PCN5

SOFRAFENIB VERSUS SUNITINIB IN METASTATIC RENAL CELL CARCINOMA: INDIRECT COMPARISON ANALYSIS

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OBJECTIVES: To evaluate the clinical effectiveness of sorafenib and sunitinib in metastatic renal cell carcinoma (RCC) by using indirect comparison meta-analysis. **METHODS:** Systematic literature search of Medline, Embase, Cochrane controlled trials register. All randomized clinical trials of sorafenib or sunitinib versus interferon alfa for treating metastatic renal-cell carcinoma were included. Study selection, data extraction and quality assessment were performed by two reviewers with disagreements being resolved by consensus. The effects of sorafenib and sunitinib on progression-free survival were compared indirectly using indirect treatment comparison program, with interferon alfa (IFN) as a common comparator. **RESULTS:** Two studies were included. Median progression-free survival was prolonged with the treatment of sunitinib (11 months) compared to interferon alfa (5 months). For the comparison of sorafenib and interferon-alfa, the median progression-free survival was similar (median PFS: 5.7 months vs. 5.6 months). Indirect comparison suggests that sunitinib is not superior to sorafenib for prolongation of progress free survival (hazard ratio 0.37; 95% CI: 0.236–0.58, $P = 0.0189$). **CONCLUSIONS:** There is no significant evidence to suggest that treatment with sunitinib has clinical advantages over treatment with sorafenib in patients with metastatic RCC.

PCN6

RISK OF BREAST CANCER AMONG USERS OF POSTMENOPAUSAL HORMONE REPLACEMENT THERAPY IN TAIWAN

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OBJECTIVES: To determine whether the association between the different dosage of hormone replacement therapy (HRT) and the incidence of breast cancer (BC) in postmenopausal women with HRT formulation. **METHODS:** Patients who had at least one outpatient visit for postmenopausal syndrome (ICD-9-CM code 627) with estrogen prescription in Taiwan National Health Insurance (NHI) claims database during 1999–2006 were identified as the study cases. There were 883,052 women identified from the dataset. The index date was defined as the date of the first menopausal visit with estrogen prescription during the study period. To identify any BC events, each case was tracked from the index date until December 31, 2006 or death, whichever came first. Women without events were censored on December 31, 2006. Survival analysis was performed to assess whether cumulative estrogen dosage and combined progesterone were independent risk factors of BC. **RESULTS:** A total of 5524 cases of BC were identified during the study period. Women with higher dosage of estrogen had significantly higher risk of BC than women with lower dosage (HR = 2.23; $P < 0.0001$). The risk of BC was even higher when progesterone was combined with estrogen (HR = 1.08; $P = 0.036$). Women aged 60–69 (HR = 0.87, $P = 0.002$) and >70 (HR = 0.66, $P < 0.0001$) had lower risk of BC, compared with women aged <60. Women living in the northern part of Taiwan and in areas with higher urbanization level had higher risk of BC, compared with their counterparts. **CONCLUSIONS:** Hormone replacement therapy in postmenopausal women seemed to be associated with an increased risk of BC.

PCN7

ESTIMATION ON THE INCIDENCE OF SELECTED CANCERS IN CHINA, 2004

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OBJECTIVES: This study is to investigate the characteristics on incidence of stomach, lung, liver, breast and kidney cancer, and to estimate the total number of new cancer cases in China in 2004. **METHODS:** Incidence data were collected through 37 local cancer registries across 19 provinces and autonomous regions in China, 2004. Data were classified by ICD-10 and processed according to international cancer registration guidelines. The number of new cancer cases was estimated by local cancer registry data, residence population in the corresponding areas, and the population of China in 2004. **RESULTS:** Registry data covered a population of 57,698,672 residents, accounting for 4.44% of Chinese population in 2004. There were 73,552 new cancer cases registered, with world age-adjusted incidence by cancer type ranging from 2.69 per 100,000 to 31.55 per 100,000. Overall, lung cancer was highest in incidence rate, followed by cancer of stomach, liver and breast, while kidney cancer accounted for a relatively small proportion. Cancer among urban residents by incidence per 100,000 was lung (33.19), stomach (18.22), breast (16.52), liver (15.83) and kidney (3.32), while in rural residents was stomach (40.35), liver (28.66), lung (26.30), breast (6.19), and kidney (0.68). Cancer in men by incidence per 100,000 was lung (44.21), stomach (33.32), liver (28.94) and kidney (3.50), while in women was breast (27.76), lung (19.98), stomach (14.06), liver (8.97) and kidney (1.94). Total cancer incidence was estimated 30,571,904 in china in 2004. Estimation of cancer incidence of stomach, lung, liver, breast and kidney was 10,609,682, 7,335,176, 5,927,478, 2,492,148, and 376,927, respectively. **CONCLUSIONS:** Cancer incidence rates vary by region and gender in China. The overall burden of cancer is heavy and more attention should be paid to cancer prevention and control.

