OBJECTIVES: To synthesis current evidence of the impact of glucagon-like peptide-2 (GLP-1) on heart rate, blood pressure and hypertension. METHODS: Meta-analysis of available RCTs comparing GLP-1 RA with placebo and other active anti-diabetic drugs among patients with type 2 diabetes. Weighted mean differences between trial arms for changes in heart rate and blood pressure, and odds ratios for hypertension, after a mean of 8.8 weeks follow-up. RESULTS: Meta-analysis of 42 trials with 2 treatments were included. Overall, liraglutide-1.2mg-once-daily and lixisenatide-1.8mg-once-daily increased the heart rate by 2.47 (95% CI: 0.81 to 4.13) and 2.37 (95% CI: -2.57 to 7.29) versus placebo for heart rate and systolic blood pressure, respectively. CONCLUSIONS: These findings are consistent with previous reports on heart rate response to active agents. Liraglutide increased heart rate by 3.9% and lixisenatide by 1.8%. Further studies are needed to establish the clinical significance of these changes.

DB2 EFFICACY AND SAFETY OF HUMAN INSULIN VERSUS ANIMAL INSULIN AMONG PATIENTS WITH DIABETES IN CHINA: A META-ANALYSIS

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OBJECTIVES: There have been controversies on the efficacy and safety of human insulin compared to animal insulin. The aim of this study was to compare the efficacy and safety between human and animal insulin among Chinese patients. METHODS: A systematic literature search with key terms for identifying studies comparing human insulin among Chinese patients was performed using MEDLINE, China National Knowledge Infrastructure, Chinese Scientific Journals Database, Wan Fang database and Chinese Biological Medical Database. For each clinical outcome, meta-analysis was conducted when enough number of studies (≥ 3) meet inclusion criteria. Mean difference (MD) and risk ratio (RR) were pooled for continuous and count measures, respectively. RESULTS: A total of 597 publications were retrieved and 21 studies were included. The overall evidence suggested that human insulin was associated with significantly less daily dose, with MD (95% CI) of -0.22 (95% CI: -0.30 to -0.14) for HbA1c, and -0.06 (95% CI: -0.15 to 0.03) for body mass index (BMI). CONCLUSIONS: Our meta-analysis findings support the use of human insulin due to its potential benefits in terms of dose reduction and weight management.

DB3 TREATMENT PROFILE AND INSULIN DOSE AS A FACTOR IMPACTING GLYCEMIA CONTROL AMONG PREMIX INSULIN USERS WITH T2DM IN CHINA

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OBJECTIVES: In China, approximately 70% of insulin users utilize premixed formulations. This study was to evaluate premix use in China and the associated glycemic outcomes in patients with Type 2 Diabetes Mellitus (T2DM). METHODS: Using the Adelphi™ T2DM Disease Specific Programme, we examined 279 patients aged ≥18 years with T2DM receiving premixed insulin. To examine the association between insulin dose and glycemic control, we analyzed 140 patients whose insulin doses were maintained for at least 3 months and whose HbA1c test was performed every 3 months. CONCLUSIONS: Among 279 premix users, the mean (±SD) age was 58.3±11.8 years and 46.6% were male. The median (1st - 3rd quartile) time since diabetes diagnosis was 3 (2 - 6) years. Premix BID was used by 96.4% (76.3%), followed by premix QD. In contrast, the use of basal insulin was lower (5.6%). The median total daily insulin dose was 0.37 (0.18 - 0.53) units/kg. As expected, patients with higher BMI had higher insulin requirements. Further studies are needed to fully explore the relationship between insulin dose and glycemic control.

DB4 CLINICAL CHARACTERISTICS AMONG HYPERTENSION PATIENTS WITH DISLPIDEMIA IN SHANGHAI, CHINA

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OBJECTIVES: To evaluate the clinical characteristics among hypertension patients with dyslipidemia in Shanghai, China. METHODS: The information of hypertensive patients who had detected their serum LDL-C was extracted from the Electronic Health Record (EHR) system in Minhang district, Shanghai. According to the LDL-C criteria of Chinese guidelines on prevention and treatment of dyslipidemia in adults, an LDL-C level lower than 4.1 mmol/L was defined as normal, 4.1-5.17 mmol/L as borderline, 5.17-6.47 mmol/L as moderate, and ≥6.47 mmol/L as high. RESULTS: Our study found that 34.7% of patients had a LDL-C level lower than 4.1 mmol/L, 26.2% had a level between 4.1-5.17 mmol/L, 25.3% had a level of 5.17-6.47 mmol/L, and 14.8% had a level of ≥6.47 mmol/L. The proportion of patients with moderate or high LDL-C was significantly higher in the patients with dyslipidemia compared to those without. CONCLUSIONS: Our study highlights the importance of optimal blood pressure and lipid control in the management of hypertension and dyslipidemia.

DRUG USE STUDIES

DUI TREATMENTS PRIOR TO AND POST PERCUTANEOUS CORONARY INTERVENTION (PCI) IN CHINA

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OBJECTIVES: To evaluate the clinical characteristics among patients undergoing percutaneous coronary intervention (PCI) in China. METHODS: We conducted a retrospective, observational study on all patients who underwent PCI at a large urban hospital in Shanghai, China from 2005 to 2010 to 2011. RESULTS: Among 565 patients (80.5% male) who underwent PCI during the study period, and 40% were included in the analysis. The mean and median age was 65 years (range 35 to 90). At baseline, 71.7% had angina, 66.0% had hypertension, 31.0% had diabetes, 13.8% had myocardial infarction, and 3.8% had chronic kidney disease. 55.0% of patients were active smokers or previously smoked and PCI was the first time for 10.6% of patients. Prior to the current PCI, the majority of patients were on aspirin (95.8%) and clopidogrel (99.8%), were on statin treatment (80.3%), and 76.0% were on β-blocker treatment. CONCLUSIONS: Our study suggests that PCI patient characteristics and drug treatments before and after PCI in China. The primary objective of this research was to assess the use of lipid-lowering and antiplatelet therapy prior to and post PCI.

DUI2 TREATMENT UTILIZATION USING REAL WORLD DATA: MEDICAL COST REDUCTION OF COMBINATION DRUGS

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OBJECTIVES: This research aims to have a trial calculation on the medical cost reduction for the patient group prescribed the combination drug of ARB and calcium antagonist (a Combination Drug Group) against the patient group prescribed the combination use of ARB and calcium antagonist (a Combined Application Group). METHODS: We used the data of Japan Medical Data Center (JMDC), which provides health insurance claims data with linked health check-up data of 1.7 million members from health insurance societies in Japan. Since the data is not based on randomized controlled trial, we adjusted confounding factors using propensity score analysis. Through the examination, we found that the propensity score model was well calibrated by goodness of fit including following four variables: age, sex, area of medical cost before index time and square of log of medical cost before index time. RESULTS: As a result of our research, we estimated the average medical cost for the group prescribed the Combination Drug Group is lower by 900 yen per month than that for Combined Application Group, which represents 1.7% of adjusted average monthly medical cost for Combined Application Group, 52,100 yen. CONCLUSIONS: Our research utilizing the real world data concluded that the combination use of ARB and calcium antagonist is more effective, though limited, impact on the medical cost. Considering the general tendency that the medication cost itself of combination drug is higher than that of the combination use of drugs, we conclude that the result shows meaningful example of real world data analysis.