Management Programs for Diabetes in 2003 leading to intensification of antihyperglycemic therapy and thus increasing the risk for SH.

PD83

HYPOGLYCAEMIA-RELATED EMERGENCY DEPARTMENT VISITS AND HYPOGLYCAEMIA-RELATED HOSPITALIZATIONS AMONG NEW USERS OF ANTIDIABETES TREATMENTS

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OBJECTIVES: Hypoglycaemia is a major side effect of antidiabetes drugs. Mild episodes of hypoglycaemia are frequent and are generally self-treated. On the other hand, severe hypoglycaemia can have deleterious effects on mortality and quality of life. The objective was to describe the burden of severe hypoglycaemia among new users of insulin and oral antidiabetes drugs (OAD) in terms of two hypoglycaemia-related outcomes: emergency department (ED) visit and hospitalization.

METHODS: A retrospective cohort study using the database of the Quebec health insurance board and the Quebec registry of hospitalizations. The source population was made of individuals aged 18 years or over; newly dispensed an antidiabetes treatment made of either insulin or OAD between January 1, 2000 and December 31, 2008. Individuals were followed from initiation of antidiabetes treatment to December 31, 2008, occurrence of hypoglycaemia-related outcome, loss of eligibility to the drug plan or death, whichever came first. Individual’s characteristics at antidiabetes treatment initiation were described using frequency distributions. The incidence rate for the occurrence of hypoglycaemia-related ED visit and hypoglycaemia-related hospitalization were calculated using the Kaplan–Meier method. RESULTS: A total of 188,659 new users of antidiabetes treatment were identified and followed over the cohort. A total of 421,147 individuals had at least one hypoglycaemia-related ED visit while 194 (0.1%) had at least one hypoglycaemia-related hospitalization. Incidence rates for the occurrence of hypoglycaemia-related ED visits and hypoglycaemia-related hospitalizations were 9.2, and 0.3 cases per 1000 patient-years, respectively. CONCLUSIONS: Although the incidence of ED visit or hospitalization due to hypoglycaemia seems low, severe hypoglycaemia episodes could be associated with a high economic burden.

PD84

CHARACTERIZATION OF THE RISK FOR URINARY TRACT INFECTIONS IN US PATIENTS WITH TYPE 2 DIABETES MELLitus

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OBJECTIVES: To assess whether the presence of type 2 diabetes mellitus (T2DM) increases the risk of urinary tract infections (UTI) in men and women. METHODS: In a retrospective cohort study, patients ≥18 years with a diagnosis of T2DM or prescriptions for antihyperglycemic therapy were identified within MarketScan, a US-based insurance claims database. Date of first T2DM diagnosis or prescription in 2008 was the index date. Patients without T2DM were age and gender matched to those with T2DM. Eligible patients had medical records for 1 year prior to (baseline) and 1 year after (follow up) the index date. UTI diagnosis during follow up was assessed with ICD-9 codes. Logistic regression adjusted for patient characteristics and comorbidity conditions was used to assess the likelihood of experiencing UTI. RESULTS: A total of 99,137 matched pairs were included. The mean age at index date was 56 years and 50% were male. Patients with T2DM had more pre-existing comorbid conditions compared to patients without T2DM. In the 1-year follow up, more patients with T2DM were diagnosed with UTI (12.9% vs. 7.7%; p < 0.0001) compared to non-T2DM patients. The proportion of women with T2DM experiencing UTI was 11.8% vs. 8.0% for women with no diabetes. The proportion of men with UTI, but the difference between T2DM and no T2DM remained and was significant (7.6% vs. 3.6%; p < 0.0001). In a logistic regression, patients with T2DM had a greater likelihood of experiencing UTI during follow up (adjusted odds ratio = 1.71 [95% CI 1.66, 1.77]). For each gender alone, the odds were still significantly greater for patients with T2DM. Measurements of glycemic control were not available and thus their influence on UTI risk could not be assessed.

CONCLUSIONS: Patients with T2DM were more likely to experience a UTI compared to patients without T2DM.

PD85

MICRO- AND MACROVASCULAR OUTCOMES IN PRIMARY CARE PATIENTS WITH TYPE 2 DIABETES TREATED WITH INSULIN GLULISINE OR HUMAN REGULAR INSULIN: A RETROSPECTIVE GERMAN DATABASE ANALYSIS

