Diabetes/Endocrine Disorders - Clinical Outcomes Studies

PD8

Long-term Health Outcomes of Treatment with Liraglutide versus Glimepiride in Type 2 Diabetes Patients in Asian Setting

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Objectives: To evaluate the long-term health outcomes associated with Liraglutide 1.2 and 1.8 mg versus Glimepiride 4 mg all combined with Metformin in Asian patients with type 2 diabetes (T2D). Methods: A published and validated computer simulation model of diabetes (CORE Diabetes Model) was used to make the projection of long-term health outcomes (30 years). Simulated cohorts and treatment effects were derived from 928 T2D patients in the NCT00141412 trial held in China, South Korea and India. HbA1c was significantly reduced in Liraglutide 1.2 mg, Liraglutide 1.8 mg, and Glimepiride groups (~1.3%, ~1.4%, and ~1.3% respectively). Liraglutide treatments led to greater reduction in Body Mass Index and systolic blood pressure versus Glimepiride. No major hypoglycemia was reported in Liraglutide groups, while the rate of major hypoglycemia for Glimepiride was 0.029 per patient-year. The rate of minor hypoglycemia was lower in Liraglutide groups than Glimepiride. An annual discounting rate of 3% was used for health and cost outcomes. One-way sensitivity analysis was performed. Results: The treatments of Liraglutide compared with Glimepiride were projected to reduce the cumulative incidences of diabetes complications and improve long-term health outcomes for patients with T2D. For Liraglutide 1.2 mg, the cumulative incidences of background retinopathy, end stage renal disease, ulcer, and congestive heart failure event were reduced 0.20%, 0.096%, 0.020% and 0.53% respectively, discounted life expectancy was increased 0.058 year and quality adjusted life-years (QALY) was increased 0.11 QALY. For Liraglutide 1.8mg, the incidences reduction were 0.61%, 0.12%, 0.34% and 0.63% respectively, discounted life expectancy was improved 0.051 year, and 0.10 QALY. Conclusions: Liraglutide 1.2 mg and 1.8 mg therapy could delay the onset of diabetes complications and reduced related cumulative incidences over patient lifetimes compared with Glimepiride. It improved the life expectancy and quality adjusted life expectancy in Asian patients with T2D.

Diabetes/Endocrine Disorders - Cost Studies

PD4

Medical Service Cost Associated with Pioglitazone and Sulfonylurea Treatment Among Type 2 Diabetic Patients Enrolled in a US Integrated Health-care System

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Objectives: To assess overall and diabetes-related medical service costs associated with pioglitazone (PIO) and sulfonylureas (SU) treatment among T2DM patients. Methods: This is a retrospective cohort study based on electronic medical records from January 1, 2004–January 31, 2009, from the Geisinger Clinic in the Northeastern region of the United States. The date of the initial prescription for PIO or SU was denoted as the index date. Patients were required to be aged 18 years or older and prescribed an oral antidiabetic treatment in the 1 year prior to index date. Patients with a type 1 or gestational diabetes and prior insulin use were excluded, as were those who had prescriptions for the index drug in the 90 days prior. Propensity score 1:1 matching and a second stage of generalized linear regression were employed to assess overall and diabetes-related medical service costs (pharmacy costs were not available in the database) in the 2 years following the index date, adjusting for patient demographics, baseline comorbidities, medication use, and health-care resource utilization. Results: A total of 2758 patients, 1379 each in the PIO and SU cohorts, were analyzed. For both cohorts, mean age was 62 years, 46% were male, and 96% were Caucasian. The two cohorts were similar in terms of current smoking status and diabetes-related comorbidities. The unadjusted total and diabetes-related medical costs were $1258 and $703 higher for SU versus PIO patients. After adjusting for covariates, the overall and diabetes-related medical service costs remained higher for patients receiving SU versus PIO ($8360 vs. $7400 for overall, and $1577 vs. $5258 for diabetes-related costs, P < 0.05 for both comparisons). Conclusions: Over a 2-year follow-up, patients with T2DM initiated on PIO therapy in an integrated system incurred lower overall and diabetes-related medical service costs than patients initiated on SU. Further studies describing clinical and humanistic aspects of PIO versus SU are warranted.