

insipidus (6%-40% transient, 0%-12.5% permanent), cerebrospinal fluid leak (1%-83%) and hypopituitarism (0%-79%). Radiation therapy appeared effective for secondary treatment (remission rate 48% vs. 27% for primary CD) with benefits observed in the long-term. Side effect was hypopituitarism (0%-75%). Main secondary treatment was BLA with success rate of 100% in reversing hypercortisolism. Complications included Nelson's syndrome and lifelong need for corticosteroids replacement. Two studies were retrieved that evaluated efficacy of ketoconazole and cabergoline in small patient populations, 38 and 20 patients respectively. Combination of pasireotide, cabergoline and ketoconazole achieved response in 88% after 80 days. **CONCLUSIONS:** TSS remains the appropriate treatment for primary CD. However, there appears to be lower success rates and significant complications in patients with persistent/recurrent disease.

PDB13

META-ANALYSIS OF BARIATRIC SURGERY IN PATIENTS WITH TYPE 2 DIABETES IN CHINA

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OBJECTIVES: Bariatric surgery has been as an effective treatment for type 2 diabetes mellitus with body mass index above 35. However, data regarding Chinese population in this topic are inconclusive. The aim of this study is to assess the impact of bariatric surgery on T2DM patients in China. **METHODS:** PubMed, EMBASE, Cochrane Library, and four other Chinese databases were searched from their inception to July, 2013. All articles were published in Chinese or English. Statistical analysis was performed by RevMan 5.02 and Stata12.0, a random effects model was used in this meta-analysis. **RESULTS:** A total of 42 relevant studies were included with 1,665 patients. 41 studies were before-after studies and one RCT compared Roux-en-Y gastric bypass with sleeve gastrectomy. At baseline, a mean age of 47 years (52% were men), duration of T2DM from 1 month to 23 years. The mean body mass index (BMI) for 1,450 patients was 29.99 kg/m². BMI, Fasting Plasma Glucose (FPG), hemoglobin A1c (HbA1c), insulin levels and lipids profiles were declined significantly postoperatively. Notably, 59% (13 of 22) study reported that HbA1c decreased by 2.56% and got back to normal ($\leq 6.5\%$) after 12 months. Overall, 64.6% of subjects were in remission (complete or partial remission); diabetes was resolved or improved in 90.9% of patients. Weight loss and metabolic parameters had some differences among surgery procedures, gastric bypass was the most effective procedure, followed by gastric banding and sleeve gastrectomy. No major adverse event was reported in these studies. **CONCLUSIONS:** This meta-analysis revealed that bariatric surgery is an effective treatment for T2DM and dyslipidemia in patients with BMI ≥ 35 . However, results were limited to short-term follow up, more high quality studies will necessary for compare different surgical procedures and long-term efficacy and safety in the future.

PDB14

ASSESSMENT OF EVIDENCE ON THE EFFECTIVENESS OF SELF-MONITORING BLOOD GLUCOSE (SMBG) IN DIABETES PATIENTS TREATED WITH INSULIN IN LATIN AMERICA

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OBJECTIVES: Diabetes Mellitus (DM) affects approximately 371 million people worldwide. 37 million are in Latin America. Glycemic control is the key to prevent diabetes-related complications. Using the meter may prevent negative effects to the patient's health and the disease cost. The objective was to examine if self-monitoring of blood glucose (SMBG) is worthwhile, in terms of glycemic control, HbA1c levels reduction and associated complications in diabetes patients treated with insulin in Latin America. **METHODS:** Data regarding the burden of DM and the value of SMBG in Latin America was obtained through literature search of databases including PubMed, the Cochrane Library, AHRQ and NICE. The intervention was SMBG with meter and test strips. Evidence synthesis of all studies that met the inclusion criteria was conducted through narrative review. **RESULTS:** Two RCTs presented statistically significant findings indicating HbA1c level reductions of at least 1% (1.37-2.26%) in the SMBG group. A multinational survey found significant benefit of SMBG in data from 10,000 patients. Patients who practiced SMBG had a 2-3 fold increase in the odds of reaching HbA1c targets ($< 7\%$). A Brazilian study found that SMBG with intensive insulin therapy reduces HbA1c by 1.82% compared to 0.66% in the control group. A survey of 1,000 T2DM patients in Mexico found that intensified SMBG demonstrated more influence on HbA1c than demographic information, carbohydrate consumption, amount of exercise, BMI or insulin use alone. **CONCLUSIONS:** Evidence supports SMBG's clinical benefits in insulin-dependent diabetic patients, with all studies reporting positive findings that indicated SMBG is related to a decreased HbA1c level, glycemic control, and other clinical outcomes. The SMBG can be an important component in the control of DM, which is projected to be increased to 552 million people globally by 2030. This review found both global and Latin American specific evidence to support SMBG for insulin using diabetes patients.

PDB15

CLINICAL OUTCOMES OF DAPAGLIFLOZIN IN PATIENTS WITH TYPE 2 DIABETES MELLITUS: A META-ANALYSIS OF RANDOMISED CONTROLLED CLINICAL TRIALS

