. Resource use and costs were obtained from a retrospective review of hospital records (n = 100) in patients treated at the Social Security Mexican Institute (IMSS) in Mexico City. The model was calibrated. One-way sensitivity analysis and probabilistic sensitivity analyses were performed. MonteCarlo first order sensitivity analysis was done using bootstrapping techniques.

RESULTS: The patients treated with azithromycin oral-suspension experienced the highest effectiveness (93%; CI95% 90%–97%), followed for azithromycin (3-days) treatment (79%; CI95% 77%–81%) and erythromycin (67%, CI95% 66%–68%). On the other hand, amoxicillin and trimetoprim showed the less effectiveness compared to the baseline therapy (penicillin [57%; IC95% 56%–58%]). The mean treatment costs for azithromycin oral-suspension was US$110.9 (CI95% US$109.3–US$112.1); US$122.3 (CI95% $132.9–$136.5) for azithromycin (3-days) and US$128.1 (CI95% US$127.0–US$132.2) with erythromycin. The ICER’s were US$–49.8 (CI95% –US$41.7–US$60.4) for azithromycin oral-suspension, –US$30.6 (CI95% –US$20.0–US$40.4) and –US$22.5 (CI95% –US$21.9–US$30.3) for erythromycin. Probabilistic sensitivity analyses showed that the single-dose azithromycin oral-suspension was the dominant therapy (p < 0.05).

CONCLUSION: Despite its higher cost, the study demonstrates that azithromycin oral-suspension treatment, due to its higher compliance rate, is a dominant therapy in the treatment of ASP in Mexico.

ECONOMIC EVALUATION OF SUNITINIB VS. INTERFERON-ALFA (IFN-ALFA) IN FIRSTLINE TREATMENT OF METASTATIC RENAL CELL CARCINOMA (mRCC) IN COLOMBIA

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OBJECTIVE: To evaluate the cost effectiveness and cost utility of sunitinib compared with interferon-alfa (IFN-alfa) for first-line treatment of patients with Metastatic Renal Cell Carcinoma (mRCC) from Colombia third-party payer perspective.

METHODS: A Markov model was developed and adapted to Colombian circumstances to evaluate the cost-effectiveness of sunitinib vs. IFN-alfa. The model projected survival and costs in 6-week cycles based on extrapolation of the trial survival data. The reference case analysis followed the patients until death or for up to 1 year, however longer time horizons were considered in the analysis (two, five, and ten years). Effectiveness was measured in terms of progression-free life years (PFLY), life-years (LY) gained and quality adjusted life-years (QALY) gained. Resource utilization and unit cost data were collected from: A series of 15 patients with mRCC treated in Colombia, Colombian expert clinical opinion and the cost of medication was extracted from a Colombian Cancer reference institution (Liga Colombiana de lucha contra el cáncer). Costs and benefits were discounted annually at 5%. All costs were calculated in 2006 Colombian pesos. Univariate sensitivity analyses was conducted.

RESULTS: For the reference case: the cost analysis suggested a difference in favor of sunitinib of US$5711. The treatment with sunitinib was associated with incremental gain in: PFLY of 0.23, overall survival of 0.05 LY and QALY of 0.07. The incremental cost-effectiveness ratio (ICER) and incremental cost-utility ratio (ICUR) showed negative values, which indicated that sunitinib is cost saving versus IFN-alfa. In the longer time horizon analysis the sunitinib is dominant in the first two years; for 5 and 10 years analysis the ICER and the ICUR are around US$2200 and US$6400 respectively.

CONCLUSION: This analysis indicated that sunitinib is a cost-effective treatment compared with IFN-alfa as a first-line treatment in mRCC in Colombia.