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A TRIAL-BASED ASSESSMENT OF THE COST-UTILITY OF BEVACIZUMAB AND CHEMOTHERAPY VERSUS CHEMOTHERAPY ALONE FOR ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC)

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OBJECTIVES: Patients with advanced NSCLC have a poor prognosis—with median overall survival of less than one year. A randomized clinical trial (RCT) of bevacizumab plus chemotherapy vs. chemotherapy alone demonstrated a significant (2-month) improvement in median survival. However, a cost-effectiveness analysis of this therapy has not been published. Based on the RCT results, we performed a cost-utility and cost-effectiveness analysis to evaluate the cost-effectiveness of bevacizumab added to chemotherapy in patients with advanced NSCLC. **METHODS:** We developed a Markov model to project quality-adjusted life years (QALYs) and direct medical costs from a US health care payer perspective in patients treated with bevacizumab plus chemotherapy vs. chemotherapy alone. Survival and toxicity data for the model came from the RCT (ECOG 4599). We obtained utilities from a literature search and unit costs from Medicare. We discounted QALYs and costs at 3% per year. We addressed uncertainty with one-way and probabilistic sensitivity analyzes. **RESULTS:** Compared to chemotherapy alone, bevacizumab and chemotherapy increased mean life expectancy by 0.23 years and mean QALYs by 0.13, at an incremental lifetime cost of US$71,000 per patient. The projected incremental cost-effectiveness ratios (ICERs) were US$309,000/life-year gained and US$557,000/QALY gained, respectively. Sensitivity analysis showed that the cost-effectiveness was most sensitive to the number of cycles of bevacizumab, its unit cost, and the utility in stable disease state during treatment. **CONCLUSIONS:** Based on commonly cited cost-effectiveness thresholds, bevacizumab is not projected to be cost-effective for these trial patients from a payer perspective (but without accounting for any possible price assistance programs). An analysis from the societal perspective could generate different results. These findings might help decision-makers to make informed decisions about resource allocation for advanced NSCLC care.

PCN97

ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) CETUXIMAB TREATMENT DECISION MODEL: CHEMOTHERAPY+CETUXIMAB VS. CETUXIMAB TREAT-TO-RASH STRATEGY VS. CHEMOTHERAPY ONLY IN FIRST-LINE TREATMENT OF STAGE IIIB/IV NSCLC

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OBJECTIVES: To examine the cost-utility of two treatment strategies utilizing cetuximab plus platinum-doublet chemotherapy as first-line treatment in Stage IIIB/IV non-small cell lung cancer relative to chemotherapy only from a U.S. societal perspective. **METHODS:** A decision analytic model was developed to estimate direct medical costs, patient time costs, and quality-adjusted life-years (QALYs) for three treatment strategies: 1) chemotherapy+cetuximab for all patients; 2) chemotherapy+cetuximab for one month and continued for patients experiencing rash; and 3) chemotherapy only. Model parameters were derived from the pivotal trial of cetuximab, published literature, and government sources. The model included trial-based adverse events and costs related to drug treatment, routine follow-up, AEs, and post-progression care. The model results were examined using one-way and probabilistic sensitivity analyses (PSA). **RESULTS:** Total QALYs for the chemotherapy+cetuximab for all, treat-to-rash, and chemotherapy only strategies were 0.608, 0.610, and 0.574, respectively. Total costs were $175,532; $154,174; and $101,164, respectively. Relative to chemotherapy only, chemotherapy+cetuximab and treat-to-rash strategies had incremental cost-effectiveness ratios of $2,219,000 and $1,470,000 per QALY, respectively. Relative to chemotherapy+cetuximab for all, the treat-to-rash strategy had a cost-savings of $21,358, and a small increase in QALYs. One-way sensitivity analyses found results to be sensitive to the cost and required dose of cetuximab, cost of care after progression, and progression-free and overall survival. In the PSA, chemotherapy only had the highest probability of being cost effective until a willingness-to-pay of $1,400,000; after which treat-to-rash had the highest probability. **CONCLUSIONS:** These results suggest that the addition of cetuximab to chemotherapy for this patient population is not a cost-effective alternative to chemotherapy only by any plausible standard of willingness-to-pay. However, if clinicians still wish to treat with cetuximab due to the recommendations of oncology practice guidelines, a treat-to-rash strategy may be a cost-effective alternative to chemotherapy+cetuximab for all patients with negligible impact on QALYs.

