OBJECTIVE: Technology advances have introduced many novel oncology drugs to the market recently. Economic models comparing chemotherapy drugs often assumed similar treatment pattern (e.g., same duration in best supportive care (BSC)) following the completion/discontinuity of chemotherapy. This study explores the association between technology advances and treatment patterns by examining utilization patterns among Medicare beneficiaries with metastatic colorectal cancer (MCRC) when a new technology irinotecan (CPT-11) became available in 1999.

METHODS: A sample of chemo-treated MCRC patients diagnosed after January 1, 1998 and died before December 31, 2001 was selected from the SEER-Medicare data. A multivariate logistic model was used to examine factors associated with receiving CPT-11. The course of cancer treatment was categorized as pre-chemotherapy, chemotherapy, and post-chemotherapy (i.e., BSC) stages. T-test was used to compare the duration at each stage for patients who received CPT-11 vs. those who did not. RESULTS: The study sample included 627 chemo-treated MCRC patients. Among patients with identifiable chemotherapy regimens (N = 477), 45.6% had at least one claim indicative of CPT11 (9206). The logistic model showed that compared with patients in the age group 65–69, those in the age group 75–79 (OR = 0.42; P = 0.008) and ≥ 80 (OR = 0.33; P = 0.0011) were significantly less likely to receive CPT-11. No gender (OR = 1.36; P = 0.13) or racial difference (OR = 1.11; P = 0.76) was found. Compared with the non-users, the CPT-11 group had longer survival (547 vs. 359 days, P < 0.0001), longer time on chemotherapy (398 vs. 164; P < 0.0001) and shorter time in BSC (75 vs. 122; P = 0.0006). No difference was found in the pre-chemo duration (73 vs. 70; P = 0.86). CONCLUSIONS: New technology appears to have changed the time allocation in different treatment stages in cancer; it lengthens the duration of chemotherapy and shortens that of BSC. The observed survival difference in this study needs to be interpreted with caution as it may be subject to sample selection bias.

ANALYSIS OF OVER 2400 MODERN PHASE I CANCER TRIALS: COMPOSITION, OUTCOMES, AND USE OF SURROGATE ENDPOINTS

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OBJECTIVE: There has been no comprehensive analysis of phase I cancer trials since 1991, despite the transition from cytotoxic to targeted drugs. Trends in response rates (RR) and toxic death rates (TDR) for modern phase I trials are therefore unknown. We set out to perform the most extensive outcomes analysis to date of phase I cancer trials. METHODS: We analyzed the composition and outcomes of all phase I cancer trials submitted to meeting of the American Society of Clinical Oncology for years 1991 through 2002. For trials testing unapproved, single-agents in solid tumors, we reviewed published reports and performed patient-level analysis. The major outcomes variables included overall response rate (RR) and toxic death rate (TDR). We also analyzed the use of biomarkers (BM) and surrogate endpoints (SE). RESULTS: The overall data set included 2439 trials. Over the period of analysis, phase I trials have become significantly more international, more complex in design, and more likely to identify a commercial sponsor. Drugs under investigation have become more likely to be given by the oral route, less likely to be produced by recombinant technology, and less likely to be cytotoxic. The strongest predictor for inclusion of a BM or SE was NIH sponsorship (odds ratio, 2.9).

OBJECTIVES:決定の種類：多変量解析を用いた治療法の変化及び結びつきが医師の推奨に及ぼす影響について調査

CONCLUSIONS: The use of imatinib mesylate as first line treatment in management of chronic phase chronic myeloid leukemia (CML) is controversial. The objective of this study was to examine significant influences on physician recommendation for imatinib mesylate in chronic phase CML patients. METHODS: Data were collected via e-mail and web-based survey from a random sample of 1100 hematologists/oncologists listed in the American Society of Clinical Oncology (ASCO) database. Rogers’ model of adoption of innovations was used as the main framework for the study. A series of pre-tested vignettes varying patient age and disease severity were used to assess physician recommendations to treat with imatinib vs. bone marrow transplant. A visual analog scale was used to measure physicians’ recommendations. The main survey procedure used a modified Dillman’s method. Factor analysis was performed for appropriate measures. Multiple regression analysis was used to test the model. Based on the theoretical model, the categories of independent variables included: innovation characteristics, communication channels, physician characteristics, social system characteristics and control variables. A within subjects repeated measures analysis was conducted to study the influence of patient age and disease severity on physician recommendation. RESULTS: A total of 305 responses were received giving a response rate of 29%. The regression model was found to be significant (p < 0.05). Perceived relative advantage of imatinib in efficacy, peer influence, past experience and academic affiliation were found to be significant positive influences. Specialty in bone marrow transplantation was found to be a significant negative influence. Physicians were found to recommend imatinib mesylate to a greater extent in patients at least 55 years old as compared to younger ones. CONCLUSION: Rogers’ model of adoption of innovation is useful in explaining physician recommendation for imatinib mesylate. In addition, patient age is a significant influence on physician recommendation for imatinib mesylate.

CANCER—Cost Studies

TRENDS IN CHEMOTHERAPY USE, OUTCOMES, AND COST FOR PATIENTS WITH ADVANCED NONSMALL LUNG CANCER: EVIDENCE FROM SEER-MEDICARE

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OBJECTIVES: Clinical trials suggest that chemotherapy offers a modest survival advantage in advanced nonsmall cell lung cancer...