CANCER OUTCOMES RESEARCH

PODIUM SESSION I:

ABSTRACTS

ISPOR 16TH ANNUAL INTERNATIONAL MEETING RESEARCH ABSTRACTS

PODIUM SESSION I:

CANCER OUTCOMES RESEARCH

CN1

MONOTHERAPY OF ANDROGEN DEPRIVATION THERAPY VERSUS RADICAL PROSTATECTOMY AMONG VETERANS WITH LOCALIZED PROSTATE CANCER: A COMPARATIVE EFFECTIVENESS ANALYSIS OF RETROSPECTIVE COHORTS

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OBJECTIVES: There is no consensus regarding the optimal treatment for localized prostate cancer. This study aimed to examine the comparative effectiveness of monotherapy of either primary androgen deprivation therapy (PADT) or radical prostatectomy (RP) in terms of overall survival rate. METHODS: Male patients with localized prostate cancer were identified in the Veterans Affairs Veterans Integrated Service Network 16 data warehouse (January, 2003–June, 2006), with one year baseline and at least 3-year follow-up (till 06/2009). Eligible patients (18-75 years old) had no other cancer history and used PADT or monotherapy of RP within 6 months after the first diagnosis of prostate cancer. The overall survival from initiation of index treatment was analyzed using Kaplan-Meier method and Cox proportional hazard regression, adjusted for age, race, marital status, insurance type, cancer stage, Charlson comorbidity index, alcohol and tobacco use.

RESULTS: The age was 66.26±0.7 (Mean±SD) years in 211 PADT patients, 59.96±15 in 215 RP patients. During the follow-up of 4.2±0.95 years, the cumulative incidence of death was 29 (13.74%) among PADT patients and 6 (2.79%) among RP patients (p<0.001). The overall 3-year survival rate was 89.57% in PADT and 98.60% in RP (p<0.001). Patients who received PADT had almost 4 times as high mortality risk as those using RP (HR = 3.825, 95% CI = 1.483 to 9.845, p=0.006). CONCLUSIONS: Overall survival rate following RP among localized prostate cancer patients was significantly higher than that after PADT, controlling for other covariates. More research among a larger population with longer follow-up are warranted to confirm this finding.

CN2

ESTIMATED EFFECTS OF THE NATIONAL BREAST AND CERVICAL CANCER EARLY DETECTION PROGRAM ON CERVICAL CANCER MORTALITY

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OBJECTIVES: The National Breast and Cervical Cancer Early Detection Program (NB-CEEDP) is the largest organized cancer screening program for low-income, uninsured and under-insured women in the United States. The program’s effectiveness in increasing the life expectancy of participating women has never been measured. We estimated the benefits of NB-CEEDP-funded cervical cancer screening (Program) in terms of life-years (LYs) saved compared to No Program and No Screening scenarios.

METHODS: Based on an existing model developed by Myers et al., we constructed a cervical cancer simulation model by modifying the age and screening schedule of the cohort to reflect screening frequency for NB-CEEDP participants from 1991-2007. We estimated screening habits in the absence of the program based on data from the 1990-2005 National Health Interview Survey. We performed Markov cohort analysis for each age in the 18-64 range and calculated an overall weighted average using the age distribution at first NB-CEEDP Pap test for screening. Weighted averages were produced for three scenarios – women receiving testing from the NB-CEEDP (the Program), women receiving testing from alternative sources in the absence of the program (No Program), and women receiving no testing at all (No Screening). We compared LY estimates for 69,100 women detected with human papillomavirus infection, low- and high-grade squamous intraepithelial lesions or cervical cancer under the program to the counterfactual of having their disease undetected under No Program and No Screening scenarios.

RESULTS: From 1991-2007, we estimate that the Program added 10,369 LYs to the total lifespan of tested women when compared to No Program, and 101,509 LYs when compared to No Screening. Furthermore, we estimated 325 cervical cancer deaths relative to No Program, and 3,825 relative to No Screening.

CONCLUSIONS: These estimates suggest that NB-CEEDP cervical cancer screening may have reduced mortality among medically underserved women in the United States.

CN3

THE VALUE OF RESEARCH FOR ERCC1 TESTING IN STAGE I NON-SMALL CELL LUNG CANCER

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OBJECTIVE: To assess the value of additional research for ERCC1 expression testing to guide adjuvant chemotherapy decisions in fully resected Stage I non-small cell lung cancer (NSCLC). METHODS: We refined a previously-developed decision-analytic model to estimate the expected value of perfect information (EVPi) and expected value of sample information (EVS) for two treatment strategies: 1) ERCC1 testing to inform adjuvant chemotherapy decisions, with ERCC1- patients receiving no chemotherapy and ERCC1+ patients receiving chemotherapy; 2) standard care, with all patients receiving no chemotherapy. Model parameters and uncertainty ranges were derived from a retrospective analysis of the International Adjuvant Lung Cancer Trial, published literature, and government sources. The affected population was derived from SEER incidence estimates, and examined over a discounted 10-year time horizon. RESULTS: At a willingness-to-pay of $150,000 per quality-adjusted life year, ERCC1 and standard care strategies resulted in average net-benefits of $630,500 and $625,200, respectively. The ERCC1 and standard care strategies produced greater net-benefit in 64% and 36% of 10,000 simulations, respectively. The average net-benefit difference was $14,000 in simulations where the standard care strategy was optimal. With an affected population of 233,825, EVPi was $1.2 billion. Preliminary estimates suggest an EVSI of approximately $20 million at plausible sample sizes. CONCLUSIONS: Considerable value could be realized through additional research to reduce uncertainty about the comparative health outcomes of ERCC1 and standard care strategies. The EVPi of $1.2 billion was driven by the large 10-year affected population, probability that ERCC1 testing is not the optimal strategy, and consequences of selecting the non-optimal strategy. Forthcoming results will enable estimation of the expected net-benefit of sampling, which compares the EVSI of various study designs and sample sizes to the cost of conducting such studies. These findings can assist stakeholders in prioritizing funding for ERCC1 research relative to alternative research investments.

