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OBJECTIVES: Statins have potential protective effects against cancers but no studies have focused on patients with chronic hepatitis B virus (HBV) infection. The purpose of this study was to investigate the association between the use of statins in HBV-infected patients and the risk of hepatocellular carcinoma (HCC). **METHODS:** We conducted a population-based cohort study from the Taiwan National Health Insurance Research Database. A total of 33,413 HBV-infected patients were included as the study cohort. Each subject was individually tracked from 1997 to 2008 to identify incident cases of HCC since 1999. Subsequent use of statin, other lower-lipid agents, aspirin, and angiotensin-converting enzyme inhibitors were identified. Cox proportional hazard regressions were employed to calculate the hazard ratios (HRs) and 95% confidence intervals (CIs) for the association between the use of statins and the occurrence of HCC in the HBV-infected cohort. **RESULTS:** There were 1,021 HCC cases from the HBV cohort during follow-up periods of 328,946 person-years; the overall incidence rates were 310.4 cases per 100,000 person-years, respectively. There was a dose-response relationship between statin use and the risk of HCC in the HBV cohort. The adjusted HRs were 0.66 (95% CI, 0.44–0.99), 0.41 (95% CI, 0.27–0.61), and 0.34 (95% CI, 0.18–0.67) for statin use 28–90, 91–365, and > 365 cumulative defined daily doses (cDDD), respectively, relative to no statin use (< 28 cDDD). **CONCLUSIONS:** Statin use may reduce the risk for HCC in HBV-infected patients in a dose-dependent manner. Further mechanistic research is needed.

CN2

HOW EARLY-STAGE NON-PERSISTENCE AND NON-ADHERENCE TO ADJUVANT HORMONAL THERAPY ASSOCIATED WITH POSTMENOPAUSAL BREAST CANCER MORTALITY IN TAIWAN

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OBJECTIVES: Medical adherence to hormone therapy (HT: including tamoxifen and aromatase inhibitors [AIs]) has been reported as an important prognosis factor for breast cancer women. Since AIs is not the first-line treatment in postmenopausal patients by the reimbursement policy in Taiwan, it is of interested to investigate how the early-stage non-persistence and non-adherence to HT associated with mortality of postmenopausal breast cancer patients. **METHODS:** The Taiwan Health Insurance Research Database (NHIRD) was used to identify 17,101 newly diagnosed (1999–2007) breast cancer women who were aged over 50 years olds and received surgery (OP) and HT. The cancer treatments were further categorized into adjuvant chemotherapy and radiation therapy (CT/RT), CT/nonRT, nonCT/RT and nonCT/nonRT. The HT prescriptions were categorized into tamoxifen only and tamoxifen/AIs. The prescription gap (PG) and medication possession ratio (MPR) were calculated. Any PG>180 days in the first treatment year and MPR<80% were defined as 'early-stage non-persistence' and 'non-adherence'. Cox regressions were used to estimate hazard ratios (HRs). **RESULTS:** There were 4.97% and 16.83% identified as 'early-stage non-persistence' and 'non-adherence' to HT, respectively. The MPRs of HT were similar across the four cancer treatment groups, but those received CT/nonRT (5.69%) and CT/RT (6.92%) had a significant higher non-persistence rate. Non-persistence in the first year (CT/RT: HR=1.11, 95% CI=0.86–1.45; CT/nonRT: HR=1.47, 95% CI=1.17–1.85; nonCT/RT: HR=2.34, 95% CI=1.33–4.12; nonCT/nonRT: HR=2.19, 95% CI=1.59–3.00) and non-adherence (CT/RT HR=1.29, 95% CI=1.09–1.53; CT/nonRT: HR=1.40, 95% CI=1.21–1.62; nonCT/RT: HR=1.08, 95% CI=0.74–1.57; nonCT/nonRT: HR=1.10, 95% CI=0.92–1.31) were associated with increased mortality. The non-persistence and non-adherence were significantly associated with increased risk of mortality in tamoxifen/AIs. **CONCLUSIONS:** Our results support the association of early-stage non-persistence and non-adherence to HT with increasing mortality in postmenopausal breast cancer patients. It is vital to improve prescribing persistence and adherence for enhancing clinical outcomes and maximizing the efficiency of medical utilizations.

CN3

COST-EFFECTIVENESS ANALYSIS OF TREATMENTS IN ADULT CANCER PATIENTS WITH LOW RISK FEBRILE NEUTROPENIA IN THAILAND

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OBJECTIVES: The general febrile neutropenia (FN) treatment in cancer patients in Thailand is hospitalized intravenous antibiotics. Clinical evidence indicated the efficacy of oral antibiotic treatment and early hospital discharge in the treatment of FN patients. This study aimed to assess the cost effective treatment strategy for adult cancer patients with low risk FN in Thailand. **METHODS:** A decision tree model was constructed to compare 3 strategies: 1) treatment with ceftazidime in hospital (HosIV); 2) treatment with oral amoxicillin-clavulanate plus ciprofloxacin in hospital (HosPO); and 3) treatment with oral amoxicillin-clavulanate plus ciprofloxacin and then early discharge in 24–48 hr after observing in hospital (Early D/C). Health care perspective was used; hence, only direct medical costs (drug, hospitalization, out patient visit, and laboratory costs) were included. Cost data were obtained from Lopburi Cancer Center. Outcome was measured as quality-adjusted FN episodes (QAFNE) which considered only 1 FN episode. Effective data were based on literature review. Incremental cost-effectiveness ratio (ICER) was analyzed. A series of one-way sensitivity analyses were performed. **RESULTS:** In the base case model, HosPO and Early D/C were cost saving when compared with HosIV. The cost saving was equal to 64,028 and 65,801 THB respectively. Early D/C was the most dominant

