FE and RE methods. **CONCLUSIONS:** Cisplatin significantly increased the RR of nephrotoxicity compared to non-cisplatin regimens when SCr was used to screen patients for inclusion in clinical trials, but only showed a trend toward a smaller increase in RR when GFR was used.

PCN3

CLINICAL CHARACTERISTICS AND TREATMENT PATTERNS OF COLORECTAL CANCER IN UNITED STATES VETERANS

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OBJECTIVES: To examine the clinical characteristics and treatment patterns of colorectal cancer patients in the U.S. veteran population. **METHODS:** A study sample from the Veterans Health Administration (VHA) Medical SAS datasets from October 1, 2005 through May 31, 2012 was analyzed. All patients diagnosed with colorectal cancer throughout the study period were identified using International Classification of Disease 9thRevision Clinical Modification (ICD-9-CM) diagnosis codes 153.xx and 154.xx. Descriptive statistical analyses were performed using SAS v9.3 software. **RESULTS:** There were 62,200 diagnosed colorectal cancer patients in the VHA population during the study period. Major comorbidities for these colorectal cancer patients were hypertension (n=18,309, 29.44%) and diabetes (n=10,891, 17.51%). Other minor comorbidities included hyperlipidemia and benign neoplasm of the colon. Common treatments prescribed for colorectal cancer patients were simvastatin and omeprazole. Outpatient services were utilized by 99.71% of colorectal cancer patients, followed by pharmacy (91.94%) and inpatient visits (31.15%). Costs for outpatient ($10,637, standard deviation [SD]=$17,125), pharmacy ($2,704, SD=$9,773), and inpatient services ($16,032, SD=$53,078) contributed to follow-up health care expenditures. Out of all colorectal cancer patients, 7,596 (12.21%) had Occult Blood (Fecal) Test results, with an average test result of 96.37. **CONCLUSIONS:** Colorectal cancer treatment is complicated by the presence of both major and minor comorbidities. Further analysis in the context of complicated comorbid conditions is required to improve the overall burden of illness of colorectal cancer patients.

PCN4

ASSESSING THE CLINICAL AND ECONOMIC BURDEN OF VETERAN LUNG CANCER PATIENTS IN THE UNITED STATES

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OBJECTIVES: To examine the economic burden and clinical characteristics of lung cancer in the U.S. veteran population. **METHODS:** A retrospective database analysis was performed using the Veterans Health Administration (VHA) Medical SAS Datasets from October 1, 2005 to May 31, 2012. Patients with lung cancer were identified using International Classification of Disease 9th Revision Clinical Modification (ICD-9-CM) diagnosis code 162.xx. Descriptive statistics were calculated as means ± standard deviation (SD) and percentages to measure comorbidities, laboratory tests, costs and utilization distribution in the sample. Comorbidities and laboratory tests were measured for the 1-year baseline period before the disease identification date. Health care costs and utilization were measured for the 1-year follow-up period after the identification date. **RESULTS:** The total number of lung cancer patients identified in the study period was 73,150. The most common comorbidities of these patients were hypertension (n=21,377, 29.22%), chronic airway obstruction (n=14,305, 19.56%), abnormal findings on radiological and other examination of lung field (n=12,437, 17.00%), and diabetes (n=11,569, 15.82%). Omeprazole and simvastatin were the top two most commonly prescribed treatments for lung cancer patients. Both medications were prescribed for more than 20% of all lung cancer patients. A total of 49,706 (67.95%) of the lung cancer patients had total white blood cell (WBC) count test results, averaging a result of 11.68. The percentage of patients with follow-up inpatient visits was 46.47%, which translated into $21,420 of inpatient costs per patient. 99.11% of patients had follow-up outpatient visits, which translated into $12,986 total outpatient costs per patient ($12,110 for office visit, $411 for emergency room visit costs). **CONCLUSIONS:** This study found that omeprazole and simvastatin were the most frequently prescribed drugs after a lung cancer diagnosis. However, more research is required to better understand adverse events and side effects.

PCN5

RITUXIMAB FOR NON HODGKIN LYMPHOMA: OVERVIEW OF EFFICACY AND SAFETY

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OBJECTIVES: To evaluate the efficacy and safety of the monoclonal antibody rituximab (RIT) for the treatment of patients with indolent or aggressive non-Hodgkin lymphoma B cells (B-NHL). **METHODS:** We searched The Cochrane Library, Centre for Reviews and Dissemination, Tripdatabase, Medline and LILACS databases aiming to find systematic reviews (SR) and randomized clinical trials (RCT) comparing RIT regimens *versus* RIT free regimens for induction or maintenance treatment of indolent and aggressive B-NHL. Health Technology Assessments (HTA) were searched on agencies websites. Quality of the evidence and strength of recommendation were evaluated using the GRADE system. **RESULTS:** We selected thirteen SR, eight RCT and six HTA publications. Half of the SR and the majority of RCT were classified as poor quality. The strength of recommendation was considered weak in favor of RIT in all studies. Combined overall survival meta-analysis showed a relative risk of 1.09 (1.06; 1.12) benefiting RIT treated patients. Overall survival for aggressive NHL non-RIT treated patients was 0.53 (0.37; 0.77). The death hazard ratio for indolent B-NHL RIT treated patients were 0.65 (0.54; 0.78) and 0.76 (0.62; 0.92). Individual studies also showed benefits of increased overall survival for RIT treated patients. The studies showed a higher incidence of serious adverse events with RIT regimens, such as granulocytopenia and leucopenia, which did not appear to lead to increased infections or mortality rates. HTA publications recommended the use of RIT regimens as first-line therapy for aggressive and indolent B-NHL or as second-line therapy and maintenance for indolent B-NHL. **CONCLUSIONS:** Evidences support the use of RIT in combination with chemotherapy as first-line and second-line treatment for aggressive B-NHL. For patients with follicular indolent B-NHL, RIT is recommended in combination with chemotherapy for patients previously treated or not, and for the maintenance of patients who responded to treatment after second-line chemotherapy.