PCN98

COST-EFFECTIVENESS OF ADJUVANT THERAPY WITH TRASTUZUMAB IN THE TREATMENT OF EARLY BREAST CANCER (EBC) IN ROMANIA

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OBJECTIVES: Trastuzumab (Herceptin®) as an adjuvant treatment for patients with early stage HER2+ve breast cancer, following surgery, chemotherapy and radiotherapy has been shown to reduce disease recurrence by ~50% and the risk of death at 2 years by ~33% (Piccart-Gebhart 2005). The objective of this analysis was therefore to determine the cost effectiveness of 1-year treatment with trastuzumab following standard chemotherapy vs observation for patients with HER2+ve EBC in the Romanian setting from the National Health Insurance House perspective. **METHODS:** A five health states Markov model was developed, using published results from HERceptin Adjuvant trial. Overall survival of patients was simulated over a projected 45 years lifetime horizon. Utility values for health states and events were taken from published literature. Direct medical costs were included. Resource use was based on expert opinion from the two biggest oncology centers in Romania. Unit costs (2009) were derived from Romanian retail prices for drugs, diagnostic and monitoring tests and procedures, day-hospital and inpatient stays costs. Costs were discounted by 5%. Sensitivity analyses were performed. **RESULTS:** This analysis showed that the incremental cost per patient for adjuvant trastuzumab therapy would be 26,462 EUR on average. Benefit to the patient would be 3.11 QALY, on average, in a 45 years time horizon. The incremental cost per QALY gained for adjuvant trastuzumab versus observation would be 8,498 EUR. Sensitivity analysis for different scenarios (0% costs and outcomes, 5% costs and outcomes, 5% costs and 0% outcomes) indicated results were sensitive to the discount rate, but the ICER remained below 20,000 EUR/QALY. **CONCLUSIONS:** Trastuzumab for the adjuvant treatment of HER2+ve EBC patients shows to be cost-effective from the Romanian National Health Insurance House perspective.

PCN99

ECONOMIC EVALUATION OF DASATINIB FOR THE TREATMENT OF CHRONIC MYELOGENOUS LEUKAEMIA IN PATIENTS RESISTANT TO IMATINIB IN COLOMBIA AND VENEZUELA

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OBJECTIVES: To perform an economic evaluation of Dasatinib for the treatment of Chronic Myeologenous Leukaemia (CML) in patients resistant to imatinib in Colombia and Venezuela, using the efficacy data found in the study entitled "An Economic Evaluation of Dasatinib for the treatment of Chronic Myelogenous Leukaemia in Imatinib—Resistant Patients", which was carried out by the York consortium, UK. **METHODS:** On the same initial assumptions of the York work as regards to population, age of start, time horizon and discount rate, and adjusting the rates of mortality due to other causes, we used a Markov model which would enable a prediction of costs and health benefits obtained during the entire lifetime for each of the treatment options. **RESULTS:** In the chronic phase of the disease, dasatinib yielded 6.33 and 6.03 QALYs for Colombia and Venezuela respectively, in comparison with 6.03 and 5.73 QALYs in the case of nilotinib. In Colombia, with an ICER of $54,120,910 per QALY, stated in 2009 Colombian pesos, dasatinib showed a better cost-effectiveness ratio than nilotinib, and in Venezuela, dasatinib proved to be dominant. In the accelerated phase, dasatinib produced 3.5 times more QALYs than those of the imatinib group in both countries. In the blastic phase, QALYs were 3,4 times more than those of the imatinib group. **CONCLUSIONS:** Dasatinib at a dose of 140 mg/day showed a better cost-effectiveness ratio than the doses of 800 mg of Imatinib and 800 mg of Nilotinib for the treatment of patients with CML resistant to usual imatinib doses in the chronic phase, as well as in the accelerated and blastic phases.

PCN100

SIMILARITIES AND DIFFERENCES IN TREATMENT PATTERNS AND RESOURCE UTILISATION FOR MULTIPLE MYELOMA: A COMPARISON BETWEEN 4 NORDIC COUNTRIES

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OBJECTIVES: Compare Multiple Myeloma (MM) treatment patterns and resource consumption in the Nordic countries. **METHODS:** A modified Delphi-panel was designed, consisting of 14 haematologists at different university hospital clinics in Norway, Denmark, Finland, and Sweden. In a 3-round process with structured questionnaires in February 2007 to January 2008, resources utilisation was surveyed including drugs, tests, bone marrow transplantations (BMT), hospital in/outpatient stay/visits, radiotherapy, surgical- and diagnostic procedures. **RESULTS:** Patient characteristics were slightly different with mean age ranging from 67 to 70; age above 65 years 52%-64%; males 55%-64%; co-morbidities 47%-63%. Differences were found in the time spent in 1st line treatment (Norway 18 months; Finland 7 months) and the share of patients continuing on to 2nd and 3rd lines (Norway 38% and 22%; Finland 89% and 72%, respectively). Melphalan and prednisone combination in 1st line was used in all countries. Differences in the introduction of thalidomide, bortezomib and lenalidomide were seen, with Denmark treating 24% of the patients with bortezomib and lenalidomide in 1st line. This could be driven by differences in the number of clinical studies (1%–40%). The prescription rate of blood enhancement drugs and BMT was highest in Sweden. The number of hospitalisation-days per patient-month ranged between 0.4 (Denmark) to 1.4 (Finland) in 1st line but increased with line of treatment in all countries. Denmark on the other hand had more outpatient visits. Radiotherapy was highest in Sweden and Denmark. Small differences were seen in other resource categories. **CONCLUSIONS:** Although Nordic treatment guidelines for MM from 2005 are well accepted (excl. Finland) some differences in treatment patterns were seen. These could reflect differences in patient characteristics, clinical trials and a non-synchronised development of new treatment guidelines. Also differences in political decisions, relative prices and health care organisations may have an impact.