PCN86

COST-EFFECTIVENESS OF CETUXIMAB COMBINED WITH RADIOTHERAPY FOR PATIENTS WITH LOCALLY ADVANCED HEAD AND NECK CANCER IN TAIWAN

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OBJECTIVES: The aim of this study was to conduct the cost-effectiveness of cetuximab combined with radiotherapy compared to radiotherapy alone in patients with locally advanced squamous cell carcinoma of head and neck. METHODS: A decision-tree analysis was used to compare cetuximab combined with radiotherapy and radiotherapy alone in the treatment of patients with locally advanced squamous cell carcinoma of the head and neck from the perspective of the Bureau of National Health Insurance (BNHI) in Taiwan. The model was based on individual patient data extracted from an international phase III trial. The direct medical costs of care were based on the reimbursement of Bureau of National Health Insurance in Taiwan. One-way sensitivity analyses were performed by varying the costs and clinical parameters. RESULTS: The incremental cost per quality-adjusted life-year for patients receiving radiotherapy in combination with cetuximab compared to radiotherapy alone was in the range of $70,469 to $542,334 in the base-case analysis. Sensitivity analysis showed the robust results. CONCLUSIONS: This study demonstrated the addition of cetuximab to high-dose radiotherapy regimen is likely to be cost-effective in consideration of higher locoregional control rate to be achieved compared to radiotherapy alone for locally advanced head and neck cancer in Taiwan.

PCN87

THE POTENTIAL IMPACT OF USING CHANGES IN SERUM HER2 LEVELS TO INITIATE THERAPY CHANGE IN HER2+ METASTATIC BREAST CANCER

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OBJECTIVES: The goal of personalized medicine is to identify the right treatment for the right patient at the right time. Prior to treating metastatic breast cancer (MBC) patients with Herceptin, tumors are tested for overexpression of HER2. Still for many patients with HER2+ patients (treated with herceptin), disease progression continues. It has previously been shown that for MBC changes in patients’ serum HER-2 levels during treatment is predictive of their eventual response to therapy. Through modeling and simulation we examined the potential impact of changing Herceptin therapy at the end of the planned treatment cycle for patients whose serum HER-2 levels predict an eventual lack of therapeutic response. METHODS: Markov Cycle Tree models were constructed to simulate disease progression and therapy for MBC patients using our custom simulation software, Profound. The progression of disease was dependent on the patient’s current therapy: Herceptin, Tykerb, or Pachtaxel, and model parameters were based on meta-analysis of clinical trials. Patients are stratified into three sets: Serum HER-2 Increasing (>20%), Not Changing, and Decreasing (>20%). We compared the following alternative treatment strategies: Pachtaxel, Herceptin, and initial Herceptin with change in therapy after 1 month based on changes in serum HER2. Patients removed from Herceptin either simply discontinued therapy or were switched to Tykerb. RESULTS: Compared with continued treatment with Herceptin, moving patients with >20% increase in Serum HER-2 to Tykerb resulted in an additional one life-month gained. All other strategies performed worse than continued Herceptin therapy, including moving patients whose Serum HER2 levels are not decreasing to Tykerb. This highlights the importance of identifying the right subset of patients who will benefit from a change in therapy. CONCLUSIONS: A biomarker that can predict therapy failure prior to the end of treatment as part of the treatment decision-making process may extend the lives of patients.

PCN88

COST-EFFECTIVENESS OF LENGRASTIM NEUTROPENIA DURATION IN ADULTS RECEIVING CHEMOTHERAPY FOR LEUKEMIA

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OBJECTIVES: The aim of present analysis was to assess cost-effectiveness of lenograstim in comparison with other G-CSFs—filgrastim and pegfilgrastim in Polish settings (threshold is about 100,059 PLN). METHODS: Analysis covered time horizon of one chemotherapy cycle. A public payer perspective was adopted for cost analysis. The costs included were based on Polish NHIF reference costs. ANC recovery, number of days with fever, length of hospital stay and antibiotics use were obtained from randomized controlled trials (RCTs) identified in the conducted systematic review. These included trials on prophylactic G-CSF use as well as trials in which only patients with neutropenia were included. Equations describing costs and QALY according to neutropenia and fever length, hospital stay and antibiotic use were established. RESULTS: Estimated QALY difference between lenograstim and filgrastim is 0.0041 (CI 0.0007, 0.0077), compared to pegfilgrastim is 0.0035 (CI 0.0006, 0.0062). Total costs difference between lenograstim and filgrastim was $2,069 PLN (CI 3.585, 1.039) and compared to pegfilgrastim is $266 PLN (CI 3.233, 3.631). The ICER in comparison with pegfilgrastim is 68,424 PLN. Probability of lenograstim being cost-effective over filgrastim is 91.54% and over pegfilgrastim is 51.41%. Taking into account only trials where G-CSFs were used in neutropenia prophylaxis estimated QALY difference between lenograstim and filgrastim is 0.0049 (CI 0.0003, 0.0008)), compared to pegfilgrastim is 0.0047 (CI 0.0011, 0.0086)). Total costs difference between lenograstim and filgrastim is $2,754 PLN (CI 6.139, 4754) and compared to pegfilgrastim is $454 PLN (CI 4.025, 2996). Probability of lenograstim being cost-effective over filgrastim is 90.1% and over pegfilgrastim is 66.82%. CONCLUSIONS: Lenogran is dominant over filgrastim and cost-effective in comparison with pegfilgrastim. Acknowledgments: This analysis was supported by Sanofi-Aventis.

