of type 2 diabetes mellitus and cardiovascular events. To evaluate the efficacy and safety in patients with prediabetes compared with intensive lifestyle intervention, a systematic review was performed. METHODS: Structured searches were conducted in the bibliographic databases PubMed/MEDLINE, Cochrane Library, LILACS, and CRD until 02/13/2014. Selection criteria included randomized clinical trials evaluating the use of metformin compared with intensive lifestyle intervention in the treatment of patients with prediabetes. Two reviewers independently scanned titles and abstracts for potentially eligible trials. RESULTS: Ramachandran et al. showed that intensive lifestyle intervention and metformin reduce the incidence of type 2 diabetes mellitus in a native Indian population with impaired glucose tolerance, but did not demonstrate additional benefit of the strategy using the combination of metformin plus intensive lifestyle intervention in reducing the incidence of type 2 diabetes mellitus. Knowler et al. have shown that intensive lifestyle intervention at metformin were both effective in reducing the incidence of diabetes, but the intensive lifestyle intervention was more effective than the use of metformin. CONCLUSIONS: Either metformin or intensive lifestyle intervention alone significantly reduced the incidence of diabetes in patients with prediabetes. Metformin plus intensive lifestyle intervention was non-inferior to intensive lifestyle intervention alone but did not demonstrate additional benefit of the strategy using the combination of metformin plus intensive lifestyle intervention. Metformin XR showed a beneficial effect on laboratory parameters. Data obtained from the above studies were statistically highly significant result p<0.001.

PDB21
A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS OF ANTI-DIABETES TREATMENTS FOR TYPE 2 DIABETES MELLITUS INADEQUATELY CONTROLLED ON INSULIN AND ORAL ANTI-DIABETES DRUGS
Orme M1, Mukherjee J2, Renfrew J1, Haas L3, Pepe C4, Turati F5, Junqueira M1
1Mercer Serono, São Paulo, Brazil, 2Mercer Serono, Bogota, Colombia, 3Grupo Resulta, Sao Paulo, Brazil, 4Biostatients Limited, Swindon, UK, 5University of Fribourg, Switzerland
OBJECTIVES: To evaluate the efficacy and safety of insulin add-on therapies for type 2 diabetes, when insulin with up to two oral anti-diabetes drugs (OADs) does not provide adequate glycaemic control. METHODS: A systematic review was conducted (MEDLINE, EMBASE and CENTRAL) to identify relevant randomised controlled trials (RCTs) for treatments licensed in the EU at the time of the literature search (July 2013). Relative treatment effects were estimated using Bayesian network meta-analysis (NMA) via WinBUGS. RESULTS: Seven studies were suitable for inclusion in this subgroup analysis at 24 (-6) weeks follow-up and 25 drugs included (glimepiride, glipizide, glimepiride plus glipizide, glimepiride plus glibenclamide, glimepiride plus repaglinide, glimepiride plus sitagliptin, glimepiride plus saxagliptin, glimepiride plus alogliptin, glimepiride plus alogliptin plus sitagliptin). All the 25 trials were statistically showing highly significant result p<0.001.

PDB22
EUROPEAN NETWORK META-ANALYSIS (NMA) TO ASSESS THE RELATIVE Efficacy OF CANAGLIFLOZIN MONOTHERAPY OVER 26 WEEKS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM)
Schroeder M1, Tiaue V1, Belhadi D2, Seylla-Hammer C3, Hemmel M1, Nielsen AT4
OBJECTIVES: To inform a multiple technology appraisal to be conducted by the National Institute for Health and Care Excellence on the use of agents that inhibit sodium-glucose co-transporter 2 (SGLT2), canagliflozin was assessed as monotherapy treatment for T2DM. METHODS: A systematic literature review identified 36 trials, which were used to perform a Bayesian NMA to estimate the relative efficacy (HbA1c, weight, total oral hypoglycaemic drug (OFIG) use of canagliflozin monotherapy at 26±4 weeks compared to placebo, metformin IR or baseline values, and four presented risk ratios (RR) for dichotomous data. Data obtained from the above studies were statistically showing highly significant result p<0.001.
FGP levels (MD - 2.17 [CI 95% - 2.44 to 1.91, p<0.001]) and body weight (MD - 2.91 [CI 95% - 3.50, -2.32] after 26 weeks as compared to placebo. The risk of occurrence of urinary tract infections (RR 1.25 [95% CI 0.80, 1.94]), genital mycotic infections among males (RR 8.73 [95% CI 2.07, 36.72, p=0.003]) and females (RR 4.37 [95% CI 9.23, 9.8, p=0.0002]) was higher in the canagliflozin arm as compared to placebo arm. CONCLUSIONS: Canagliflozin significantly reduced FGP levels and body weight while increasing the risk of urinary tract infections and genital mycotic infections as compared to placebo among patients with inadequately controlled T2DM.