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OBJECTIVES: Analog insulin glulisine has a higher efficacy in reducing postprandial glucose excursions and in restoring normal postprandial microcirculation than regular human insulin. Besides glycemic control, insulin glulisine has also favorable effects on maintaining normal endothelial function. Therefore, the aim was to compare the incidence of macro- and microvascular outcomes in type 2 diabetic patients treated with insulin glulisine or regular human insulin. METHODS: Computerized data from 952 glulisine (age: 61 ± 11 yrs) and 11,157 regular insulin (65 ± 11 yrs) users in general practices throughout Germany (Disease Analyzer, 11/2004 to 3/2010) were analysed. Hazard ratios (HR, Cox regression) for 3.5-year risk of macro- or microvascular outcomes were adjusted for age, sex, diabetes duration, health insurance, residency, diabetologist care, hypertension, hyperlipidemia, depression, and co-medication (basal insulin, oral antidiabetics). Furthermore, adjustment was carried out for baseline microvascular complications when analyzing macrovascular outcomes and vice versa. RESULTS: Overall, risk for both macro- and microvascular outcomes was 20% lower for patients using insulin glulisine (p < 0.05). There was a decreased risk for coronary heart disease (HR, 95% CI: 0.78, 0.62–0.95) and a trend for lower events of myocardial infarction (0.66; 0.43–1.02). Also for microvascular complications, the adjusted hazard ratios for retinopathy, nephropathy and neuropathy were below 1.0, indicating a lower risk for the insulin glulisine group, however, which was statistically significant for neuropathy only (0.74; 0.58–0.93). CONCLUSIONS: The prescription of the rapid-acting insulin analog glulisine was associated with a reduced incidence of macro- and microvascular outcomes in type 2 diabetes under real-life conditions in a retrospective database analysis. It is important to confirm this finding in a randomized controlled trial.

PD86

DESCRIPTION OF COMORBIDITIES AND BODY MASS INDEX IN US ADULTS WITH AND WITHOUT DIABETES FROM THE MEDICAL EXPENDITURE PANEL SURVEY, 2008

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OBJECTIVES: The World Health Organization has recognized diabetes and other selected chronic health conditions are at an epidemic level all of which can be impacted by weight. The purpose of this project was to classify US adults by Body Mass Index (BMI) categories and compare adults with diabetes to those adults without diabetes and those adults identified by BMI categories and other selected priority health conditions to see if there was a difference between groups. METHODS: The Medical Expenditure Panel Survey (MEPS) is publically available database providing nationally representative estimates of health care use, expenditures, sources of payment, and health insurance coverage for civilian non-institutionalized population. Analysis of the survey data utilized design-based methods that utilized the complex survey stratification and weighting provided within the MEPS datasets, in addition to use of the Rao-Scott Chi-square test, to compare people with and without diabetes. The level of significance was α = 0.05. RESULTS: In 2008, approximately 64 percent of the U.S. adult population was overweight (BMI of 25.0 to 29.9), obese (BMI of 30.0 to 39.9), or extremely obese (BMI greater than or equal to 40). Adults with diabetes had significantly higher percentages of being overweight, obese, and extremely obese, where more likely to have asthma and more than twice as likely to have hypertension, and were nearly three times as likely to have heart disease and more than three times more likely to have a stroke than adults without diabetes (p-value < 0.001). CONCLUSIONS: Patients with diabetes were more likely to be overweight, obese, and extremely obese compared to those without diabetes. Patients with diabetes were also more likely to have chronic health conditions such as hypertension, heart disease, and stroke.

PD87

PREVALENCE, DEMOGRAPHICS AND TREATMENT CHARACTERISTICS OF DIABETES WITH LANTUS, NPH AND PREMIX INSULIN IN A REPRESENTATIVE CANADIAN COHORT

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OBJECTIVES: To determine the prevalence and incidence of Lantus vs NPH and premix insulin use in diabetes including the treatment characteristics, comorbidity and resource use in a representative population in Canada. METHODS: Records from a longitudinal population-based database of more than 225,000 primary care individuals in southwestern Ontario, Canada were analysed between January 1 2008 to September 30 2010. Patients were considered to have diabetes if at least one of the following conditions was met: 1) physician diagnosed type 1 or 2 diabetes; 2) > 1 measurement of HbA1c greater than the recommended target; or 3) at least one prescription for a diabetes medication. RESULTS: A total of 76,077 adult patients with representative data were included between 2008-2010. Prevalence of T2DM was 7.9% and Type 1 diabetes was 2.9%. Patients on Lantus had less hypertension, nephropathy or Stage 5 kidney disease than NPH or Premix insulin patients (p < 0.05). Patients receiving Premix insulin tended to have more primary care visits, ER visits, hospitalizations and total referrals than Lantus. More patients received new scripts for NPH than Lantus or Premix insulin during the study period. The average dose of Lantus was 10.5-10.7 units, with a high rate of annual renewal (89.8-96.6%) for the same dose or any dose (93.8-98.7%). There were very few dose switches or discontinuations for Lantus while NPH and Premix insulin were renewed less, underwent more dose switches and less discontinuations.

CONCLUSIONS: In a real-world setting the prevalence of diabetes was similar to nationally reported data. Patients receiving Lantus tended to have less hypertension, nephropathy or Stage 5 kidney disease than NPH or Premix insulin patients. Lantus did not utilize more health services than Lantus or NPH. Lantus scripts were renewed more often, had less dose changes or switches and less discontinuations than NPH or Premix insulin.

PD88

A NETWORK META ANALYSIS TO COMPARE GLYCAEMIC CONTROL IN PATIENTS WITH TYPE 2 DIABETES TREATED WITH EXENATIDE ONCE WEEKLY OR LIRAGLUTIDE

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