CN4

PALONOSETRON VERSUS OTHER 5-HYDROXYTRYPTAMINE, RECEPTOR ANTAGONISTS FOR PREVENTION OF CHEMOTHERAPY INDUCED NAUSEA AND VOMITING AMONG MEDICARE PATIENTS WITH CANCER

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OBJECTIVE: To assess the rate of uncontrolled chemotherapy induced nausea and vomiting (CINV) associated with palonosetron initiation versus other 5-hydroxytryptamine, receptor antagonists (5-HT3-RAs) among Medicare patients with cancer on chemotherapy (CT) treatment in a hospital outpatient setting. METHODS: Medicare patients with a cancer diagnosis initiating CT and anti-emetic prophylaxis with palonosetron (Group 1) and other 5-HT3-RAs (Group 2) for the first time (index date) between April 1, 2007 – March 31, 2009 were identified from the Premier Perspective database. Inclusion criteria were no evidence of nausea and vomiting, CT, and anti-emetic medication in the 6-month pre-index date period and 36-consecutive months of data submission. A negative binomial distribution generalized linear multivariate regression model estimating the rate of CINV events on CT emetogenicity and cycle matched groups in the follow-up period (first of eight CT cycles or six months post-index date) was developed after adjusting for several demographic and clinical variables. RESULTS: Of 4799 identified patients, 962 initiated palonosetron (Group 2, 20.1%). Group 1 patients were significantly younger [70.4 (SD: 9.3) versus 71.6 (9.0) years; p=0.001], comprised more females [52.9% versus 48.6%; p=0.0001], less African Americans [8.7% vs. 11.3%] and more Hispanic patients [6.3% versus 2.5%]; all p=0.0001, more highly and moderately enetogenic CT [33.6% versus 20.7% and, 47.3% versus 40.3%, respectively; p<0.0001], and more lung and breast [30.9% vs. 24.9% and 12.3% vs. 9.6%, respectively; p=0.001]. In the follow-up period, the regression model predicted a 11.8% decrease in the CINV events per CT cycle for Group 1 patients versus Group 2 patients; p=0.05. CONCLUSIONS: In this retrospective hospital outpatient study, matching for CT emetogenicity and cycle and adjusting for other potential confounders, Medicare patients with cancer initiated on palonosetron were more likely to experience a significantly lower rate of CINV events per CT cycle versus those initiating other 5-HT3-RAs.

PODIUM SESSION I:

COMPARATIVE EFFECTIVENESS RESEARCH

CO1

COMPARATIVE EFFECTIVENESS ANALYSIS OF TNF BLOCKERS IN RHEUMATOID ARTHRITIS (RA) PATIENTS IN A REAL-WORLD SETTING

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OBJECTIVES: To evaluate effects of dose escalation on clinical outcomes of RA patients initiating TNF-blocker treatments in community practice. METHODS: TNF-blocker-naïve adult RA patients initiating etanercept, adalimumab, or infliximab were randomized to perform comparative effectiveness studies and other studies. Data participated physicians provided de-identified charts. Each chart was reviewed by 4–6 clinical rheumatologists to evaluate and agree on overall change from baseline to the year closest to 1 year post-index (12–3 months).

COURAGE trial found that optimal medical therapy is as effective as percutaneous coronary intervention (PCI) for patients with stable and widely publicized in early 2007. We evaluate trends in PCI procedure volume per patient using COURAGE by indication using 1% samples of outpatient and inpatient discharge data for California, Florida, New Jersey, and Maryland, 2) a 100% sample of discharge data for Veteran’s Administration hospitals and 3) data from a proprietary cardiac catheterization laboratory registry at 15 hospitals. RESULTS: Between the first and fourth quarters of 2007, PCI volume in California, Florida, New Jersey, and Maryland among patients without serious coronary disease declined from approximately 17,000 to 13,000 procedures (an 18% decline). There was only a 5% decline among patients with unstable angina, who were not included in COURAGE. We found similar patterns in the other datasets.

CONCLUSIONS: Publication of the COURAGE trial had an impact on PCI volume. Many patients with stable angina continue to receive PCI. The results are consistent with the view that as long as the health system is configured around procedural-based medicine, the impact of trials which find that medical therapy is as effective as invasive procedures will be modest.

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