CANCER – Cost Studies

PCN8

IDENTIFYING KEY PROCEDURES IN HEPATOCELLULAR CARCINOMA PATIENTS WITH HIGHEST PAYER BUDGET IMPACT IN A COMMERCIALLY INSURED POPULATION IN THE UNITED STATES

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OBJECTIVES: Although hepatocellular carcinoma (HCC) is a highly prevalent disease in East Asia with a growing incidence in the US, there is a limited understanding of health-care procedures and their economic impact. This study identifies the procedures with the highest payer budget impact in a commercially insured US population. **METHODS:** The MEDSTAT insurance claims database (January 1, 2000–December 31, 2008) was used to identify a cohort of patients with > = 1 HCC claim (index = first claim), age > = 18, and no other cancer diagnoses. For each procedure code, all payments (2009 USD) were summed across the cohort and divided by the total patient-months to estimate the per patient-month (PM) cost. The PM costs were ranked to identify procedures with the highest payer budget impact. The proportion of patients utilizing each procedure was calculated to evaluate whether PM costs were driven by a minority of patients. **RESULTS:** The study sample included 2927 patients: mean age 50.4 years, 57% male, and median 9 months follow-up. The inpatient procedures with the highest budget impact were: liver transplant and/or intestinal transplant ($526/PM, 4.6% of patients), tracheostomy with mechanical ventilation ($204/PM, 0.2%), disorders of liver except malignancy/cirrhosis/alcoholic hepatitis ($96/PM, 5.1%). For hospital outpatient procedures, they were: magnetic resonance imaging (MRI) of the abdomen ($18/PM, 15%), computed tomography of abdomen ($13/PM, 17%), and transcatheter occlusion/embolization ($8/PM, 4%). For office outpatient procedures, they were: low complexity visits ($26/PM, 70%), moderate complexity visits ($18/PM, 18%), and MRI of abdomen ($8/PM, 7%). Patients with > = 1 sorafenib prescription (<2% of cohort) had a minimal impact on the results. **CONCLUSIONS:** The key procedures with the highest budget impact appear to be related to both cancer and liver disease. These costs may be reduced with improved anticancer therapy which provides better cancer control and reduces the exacerbation of liver disease from tumor growth.

PCN9

FIRST YEAR MEDICAL CARE COSTS ASSOCIATED WITH HEPATOCELLULAR CARCINOMA IN A MEDICAID POPULATION

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OBJECTIVES: Although hepatocellular carcinoma (HCC) is highly prevalent in East Asia with a growing incidence in the United States, the economic impact of the disease has not been extensively studied. This study compares medical costs of HCC patients in the first year after diagnosis with those of non-cancer controls. **METHODS:** A Medicaid database (July 1, 2001–June 30, 2007) was used to identify cases with > = 1 HCC claim, > = 1 HCC post-index claim, and no other cancers. Controls were matched on age, sex, and race. Costs (2008 USD) for medical care services (inpatient, outpatient, emergency room [ER], long-term care [home health, nursing home, hospice]) were analyzed as first-year costs and follow-up adjusted costs (per-patient-per-month [PPPM]). All costs were compared using rank sum tests. **RESULTS:** The study identified 126 HCC cases and 126 controls: mean age 49 years, 51% male, mean follow-up months: 9.2 cases/11.9 controls, and deaths: 29.4% cases/1.6% controls. First-year costs were 1.5 to 8 times higher in cases versus controls (long-term care $3752 vs. $2554, ER $126 vs. $51, outpatient $4143 vs. $1412, inpatient $12,425 vs. $1595, all with $P < 0.012$). PPPM costs were 3 to 27 times higher in cases versus controls (long-term care $626 vs. $233, outpatient $884 vs. $119, ER $34 vs. $4, inpatient $3738 vs. $139, all with $P < 0.001$). Total costs were two times higher for HCC cases in the first year ($29,795 vs. $13,151, $P < 0.001$) and six times higher as PPPM ($6376 vs. $1125, $P < 0.001$). No patients had a sorafenib prescription. **CONCLUSIONS:** First-year medical care costs were substantially higher for the HCC patients, and even higher when adjusted for follow-up on a PPPM basis. Future therapies that improve survival and disease control may enable payers to reduce monthly costs, and use the savings to treat other patients.

PCN10

ESTIMATION OF THE HEALTH AND COST BURDEN OF HPV-RELATED DISEASES IN THAILAND

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BACKGROUND: Cervical cancer is the first leading female cancer, especially, in developing countries. The two available HPV vaccines protect against HPV types 16/18 responsible for majority of cervical cancer. The quadrivalent vaccine also protects against HPV types 6/11 that cause majority of genital warts. It is important