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OBJECTIVES: To assess the clinical outcomes of dapagliflozin for type 2 diabetes mellitus. **METHODS:** Randomized controlled trials of ≥ 12 weeks of duration on dapagliflozin compared to placebo or another antidiabetic agents in patients with type 2 diabetes mellitus were searched using databases from inception to August 2013: The Cochrane Library, Ovid MEDLINE, EMBASE, Web of Science and databases

of ongoing trials. We also hand-searched relevant reference lists of reviews on the topic of dapagliflozin published until August 2013 and contacted known experts, US and UK drug regulatory authorities websites/personnel, and manufacturers for additional trials. **RESULTS:** Out of 1152 reports, 28 studies were included. Twenty-one studies compared dapagliflozin (n, 5113) to placebo (n, 2870); among these, three studies also compared dapagliflozin (n, 517) to metformin (n, 449) while one study compared dapagliflozin (n, 400) to glipizide (n, 401). Compared to placebo, dapagliflozin significantly improved HbA1C (Mean difference, MD: -0.51%, 95% CI: -0.55, -0.47, 21 trials, 8203 participants, $P < 0.00001$; I^2 : 56%), fasting plasma glucose (MD: -5.72 mg/dl, 95% CI: -6.65, -4.78, 16 trials, 4942 participants, $P < 0.00001$; I^2 : 96%), body weight (MD: -1.81 kg, 95% CI: -2.18, -1.43, 18 trials, 6637 participants, $P < 0.00001$; I^2 : 72%). Similarly, compared to metformin, dapagliflozin significantly improved fasting plasma glucose and body weight. Importantly, dapagliflozin significantly increased the risk of urinary tract infections (Odds ratio, OR: 1.34, 95% CI: 1.03, 1.74, 16 trials, 6241 participants, $P = 0.03$; I^2 : 0%), genital infections (OR: 3.51, 95% CI: 2.37, 5.18, 16 trials, 5312 participants, $P < 0.00001$; I^2 : 0%) compared to placebo. Dapagliflozin, compared to metformin also, increased the risk of genital infection (OR: 4.54, 95% CI: 2.27, 9.1, 3 trials, 1148 participants, $P < 0.00001$; I^2 : 0%). **CONCLUSIONS:** Dapagliflozin significantly improved in glycaemic control but the risk of urinary tract infection and genital infection raises the concerns over its use compared to existing treatment.

PDB16

THE RISK OF DEVELOPING TYPE II DIABETES IN CHILDREN AND ADOLESCENTS USING ATYPICAL ANTIPSYCHOTICS

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OBJECTIVES: The purpose of this study was to estimate the risk of type II diabetes (T2DM) in children and adolescents initiating atypical antipsychotic (AAP) therapy. **METHODS:** We conducted a retrospective cohort study using a new user design approach. Medical and pharmacy claims data between January 1, 2007 and December 31, 2009 for dependents ages 4 to 18 from an employed, commercially insured population from across the United States were included in our study. Exposure to an AAP was defined as the presence of an AAP pharmacy claim with no observed history of receiving the medication for at least six months. We constructed a propensity score including variables selected based on causal diagrams to identify and match incident AAP users and non-users. The outcome of interest, new-onset T2DM, was defined based on medical and pharmacy claims. Each subject was followed until the date of new-onset T2DM or the end of study period. The risk of T2DM was evaluated in an intent-to-treat fashion using the Kaplan-Meier estimator and Cox proportional hazard regression that provided hazard ratio (HR) and associated 95% confidence intervals (CI). The study was approved by the University of Kentucky Institutional Review Board. **RESULTS:** Our study included 6,236 new users and 22,080 non-users. In this propensity score matched sample, the estimated risk of T2DM was twice as high in AAP users as non-users (HR 2.18; 95% CI 1.45-3.29). The noticeable risk differences between AAP-treated and control groups began to appear within four months of AAP initiation and it became constant after six months until the end of the follow-up. **CONCLUSIONS:** Children and adolescents who were prescribed an AAP medication had a two times higher risk of developing T2DM within six months of initiating medication when compared to non-users. Our study raises questions about continued AAP use in children and adolescents.

PDB17

GLUCOSE-LOWERING WITH EXOGENOUS INSULIN MONOTHERAPY IN TYPE 2 DIABETES: DOSE-RESPONSE ASSOCIATION WITH ALL-CAUSE MORTALITY, CARDIOVASCULAR EVENTS, AND INCIDENT CANCER

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OBJECTIVES: We evaluated the association between insulin dose and all-cause mortality, incident major adverse cardiovascular events (MACE), and incident cancer in people with type 2 diabetes using insulin monotherapy. **METHODS:** We used retrospective observational data from the Clinical Practice Research Datalink (CPRD) from 2000 onwards. Subjects with type 2 diabetes who progressed to treatment with insulin monotherapy were selected. The risk of progression to adverse outcomes was compared using the Cox proportional hazards model, introducing insulin dose as prescribed international units per kilogram per day as a time-dependent covariate. We carried out extensive sub-group analyses for differing diabetes phenotypes and differing analytical approaches. **RESULTS:** It was possible to identify 7,589 subjects. Event numbers were as follows: deaths, 1,450; incident MACE, 430; incident cancers, 548. Unadjusted event rates were 66.9 deaths per 1,000 person years, 27.6 incident MACE per 1,000 person years, and 30.5 incident cancers per 1,000 person years. The overall adjusted hazard ratios in relation to an increase in insulin dose of 1 iu/kg/day were 1.85 (95% CI 1.69-2.03) for all-cause mortality, 1.28 (1.05-1.58) for MACE, and 1.19 (0.99-1.42) for cancer. Findings from sub-group analyses were generally consistent. **CONCLUSIONS:** There was an association between increasing exogenous insulin dose and increased risk of all-cause mortality and MACE in people with type 2 diabetes. A possible association with cancer was less clear.

PDB18

PROPORTION OF PATIENTS WITH UNCONTROLLED TYPE 2 DIABETES RECEIVING RECOMMENDED DIABETES TREATMENT AMONG WHITES AND MEXICAN AMERICANS: NHANES 2003-2010

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OBJECTIVES: When compared to non-Hispanic Whites (NHW), Mexican Americans (MA) in the U.S. are more likely to be diagnosed with type-2 diabetes and have diabetes-related comorbidities, uncontrolled glucose and less access to medical care. This study sought to compare the rate of adherence to diabetes medical management