RETROSPECTIVE COMPARISON OF COMPLIANCE TO FIXED-DOSE COMBINATION VERSUS SINGLE AGENT COMBINATION THERAPY FOR THE TREATMENT OF DIABETES

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OBJECTIVES: The objective is to compare patterns of patient compliance on a fixed-dose combination therapy (FDCT) versus single agent combination therapy (SACT) with any newly initiated thiazolidinedione (TZD) and metformin (MET) for the treatment of diabetes. METHODS: This study utilized a retrospective pharmacy claims database of continuously eligible patients who were newly initiated on a TZD or MET either in FDCT or SACT. Patients during December 2005 to June 2006 were identified and followed for six months. Patients who switched between FDCT and SACTs were excluded. Due to a national Avandamet shortage spanning July 2005 to June 2006, patients on Avandamet were excluded in comparison between Actoplus Met as FDCT and SACT groups. Adherence was defined as proportion of days covered when both TZD and MET were available >80% of the time. Propensity-score weighted logistic regression was used to adjust for patient demographics and plan characteristics. RESULTS: There were 729 and 19,440 patients on FDCT and SACT respectively. Mean age were 55 and 58 years (P < 0.0001), proportion female were 39% and 43% (P < 0.0362), and prior sulfonylurea utilization rates at baseline were 30% and 53% (P < 0.0001), respectively. Distribution of the patient population in various market segments (managed care, Medicaid, Medicare, and Self-Insured) differed. Unadjusted adherence rates were 51% and 48% for FDCT and SACT respectively. Adjusting for baseline characteristics, patients on FDCT were 50% more likely to be adherent to therapy [OR = 1.50, 95% CI = 1.46–1.55]. CONCLUSION: When controlling for multiple factors, patients on FDCT were more likely to be adherent to therapy compared to those on SACT.

IS A MEASUREMENT-GUIDED INTERVENTION PROGRAM TO LENGTHEN PERSISTENCE WITH METFORMIN MONOTHERAPY COST EFFECTIVE IN TYPE 2 DIABETES?

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OBJECTIVES: To evaluate the cost effectiveness of a Measurement Guided Medication Management (MGMM) adherence intervention program intended to prolong persistence of type 2 diabetic patients with metformin as monotherapy. METHODS: This analysis used a stochastic simulation model wherein each year a proportion of patients treated with metformin as monotherapy develop a need for additional therapy (insulin, sulfonylurea, or glitazone) to control their glycemic level. In the absence of any adherence intervention, the first year’s proportion of patients escalating out of monotherapy was estimated using the persistence estimate of 863 patients with oral antidiabetic therapy from the Pharmionic Knowledge Center database. The subsequent years’ proportions were derived from the UK Prospective Diabetes Study. The impact of intervention was modeled on the basis of a) published evidence of the statistically significant effectiveness of MGMM in extending persistence; b) the consequences of beta cell deterioration; and c) the side-effects of metformin. Direct medical costs and health utility values were derived from published sources. RESULTS: The estimated proportion of patients escalating out of monotherapy by the end of the first year is 44% and 11%/year for the second and subsequent years. MGMM-based intervention decreases this proportion by at least 17% for the first year and 5%/yr for subsequent years. When all newly diagnosed patients receive the MGMM-based intervention, it is cost effective up to a cost of US$1/day per patient (US$18243/QALY gained). When screening is feasible for non-response based on glycemic level evolution, MGMM is cost effective up to US$6/day per patient (US$18506/QALY gained). CONCLUSION: An MGMM-based intervention program to lengthen persistence with metformin as monotherapy in Type 2 Diabetes is projected to be cost effective. This intervention is projected not only to optimize metformin exposure, but also to improve clinical outcomes, while guiding the allocation of limited resources, for greatest effectiveness.

PERSISTENCE PATTERNS WITH ORAL ANTI-HYPERGLYCEMIC DRUG TREATMENT IN NEWLY TREATED PATIENTS—A POPULATION-BASED STUDY

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OBJECTIVES: Although many studies have examined adherence to oral anti-hyperglycemic drug (OAD) treatment, they have generally suffered from their lack at considering different patterns of use, in particular return to therapy after discontinuation. We assessed persistence patterns with OAD in patients newly dispensed different OAD classes. METHODS: We conducted a population-based cohort study using Quebec Health Insurance Board data. Patients aged 18 years or more newly dispensed an OAD between January 1, 1998 and December 31, 2003 were included in the study (n = 100,631). Persistence was defined as consistently refilling a prescription for the initial OAD within three times the days’ supply of the preceding claim. For non-persistent individuals, a second course of therapy was defined as treatment initiation with any OAD following a first discontinuation. Patients were followed from treatment initiation up to December 31, 2004, ineligibility to the drug plan or death, whichever comes first, and treatment discontinuation or second course of treatment. Cox regression models were used to compute adjusted hazards ratios (AHR) of persistence and initiation of second courses of therapy. RESULTS: Compared to biguanides, the likelihood of discontinuing the initial OAD over the study period was significantly higher for sulphonylureas (AHR: 1.32; 95%CI: 1.29–1.34). Patients started on sulphonylureas were also less likely to start a second course of therapy after a first treatment discontinuation (AHR: 0.91; 95%CI: 0.89–0.93). Finally, among patients who had started a second course of therapy, those on sulphonylureas were more likely to discontinue again (AHR: 1.06; 95% CI: 1.03–1.09). CONCLUSION: Compared to diabetic patients initiated on a biguanide, those initiated on sulphonylureas had both lower persistence to their treatment and were less likely to initiate a second course of treatment after discontinuation. They were also more likely to discontinue again.