PCN47 COMPARISON OF HEALTH CARE RESOURCE UTILIZATION AND COSTS BETWEEN NILOTINIB AND DASATINIB AS SECOND LINE THERAPIES IN CHRONIC MYELOID LEUKEMIA (CML)

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OBJECTIVES: To compare health care resource utilization and costs associated with dasatinib versus nilotinib treatment as second-line therapies in CML patients.

METHODS: Two claims databases were combined (MarketScan and Ingenix Impact). January 2002–December 2008) to identify patients diagnosed with CML (ICD-9 code 205.1x) and received ≥1 prescription of dasatinib or nilotinib. Patients were required to have continuous enrollment ≥1 month prior to and after the index date. The index date was defined as the first prescription for dasatinib or nilotinib. Patients were followed for up-to 6 months from the index date to the earliest of the termination of insurance or 6 months after the last prescription. Costs were estimated for each cost component using generalized linear models or regression models including past cumulative MPR for patients who had always been adherent (past cumulative MPR ≥ 85%) and an adherent interval cost ($1,239 (p < 0.0001) more, while another non-adherent interval cost $2122 (p < 0.0001) more compared to an adherent interval in patients who had been adherent. CONCLUSIONS: Imatinib non-adherence is associated with long-term negative economic consequences.

PCN48 COSTS TO MEDICARE OF TREATING CHRONIC LYMPHOCYTIC LEUKEMIA PATIENTS WITH ALEMTUMAB

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OBJECTIVES: Alemtuzumab has been demonstrated to reduce the amount of malignant lymphocytes in patients with chronic lymphocytic leukemia (CLL). The current study aimed to quantify the incremental cost to Medicare of treating CLL patients with alemtuzumab. METHODS: Claims records (1999–2007) from the Medicare 5% national sample were analyzed. Patients with continuous enrollment for ≥ 2 months prior to their first observed claim with a CLL diagnosis, ≤ 2 malignancies, and ≥ 21 claim for alemtuzumab were included. A pre-post design was used to quantify the incremental costs associated with alemtuzumab by calculating health care costs within 6 months after alemtuzumab initiation relative to the 6-month period before alemtuzumab initiation. Mean monthly (per-patient per-month, PPPM) costs were calculated and were grouped by sites of care, service type, tests and procedures, treatment and drugs, and adverse events. Statistical comparisons were made using paired Student t-tests. RESULTS: A total of 81 CLL patients treated with alemtuzumab formed the study population. The mean age was 75.2 years and females represented 38.3%. Patients were observed for an average of 30 months and mean time between the first CLL diagnosis and initiation of alemtuzumab treatment was 36 months. After alemtuzumab initiation, mean total health care costs increased from $4,272 to $10,385 PPPM (p < 0.0001). Patients had a mean of 11.8 claims for alemtuzumab and the mean cost for alemtuzumab was $4,006 PPPM or 39% of total costs. PPPM costs associated with diagnostic codes for cytopenia, infection, and cardiac dysfunction were greater during the post- compared with the pre-alemtuzumab period (cytopenia: $1,658 vs. $4,114; infection: $107 vs. $841; cardiac dysfunction: $766 vs. $1,692; P < 0.05 for all). CONCLUSIONS: Alemtuzumab is associated with a significant increase in health care costs in the 6 months after initiation of therapy.

PCN49 COSTS OF TREATMENT WITH ANGIOGENESIS INHIBITORS (AI) IN PATIENTS WITH METASTATIC RENAL CELL CARCINOMA (mRCC)