PDB25

ANTI-DIABETIC THERAPIES AND THE RISK OF ACUTE PANCREATITIS: A CANADIAN NATIONWIDE RETROSPECTIVE COHORT STUDY FROM TAIWAN

Chiang Y1, Chang H2, Hsieh C3, Singh S4, Wang W1, Tsai Y1, Huang W5

1National Yang-Ming University, Taipei, Taiwan, 2Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA, 3Royal Holloway University of London, School of Health Sciences, London, UK, 4The George Washington University, Washington, DC, USA, 5National Yang Ming University, Taipei, Taiwan

OBJECTIVES: To examine the relationship between different anti-diabetic therapies (DPP-4, metformin and sulfonylureas) and risk of acute pancreatitis among type 2 diabetes patients in Taiwan. METHODS: We derived a nationwide retrospective cohort of patients with type 2 diabetes in Taiwan. The inclusion criteria are adult diabetic patients with continuous baseline enrollment, new users of the studied drugs and without missing data. There were 4,113,101,498/4,47,722 DFP-4/Metformin/Sulfonylureas users. Adjusted hazard ratios for pancreatitis associated with DFP-4, derived from Cox Proportional Hazard models with propensity score weighting, were estimated; dose-response analyses were also conducted. RESULTS: DFP-4 was statistically significantly associated with a decreased risk of acute pancreatitis compared to sulfonylureas (adjusted HR: 0.86, 95% CI 0.82-0.91) but not metformin (adjusted HR: 0.95, 95% CI 0.93-0.97). Compared for up to 6 months post-index, metformin was statistically significantly associated with a lower risk of pancreatitis than sulfonylureas (adjusted HR: 0.89, 95% CI 0.88-0.90, p=0.07). CONCLUSIONS: Our findings suggest that sulfonylureas may potentially be associated with an increased risk of pancreatitis compared to DFP-4 or metformin. This population-based cohort study extends the previous evidence in an ethnic Chinese type 2 diabetic cohort. Studies with longer follow up, larger sample sizes and more precise capture of confounders may be needed to determine the risk of pancreatitis associated with incretin based therapies.

PDB26

REAL-WORLD ADHERENCE IN MEDICARE PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM) FOR EXENATIDE QW AND LIRAGLUITIDE QD

Chang H1, Ngeow H2

1Comprehensive Health Insights, Inc, Louisville, KY, USA, 2AstraZeneca, Fort Washington, PA, USA

OBJECTIVES: Real-world evidence on adherence to glucagon-like peptide-1 receptor agonists (GLP-1RA) in newly or recently diagnosed or disabled patients is limited. Patient adherence to an antidiabetic regimen is a clinical challenge when considering the medical complexities of T2DM in elderly patients and other comorbidities associated with aging. GLP-1RA therapies such as exenatide once weekly (QW) and liraglutide once daily (QD) are associated with improved class of drug treatment efficacy and safety profile. The current study examined adherence to medication in patients age ≥ 65 years with T2DM initiating a GLP-1RA. METHODS: The study used medical and pharmacy claims from 2010 and 2013 for Medicare members in a US health plan during the study period and were new initiators of either exenatide QW (n=537) or liraglutide QD (n=3673) during that time frame and were continuously enrolled for 6 months post-index. Proportion of Days Covered (PDC) was calculated to determine post-index adherence to medication. RESULTS: Adjusted adherence to liraglutide on liraglutide QW was 20.1% (p<0.01) less likely to be adherent than patients on exenatide QW. Two other significant factors associated with lower adherence were: evidence for cardiovascular disease and plan type. The mean proportion of days covered showed patients on exenatide QW had a slightly higher medication possession rate of GLP-1RA compared with patients on liraglutide QD: 63.5% vs. 61.5% (ns). CONCLUSIONS: Results from this retrospective study suggest that overall adherence to GLP-1RAs was low, but was better with exenatide QW. Patients 65 years and older treated with exenatide QW had a significantly higher adherence rate compared to liraglutide QW. Further research is needed to validate these findings in other patient populations.

PDB27

GLYCATED HEMOGLOBIN (HbA1C) CONTROL IN PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM) TREATED WITH CANAGLIFLOZIN IN A REAL-WORLD SETTING

LeSelves D1, Pilon D2, Robitaille M3, Lefeville M4, Chow W3, Pfeifer M5, Duh MS4

1Groupe d’analyse, ltée, Montreal, QC, Canada, 2Groupe d’analyse, ltée, Montreal, QC, Canada, 3Danaher Corporation, MC, USA, 4InsightRx, Boston, MA, USA

OBJECTIVES: Canagliflozin (CANA), an agent that inhibits sodium glucose co-transporter 2, has been shown to improve glycemic control in patients with T2DM in clinical trials. The current study examined actual clinical characteristics and glycemic control of T2DM patients receiving different doses of CANA following approval of CANA in a real-world setting. METHODS: Adults with ≥ 3 diagnosis for T2DM and ≥ 6 months of clinical activity before first CANA prescription (index) were identified using the Cerner Strategic Data US electronic medical record database, in which 60% of contributors are primary care providers. Patients were stratified by their first CANA daily dose (100mg [CANA100] or 300mg [CANA300]) observed in the database. Patients’ clinical characteristics, mean dose prescribed and HbA1c at baseline and at 6 months after the index date were compared using Student’s t-test to evaluate glycemic control associated with CANA. RESULTS: A total of 9,805 CANA users were identified, among which 6,571 (67%) were in the CANA100 group (mean age: 59; 48% female; 75% white; mean Charlson Comorbidity Index [CCI] 1.8; mean Diabetes Complications Severity Index [DCSI] 0.9) and 3,234 (33%) were in the CANA300 group (mean age: 57; 44% female; 75% white; mean CCI: 1.6; mean DCSI: 1.0). Before CANA, significantly more patients prescribed ≤ 1 antihyperglycemic agent, with a mean number of 5.6 and 5.5 antihyperglycemic agents per patient in the CANA100 and CANA300 groups, respectively. In the 6 months following CANA initiation, HbA1c values decreased from 8.4% to 7.9% (p<0.001) among CANA100 patients and from 8.5% to 7.8% (p<0.001) among CANA300 patients. CONCLUSIONS: Patients treated with CANA in the real-world setting often received multiple prior diabetes treatments and had uncontrolled HbA1c levels. Patients taking lower doses of CANA significantly improved their HbA1c values, with numerically greater improvement in those with CANA 300mg.