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PROPENSITY-ADJUSTED COHORT ANALYSIS
TYPE 2 DIABETES: A RETROSPECTIVE
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INCIDENCE OF CARDIOVASCULAR EVENTS
ASSOCIATED WITH A SIGNIFICANTLY LOWER
PIOGLITAZONE MONOTHERAPY IS
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$9988 per life year gained relative to acarbose. Results
pared to no treatment and with an incremental cost of
$9988 per life year gained relative to acarbose. Results

Abstracts

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COST-EFFECTIVENESS OF ROSIGLITAZONE-METFORMIN COMBINATION IN OVERWEIGHT PATIENTS WITH TYPE 2 DIABETES IN GERMANY
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OBJECTIVES: Guidelines in Germany recommend use of Rosiglitazone in combination with Metformin for treatment of overweight and obese patients (BMI ≥ 25) with Type 2 diabetes when Metformin monotherapy is no longer effective in maintaining glycaemic control. We assess the cost-effectiveness of this strategy compared to combination therapy with Glibenclamide. METHODS: DiDACCT, an established long-term economic model of Type 2 diabetes, was adapted for clinical practice and health care financing rules in Germany. The model was calibrated using CODE-2 study data and national statistics. The perspective is that of the sickness funds, and includes all hospital care, physician consultations, medications, rehabilitation, physical therapy, foot care and sick leave. The model was used to simulate treatment histories for a mixed incident cohort of 1000 overweight preobese patients (mean BMI = 26). Following failure of glycaemic control with Metformin alone, combination therapy adding Rosiglitazone was compared to adding Glibenclamide. The threshold for switching therapies was 7% HbA1c. In line with national guidelines, costs were discounted at 5%. RESULTS: The model predicts that adding Rosiglitazone (4mg titrated to 8mg daily) to Metformin produces better glycaemic control in most patients, and extends viability of combination therapy by 8.5 years before requiring insulin. This is projected to generate 444 additional QALYs in a cohort of 1000 newly diagnosed overweight patients over their lifetime. The additional QALYs comprise 245 (55%) from better survival and 199 (45%) from delaying insulin and reduced or delayed complications. Net cost increases are modest since additional costs of Rosiglitazone are partly offset by savings from delaying insulin therapy. After 20 years, the incremental cost-effectiveness ratio is €2730 per QALY gained (undiscounted) or €1804 (discounted). CONCLUSIONS: Use of Rosiglitazone in combination with Metformin to improve glycaemic control and delay use of insulin in overweight patients is highly cost-effective in Germany when compared to Metformin + Glibenclamide.

PIOGGLITAZONE MONOTHERAPY IS ASSOCIATED WITH A SIGNIFICANTLY LOWER INCIDENCE OF CARDIOVASCULAR EVENTS THAN IS INSULIN THERAPY IN PATIENTS WITH TYPE 2 DIABETES: A RETROSPECTIVE PROPENSITY-ADJUSTED COHORT ANALYSIS
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OBJECTIVE: We examined cardiovascular risk by comparing pioglitazone (PIO) therapy with insulin (INS) therapy in a large database in which medical, drug, and laboratory information was collected using electronic case report forms. METHODS: Adult patients with type 2 diabetes mellitus were included if active in the database after 1999, and if no cardiovascular events were present in the history before baseline. Patients on monotherapy (PIO or INS) or in combination with sulfonylureas were included. To avoid selection bias and increase precision on the estimated treatment effect, we used propensity scoring, stratified matching methods, and logistic regression analysis. Baseline demographics and clinical characteristics such as disease duration, comorbidities, medical therapies, and treatment duration were used to calculate the propensity score. RESULTS: A total of 515 patients taking PIO alone or with sulfonylureas were compared with 2554 patients taking INS alone or in combination with sulfonylureas. The treatment period ranged from 6–36 months. The crude cardiac event rate in the PIO group was 5.44%, compared with 10.96% in the INS group (P < 0.003), and the hazard ratio was 0.499 for PIO (95% confidence interval [CI]: 0.313, 0.791; P < 0.003). When patients on monotherapy alone were compared, the crude event rates were 3.86%, compared with 11.32% in the INS group (P < 0.002), and the hazard ratio was 0.346 for PIO (95% CI: 0.172, 0.694; P < 0.003). The significant risk reduction in the PIO groups could not be explained by baseline clinical or laboratory measurements. CONCLUSION: In a retrospective propensity-matched cohort analysis in patients with type 2 diabetes, patients taking PIO had a significantly lower hazard for a cardiovascular event over a period of 6–36 months than those taking insulin.