Methods: We conducted a nationwide cohort study of all RYGB surgery patients in Denmark from 2006 through 2010. Using Danish medical databases, we linked data on age, gender, surgical procedure, current glucocorticoid use (redeemed prescription 60 days before surgery) or no current use (no prescription <60 days before surgery), preoperative comorbidity level assessed by the Charlson Comorbidity Index, and postoperative bleeding (within 30 days of surgery). We computed odds ratios (ORs) for the association between glucocorticoid use and bleeding with corresponding 95% confidence intervals (95% CIs), adjusting for sex, age and comorbidity using logistic regression.

Results: In total, 9,855 patients underwent RYGB. Of these, 247 (2.5 %) were current glucocorticoid users and 9,608 (97.5%) were non-users. A higher risk of bleeding was observed among the glucocorticoid users (2.4%) than among non-users (1.2%), the adjusted OR was 2.0 (95% CI 1.1-3.6).

Conclusions: Use of glucocorticoids within 60 days before RYGB was associated with a higher risk of postoperative bleeding during 30 days follow up.

694. Use of N-Methylthiotetrazole (NMTT) - Cephalosporin Antibiotics and the Risk of Hemorrhagic Events: A Nationwide Nested Case-Control Study

Li-Ju Chen,[1] Fei-Yuan Hsiao,[1,2] Li-Jiuan Shen,[1,2] Shu-Wen Lin.[1,2] [1]*Graduate Institute of Clinical Pharmacy, School of Pharmacy, National Taiwan University, Taipei, Taiwan;* [2]*Department of Pharmacy, National Taiwan University Hospital, Taipei, Taiwan.*

Background: Several case reports and case series have suggested a potential correlation between N-methyl-thiotetrazole (NMTT) - cephalosporin (cepha) antibiotics and coagulopathy. Nevertheless, there is a lack of population-based empirical data.

Objectives: The objective of this nested case-control study is to examine the association between the use of antibiotics of interest and the risk of hemorrhagic events using Taiwan's National Health Insurance Research Database (NHIRD).

Methods: Through the usage of Longitudinal Health Insurance Database 2000 (LHID 2000) derived from the original claim data of NHIRD, we identified adult patients who received anti-infective treatment with cefmetazole, cefoxitin, flomoxef, moxalactam, cefamandole, cefoperazone, which were defined as exposure group, and amoxicillin/ clavulanate, ampicillin/ sulbactam, cefuroxime, cefotaxime, ceftriaxone, which were identified as non-exposure group, for more than 48 hours between year 2000 and 2011. The association between the exposure to NMTT cepha and the risk of hemorrhagic events identified through ICD-9-CM code was examined using conditional logistic regression models.

Results: Within the cohort consisting of 625 patients, the average age was 65 years old and 57 % were males. NMTT cepha accounted for 29.6 % of antibiotics exposure among total study samples and flomoxef was the most frequently prescribed (24.8 %). We identified 40 cases who admitted for hemorrhagic events and 160 matched controls (1:4 by gender, age, and index date). Overall, 14 cases were exposed to NMTT cepha while 40 controls were exposed to NMTT cepha prior to the index date. Results of conditional logistic regression model showed that exposure to NMTT cepha was associated with a non-statistically increased risk of hemorrhagic events (OR 1.67, 95% CI 0.77-3.64, p = 0.19).

Conclusions: Although limited by small sample size, the preliminary results of this population-based study provides further insight in the potential association between use of NMTT antibiotics and risk of hemorrhagic events.

695. The Risk of Acute Liver Injury among Users of Antibiotic Medications in the PROTECT Project: The Results of a Nested Case-Control Study Using European Outpatient Healthcare Data

Ruth Brauer,[1] Ian Douglas,[1] Luis Alberto Garcia Rodriguez,[2] Andrew Bate,[3] Liam Smeeth,[1] Robert Reynolds,[3] Olaf Klungel,[4] Ana Ruigomez.[2] [1]*London School of Hygiene and Tropical Medicine, London;* [2]*Fundación Centro Español de Investigación Farmacoepidemiológica, Madrid;* [3]*Pfizer Ltd, New York;* [4]*Utrecht University, Utrecht.*

Background: The estimated incidence of antibiotic induced acute liver injury (ALI) varies widely, depending on the case definition and source population used.

