PCN39

COST-EFFECTIVENESS AND BUDGET IMPACT ANALYSIS OF USING TEMSIROLIMUS COMPARED TO INTERFERON ALPHA IN METASTATIC RENAL CELL CARCINOMA

Toppens Y1, Grobb S2, Rappaport M3

1University of Louisiana at Monroe, Monroe, LA, USA, 2Independent, West Monroe, LA, USA

OBJECTIVES: The purpose of the study was to evaluate the cost effectiveness and budget impact of temsirolimus compared to interferon alpha-2A (IFN) in any given population of metastatic renal cell carcinoma (mRCC). METHODS: Economic evaluations were performed from a US managed care perspective over a 30 months period. Cost of treatment was the summation of drug's cost, administration cost, premedication cost, and cost of associated adverse effects. Outcome measures for economic evaluations was progression-free life months gained. Cost effectiveness was conducted using a Markov state-transition model in TreeAge. Time dependent transition probabilities were calculated using multivariate Kaplan Meier estimators based on clinical trial data. An Excel-based budget impact model was developed to compare two scenarios, one for the interferon scenario and one for the temsirolimus scenario. Inputs were obtained from SEER registry, clinical trial, and US census bureau. Sensitivity analyses were performed. RESULTS: The model yielded ICER $8944 per progression free life month gained. For a hypothetical managed care plan with 500,000 members, the Budget Impact model estimated 33 patients with mRCC. A 75% (n = 25) of mRCC was eligible to receive first line therapy. A 95% (n = 24) eligible patients would be treated with IFN. Assuming that temsirolimus was available to 12% of eligible patients the expected 30 months cost would be US $18125.7 per patient compared with US $15,577.90 had all patients been treated with IFN alone. CONCLUSIONS: Temsirolimus was found not to be dominantly cost effective compare to interferon alpha-2A. This finding is indicative of two challenges: 1) temsirolimus needs to be available at a reduced cost; 2) its threshold for cost-effectiveness needs to be adjusted according to relative clinical effectiveness. The budgetary impact of funding temsirolimus for health plan was estimated to be minimal. While its current availability allows new treatment options, temsirolimus may be too expensive to use in some managed care plans.

PCN40

COST OF MANAGING ADVERSE EVENTS IN THE TREATMENT OF FIRST LINE METASTATIC RENAL CELL CARCINOMA: BEVACIZUMAB INTERFERON ALPHA-2A COMPARED TO SUNITINIB IN SPAIN

Calderero V1, García-Muro X2, Puente J1, Trigo JM1, Castro AJ1, Martín-Escudero V2, Yébenes M1, Casado MA3

1Hospital Universitario Miguel Servet, Zaragoza, Spain, 2Institut Català d'Oncologia, Barcelona, Spain, 3Hospital Clinico San Carlos, Madrid, Spain, 4Hospital Universitario Virgen de la Victoria, Málaga, Spain, 5Roche Farma, Madrid, Spain, 6Pharmacoeconomics & Outcomes Research Unita, Madrid, Spain

OBJECTIVES: To perform a cost analysis comparing the management of adverse events (AEs) and their associated cost in current clinical practice of bevacizumab (BEV) + interferon alpha-2A (IFN) versus sunitinib (SUIN) in patients with metastatic renal cell carcinoma (mRCC) in Spain. METHODS: A decision analytic model was developed to compare the costs derived from the management of 40 grade 3/4 AEs in patients with mRCC, using data from published trials (SUN, BEV1, BEV2). RESULTS: To calculate the NNT to avoid a recurrence of GIST after resection, to compare the cost of adjuvant treatment with imatinib (IM) with the cost of recurrence, and to estimate a budget impact from the Brazilian Public Health System (SUS) perspective. METHODS: Available relative risk reduction at 1 year from the Z2001 clinical trial and historical rate of recurrence for no adjuvant treatment were applied to estimate absolute risk reduction and NNT. Adjuvant treatment effect was extrapolated to 3-year period as ongoing trials are investigating longer treatment duration (SG XVIII). A 5-year time horizon was set for cost effectiveness and budget impact analysis (BIA). Incremental Cost to Avoid Recurrence (ICAR) was defined as the difference between the cost of adjuvant treatment (IM, monitoring) and the cost of recurrence (IM, surgery, monitoring, best supportive care). ICAR was applied to adjuvant GIST incidence for BIA. Epilei- nomological data (incidence, proportion of resectables; health access, diagnosis and expected adjuvant treatment rates were obtained from literature. Resource utilization and cost data came from official guideline and administrative databases, literature, and expert opinion. Costs are reported in 2007 Euros. A 5% discount rate was applied. Univariate sensitivity analysis was performed. RESULTS: The NNT to avoid a recurrence was estimated at 2.1 based on an extrapolated GIST recurrence risk profile in Brazil. Cost of adjuvant treatment was $50,298 and the cost of a recur- rence $61,998. Annual ICAR was $8,725. The annual impact on the Ministry of Health budget was 0.01%, which included impact on infrastructure (e.g. monitoring costs of SUIN were sensitive to the recurrence rate and adjuvant treatment duration. CONCLUSIONS: Considering that imatinib is already reimbursed by SUS for metastatic/unresectable GIST, adjuvant therapy for primary GIST represents good value for money for the prevention of recurrence, and an annual budget impact of 0.01%.