PCN89

COST EFFECTIVENESS ANALYSIS OF A CLINICAL PATHWAY FOR THE SURVEILLANCE OF HEPATOCARCINOMA IN COLOMBIA

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OBJECTIVES: The objective of this paper is an analysis of cost effectiveness of a proposed clinical pathway for the surveillance of HCC in Colombia compared to conventional management. METHODS: Economic evaluation is performed by designing a Markov model to simulate two cohorts, one under a surveil-lance program through the combined use of alpha-fetoprotein and ultrasound every 6 months and another with the current monitoring scheme with a time horizon of 30 years and age of onset of 30 years, a rate adjustment of 3% the initial cohort of 100 patients RESULTS: The cost in the surveillance group is $1,495,548 and unadjusted arm is U.S. $ 798,714. With the surveillance program presents 21 deaths caused by the disease compared with 35 deaths without monitoring program, with 688 years of life gained and an ICER of USX 670. As demonstrated in other studies and cost-effectiveness in the sensitivity analysis without major changes. CONCLUSIONS: The implementation of a monitoring method with alpha-fetoprotein and ultrasound every two years is cost effective. We recommend the implementation of clinical pathway assessed for its cost effectiveness in the light of life years gained as outcome.

PCN90

BORTEZOMIB IS COST-EFFECTIVE FOR FIRST-LINE TREATMENT OF MULTIPLE MYELOMA IN SWEDEN

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OBJECTIVES: To estimate the incremental cost-effectiveness of bortezomib plus melphalan and prednisone (VMP) compared with melphalan, prednisone and thalidomide (MPT) and melphalan plus prednisone (MP) for the treatment of first-line multiple myeloma in Sweden. METHODS: We constructed a decision-theoretic model, using Microsoft® Excel 2007 to compare the VMP, MP and MPT regimens. Treatment effects of VMP and MP on progression-free survival and overall survival (OS) were obtained from the VISTA trial. Effects of MPT vs. MP were obtained from published reports of five randomized trials. Costs include drug and administration costs, adverse events, treatment of relapses, and end-of-life costs. Utility estimates are derived from the literature. A mixed treatment comparison meta-analysis indirectly compares VMP vs. MPT. The analytic framework is based on ‘partitioned survival analysis’ that allocates survival data to be decomposed into three states: 1) alive before disease progression; 2) alive after progression; and 3) dead. The model estimates mean OS, quality-adjusted life-years (QALYs), costs and cost per QALY over a 30-year time horizon, and performs both 1-way and probabilistic sensitivity analyses. RESULTS: VMP’s mean OS is 61 months compared to 42.7 and 50.2 months for MP and MPT, respectively. Mean lifetime direct medical costs per patient are approximately SEK 1,193,000, 604,000 and 920,000 for VMP, MP and MPT, respectively. Mean incremental cost per QALY of VMP compared to MP is SEK 676,415; 90 percent C.I. (335,578, 1,025,443) and cost-effective in comparison with pegfilgrastim. Acknowledge-ments: This analysis was supported by Sanofi-Aventis.

PCN91

VALIDATION OF HEALTH OUTCOMES RESEARCH OF CANCER

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OBJECTIVES: Validation of health outcomes research of cancer becomes critical for the quality assessment of outcomes research. In Principles of Good Practice for Decision Analytic Modeling published by ISPOR Task Force ISPOR Task Force in 2003, validation was suggested internal validation (between- and model-level). The objective of this research is to review and summarize validation activities in cancer outcomes research published between 1998 and 2009. Secondary objective is to identify any changes in validation activities post regulatory guidelines. METHODS: The relevant articles are