Objectives: We aimed to compare the risk of ALI associated with exposure to any type of antibiotic in a Spanish and United Kingdom (UK) database with access to outpatient data using the same case definitions.

Methods: The case-control studies in the Clinical Practice Research Datalink (CPRD) and "Base de

datos para la Investigacion Farmacoepidemiologica en Atencion Primaria" (BIFAP) were nested in two cohorts: A cohort for whom the date of the first antibiotic prescription defined the start of follow-up and a non-using control cohort for whom a random start-date was generated. After exclusion criteria were applied, cases with ALI were identified using medical codes, laboratory test results and referrals to specialists. Up to 5 controls were matched to cases by age, sex, calendar date and, in CPRD only, practice. We used conditional logistic regression to compute odds ratios (OR) and 95% confidence intervals of ALI associated with current use of antibiotics compared to non-use. Results were adjusted for potential confounding variables, including smoking status, underlying diseases such as diabetes, and use of concurrent medications. A secondary analysis was performed using a broader case definition.

Results: In CPRD, 263 ALI cases could be matched to 1284 controls in CPRD. In BIFAP, 124 cases were matched to 620 controls. The results of the adjusted analyses showed qualitatively similar evidence of an increased risk of ALI up to 14 days after the receipt of an antibiotic in CPRD (OR 5.7, 95% CI 3.46-9.36) and BIFAP (OR 2.6, 95% CI 1.26-5.37). Using a broader case definition, the OR was 3.59 (95% CI 2.79-4.61) in CPRD and 3.08 (95% CI 2.05-4.62) in BIFAP.

Conclusions: Whilst we acknowledge the potential inaccuracy in capturing ALI using observational data, we found that the use of a robust case definition led to comparable findings regardless of the source population used.

696. A Structured Database Approach for Addressing Pharmacoepidemiologic Research Needs Concerning Cancer

Jinghua He, Edward A Bortnichak, Mellissa Yong. *Epidemiology, Merck Sharp & Dohme, North Wales, PA, United States.*

Background: Cancer is not only a condition targeted by many pharmacological agents, but also can be a safety outcome for medications used to treat other diseases. Population based cancer research using large databases are challenging but essential in drug development and post-marketing safety evaluations.

Objectives: To summarize frequently encountered pharmacoepidemiologic questions concerning cancer, review currently available data sources, and propose a structured database approach for addressing these issues.

Methods: A focus group discussion was conducted among drug research and development experts at Merck Research Labs, including clinicians, epidemiologists, and database specialists. Results from this discussion were summarized and presented.

Results: The most often encountered cancer research questions include general epidemiology (incidence, prevalence, etc.); characterizing populations of interest (comorbidity, concomitant drug use, etc.); trial planning and recruitment; treatment pattern; patient reported outcomes; comparative effectiveness of treatments, and post-marketing safety studies. Currently available databases can be classified hierarchically based on their accessibility, generalizability, and richness: 1) aggregated public databases; 2) claims and electronic medical record (EMR) databases; 3) cancer registries; 4) cancer registry linked to claims/EMR data; and 5) tumor biobanks linked to clinical data. The aggregated public databases provide the most accessible information in large populations, but often lack patient level details. Biobank linked to clinical data present rich information on individual patients, but are difficult to construct and often limited to small sample sizes. Considering the strengths and limitations of various data types, a structured strategic database approach is proposed. Common research needs are mapped to one or multiple database hierarchy levels that likely offer appropriate and practical solutions.

Conclusions: In spite of limitations, currently available healthcare databases together offer ample research opportunities to address cancer pharmacoepidemiologic questions encountered during the drug development lifecycle.

697. Increasing Risks of Stroke in Oral Cancer Patients Treated with Radiotherapy or Chemotherapy: A Nationwide Cohort Study

Yu-Ting Wu,[1] Chung-Yu Chen,[1] Yaw-Bin Huang,[1,2] Cheng-Chiun Kuo.[2] *[1]Kaohsiung Medical University, Kaohsiung, Taiwan; [2]Kaohsiung Medical University Chung-Ho Memorial Hospital, Kaohsiung, Taiwan.*

Background: Several studies investigated the association between cancers and stroke, especially in patients who received radiotherapy or chemotherapy. However the study evaluated the risks of stroke in oral cancer is limited.

Objectives: The study intends to investigate the epidemiology and hazard of stroke in oral cancer patients treated with radiotherapy or chemotherapy.