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OBJECTIVES: This study estimates the costs of AIs sunitinib, sorafenib, and bevacizumab using economic modeling based on recorded health care resource utilization from medical charts. METHODS: Non-trial mRCC patients, ≥18 years, who received ≥1 prescription for sunitinib (n = 62) or sorafenib (n = 62) between January 1, 2005, and January 1, 2008, were included. Total per-patient-per-month (PPPM) costs were calculated and included costs of AI drugs, office visits, procedures, and treatment of adverse events (AE) resulting in hospitalization or emergency room (ER) visits. All drug costs were estimated by applying Average Wholesale Price to each patient’s observed treatment course (initial dose, dose changes, and treatment duration). Office visit and procedure costs were based on US private insurance reimbursement. Hospitalization costs were based on HCUP National Inpatient Sample average charges associated with AE diagnosis; cost-to-charge ratios were applied. ER visit costs were based on national averages from Medical Expenditure Panel Survey. RESULTS: Median treatment duration was 10.5 months (sunitinib), 8.1 months (sorafenib), and 7.9 months (bevacizumab). Total health care PPPM costs (mean ± SD) were $7,945 ± 2,993 (sunitinib), $6,990 ± 3,073 (sorafenib), and $15,189 ± 8,159 (bevacizumab). AI drug costs PPPM were $4,064 (sunitinib), $2,536 (sorafenib), and $2,249 (bevacizumab). Given the median treatment durations, the total costs over the course of first-line AI treatment is estimated at ≥20% (sunitinib), ≥40% (sorafenib), and ≥60% (bevacizumab) of the total PPPM cost. AI drug costs PPPM were $4,064 (sunitinib), $2,536 (sorafenib), and $2,249 (bevacizumab). CONCLUSIONS: AI drug cost was a major contributor to the total health care PPPM cost in patients with mRCC, especially for patients receiving bevacizumab. This retrospective study is limited by small sample size. Future studies examining comparative cost-effectiveness of these AIs are warranted to evaluate clinical and economic effects of these AIs.

PCN50 NON-ADHERENCE TO IMATINIB IN CHRONIC MYELOID LEUKEMIA (CML) PATIENTS: ASSOCIATION WITH MORTALITY AND COSTS: NEGLIGIBLE EFFECTS OF IMPERFECT ADHERENCE TO IMATINIB: COSTS TO MEDICARE OF TREATING CHRONIC LYMPHOCYTIC LEUKEMIA PATIENTS WITH ALEMTUMAB

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OBJECTIVES: To study health care resource utilization and costs associated with long-term non-adherence to imatinib in CML patients. METHODS: Two large administrative claims databases were combined (MarketScan and Ingenix Impact, January 2002–July 2008) to identify patients diagnosed with CML (ICD-9 code 205.1x; 1 prescription per calendar year). Patients with ≥2 imatinib prescriptions and continuous enrollment (26 months prior to and 21 months post index date) were selected. Patients were followed for up to 3 years after the index date. A longitudinal retrospective open-cohort design was used to measure patients’ adherence to imatinib repeatedly over time. Imatinib treatment periods were divided into 90-day intervals. Treatment intervals were categorized as adherent (MPR ≥85%) or non-adherent (MPR < 85%). Patients’ health care utilization and costs were compared between adherent and non-adherent intervals. Multivariate regression models were used to compare rates of inpatient admissions, outpatient visits, and emergency room visits, controlling for clinical and demographic characteristics. Additional regression models including past cumulative MPR were used to assess the long-term impact of non-adherence. RESULTS: In the study, there were 6175 adherent and 3163 non-adherent intervals. Only 34% of patients were fully adherent throughout the observation period. During non-adherent intervals, patients incurred significantly more inpatient (IRR = 2.76, p < 0.001) and outpatient (IRR = 1.25, p = 0.021) costs and were twice more likely to be hospitalized (IRR = 2.76, p < 0.001) compared to adherent intervals. Though non-adherence was associated with lower pharmacy cost ($3053 p < 0.0001), this difference was outweighed by higher medical costs ($4531 p < 0.001), resulting in a net cost increase ($1477 p < 0.001). Patients who were adherent throughout their observation period incurred an average cost of $11,759 per interval, compared to $13,773 for patients who were not always adherent. In patients who had not always been adherent (past cumulative MPR < 85%) an adherent interval cost $1,239 (p = 0.002) more, while another non-adherent interval cost $2122 (p < 0.0001) more compared to an adherent interval in patients who had been adherent. CONCLUSIONS: Imatinib non-adherence is associated with long-term negative economic consequences.