strategy with lowest cost and highest QAFNE (5,686 THB and 0.63 QAFNE). The result of one-way sensitivity analysis indicated that drug costs, utility for inpatient IV, utility for inpatient oral and utility for early discharge showed the impact on ICER. **CONCLUSIONS:** Both HosPO and Early D/C strategies were more cost effective than HosIV in adult cancer patient with low risk FN in Thailand.

CN4

INPATIENT TREATMENT PATTERNS AND HEALTH CARE EXPENDITURES FOR HEPATOCELLULAR CARCINOMA AMONG POPULATION WITH URBAN BASIC HEALTH INSURANCE IN CHINA

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OBJECTIVES: To summarize current hepatocellular carcinoma (HCC) treatment patterns and health care expenditures during hospitalization among China's urban basic health insurance (BHI) beneficiaries and to identify trend in HCC treatment expenditures from 2008 to 2010. **METHODS:** This was an encounter-based retrospective study using hospitalization claims database of the urban BHI enrollees. Study subjects were patients aged 18 years or older, with the China urban citizens' or employees' BHI plan, and had at least one hospital admission with a discharge diagnosis code of HCC (ICD-10 codes: C22.0 and C22.9) between 2008 and 2010. Descriptive statistical analyses of treatment patterns and expenditures were conducted. **RESULTS:** Totally, 2,765 hospitalization claims met inclusion criteria and were extracted from the database. Systemic therapy (predominantly traditional Chinese medicine) was involved in 72% of hospitalizations and transarterial chemoembolization was involved in 27%, followed by palliative therapy only (21%), local ablation (5%), liver resection (4%), and radiation (3%). Thirty-five percent of hospitalizations involved combined treatments. On average, HCC treatment expenditure was CNY11,243 per hospitalization in 2008–2010, with annualized increase of 21% from 2008 to 2010. The BHI plan covered a three-year average of 68% (CNY7,613) of total expenses, while copayment accounted for 20% (CNY2,234). Other self-paid expenses stabilized at CNY1,400 in 2008–2010. Length of stay dropped from 21.0 days in 2008 to 17.2 days in 2010, yet the daily expense rose from CNY460 to CNY848. **CONCLUSIONS:** Various treatments were used by hospitalized HCC patients with urban BHI coverage. The most often used treatment was systemic therapy. Health care expenditures per hospitalization increased tremendously from 2008 to 2010. However, the drugs patients purchased outside hospitals could not be captured in this database, which might underestimate the expenditures. Other limitations include lack of information at patient level and on disease stages and grades.

PODIUM SESSION I:

DIABETES OUTCOMES STUDIES

DB1

EPIDEMIOLOGY, TREATMENT AND ECONOMIC BURDEN OF TYPE 2 DIABETES MELLITUS WITH NEPHROPATHY COMPLICATIONS IN CHINA

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OBJECTIVES: To summarize the progress of epidemiology, treatment, and economic burdens of type 2 diabetes mellitus (T2DM) with nephropathy complications in China. **METHODS:** A systematic review method was performed to search and refine the evidence of existing English and Chinese researches on T2DM and diabetic nephropathy. Literatures were searched from various databases including Pubmed, Web of science, CNKI, etc. Five inclusion criteria include disease (T2DM and nephropathy), population (Chinese patients), prevalence, treatment procedure, and disease burden. Quality assessment and data extraction were implemented by two reviewers independently and the differences between them were resolved by consensus. **RESULTS:** Fifty-one articles were included in the review. The results showed that the rising prevalence rate of diabetes in China has reached a high level. The mortality of diabetic nephropathy (DN) has higher proportion of 34% in total mortality of T2DM patients than other DM complications, although the researches related to DN are not yet enough. The western medicine treatment strategies of T2DM with chronic kidney diseases were more instructional, while the treatment with Chinese herbal medicine was based on the principle of 'syndrome differentiation', resulting in the difficulty to carry out multicenter clinical researches to evaluate the treatment effect. Diabetes and its complications have brought a heavy burden in China. The total economic burden of DM and its complications reached 247.8 billion RMB in 2007 and varied among different cities and between urban and rural areas. **CONCLUSIONS:** Evidence of prevalence and disease burden of diabetes was not comprehensive in current researches on Chinese patients, especially for diabetic nephropathy. Information of diabetic complications should be included in the content of cross-sectional diabetes surveys to provide more information of the incidence and prevalence of DN. More intervention researches should be conducted to actively prevent DM and chronic complications such as DN.

DB2

VITAMIN D DEFICIENCY AND DIABETES: PERCEPTIONS OF PHARMACISTS AND PHYSICIANS

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OBJECTIVES: With an estimated 62.22 million people suffering from diabetes, India is fast becoming the "Diabetes Capital of the World". Vitamin D deficiency has been