PCN6

SYSTEMATIC REVIEW OF ANTI-VEGF THERAPIES FOR METASTATIC COLORECTAL CANCER

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OBJECTIVES: Anti-angiogenic therapy has become an integral component of treatment for metastatic colorectal cancer patients. During the last 10 years, several studies were conducted to test the safety and efficacy of anti-angiogenic therapies in mCRC patients. This study reviewed the results of randomized controlled trials published in peer-reviewed journals. **METHODS:** We searched the MEDLINE, and abstracts from ECCO, ESMO and ASCO until January 2013. Studies were selected for randomized controlled trials on targeted anti-angiogenic drugs in mCRC. Primary endpoints reviewed were progression-free (PFS) and overall survival (OS). Response rates, toxicity and secondary resectability were secondary endpoints. Aggregated data were further analyzed to understand comparative safety and efficacy. **RESULTS:** Until January 2013, eligible mCRC randomized clinical trials for this review were available for bevacizumab (6 trials including 4523 patients), Cediranib (2 trials including 2282 patients), vatalanib (2 trials including 2033 patients) and aflibercept (1 trial including 1226 patients). Overall, anti-angiogenesis therapy for mCRC shows significant OS and PFS benefit versus comparators. The median OS and PFS benefit for regimens containing Bevacizumab were 3 and 3.15 months, versus background chemotherapy. The median OS and PFS benefit for vatalanib containing regimens were statistically insignificant versus background chemotherapy. **CONCLUSIONS:** Anti-angiogenesis therapy with Bevacizumab for mCRC shows significant OS and PFS benefit versus comparators.

PCN7

ADJUVANT TRASTUZUMAB THERAPY IN HER2-POSITIVE BREAST CANCER PATIENTS: A META-ANALYSIS OF PUBLISHED RANDOMIZED TRIALS

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OBJECTIVES: Breast cancer is the most common cancer in women as well as the principle cause of death from cancer among women worldwide. Approximately 20%–30% of women with breast cancer over-express the human epidermal growth factor receptor 2 (HER2), which promotes the growth of cancer cells.Trastuzumab is a recombinant humanized monoclonal antibody that targets HER2. It has been shown to be effective as monotherapy and, as adjuvant therapy, has been shown to improve results of chemotherapy in patients with HER2-positive metastatic breast cancer. The objective of this study was to conduct a meta-analysis of the available evidence on the benefit of receiving adjuvant trastuzumab in HER2-positive breast cancer patients who are concomitantly receiving chemotherapy. **METHODS:** We performed a literature search in *MEDLINE*® (1996 to 2012) to find peer-reviewed publications and academic conference proceedings relevant to the objective. A meta-analysis of randomized controlled trials comparing chemotherapy patients with or without adjuvant trastuzumab treatment was conducted. The primary outcome was disease-free survival (DFS), while a secondary outcome was mortality. Both the random-effects model and the fixed-effect model were used to combine and analyze data. **RESULTS:** Six eligible clinical trials were identified, and 14,299 patients with HER2-positive breast cancer were included. Results indicated superior outcomes in the adjuvant trastuzumab group relative to the group without trastuzumab. For DFS, the trastuzumab group had an odds ratio (OR) of 0.62 (95% CI: 0.48-0.80).For mortality, it had an OR of 0.77 (95% CI: 0.64-0.93). **CONCLUSIONS:** According to the meta-analysis, adjuvant trastuzumab therapy both improves DFS and reduces mortality relative to patients treated with chemotherapy only. Other issues surrounding trastuzumab include optimum length of therapy, the high cost of therapy, and the high risk of cardiovascular side effects, which may themselves lead to death.

PCN8

SORAFENIB FOR KIDNEY CANCER: EVIDENCE OF EFFICACY, SAFETY AND COST ESTIMATES

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OBJECTIVES: Evaluate the efficacy, safety and cost estimates of sorafenib compared to other therapeutic options for the treatment of metastatic renal cell carcinoma (mRCC). **METHODS:** Systematic reviews (SR) of clinical trials comparing sorafenib with other therapeutic options were searched in The Cochrane Library, Medline, Lilacs, Centre for Reviews and Dissemination and Tripdatabase. We also selected health technology assessments (HTA) reports. Monthly treatment costs of the inhibitors of vascular endothelial growth factor