$1954 for MS patients. CONCLUSIONS: Adding fenofibrate to statin therapy in diabetes and MS increases the number of patients achieving lipid targets at a relatively small incremental cost.

PDB14

MODELLING THE EFFECTIVENESS OF ORAL AGENTS IN ACHIEVING HBA1C AND LIPID TARGETS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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OBJECTIVES: Treating patients to target has been shown to delay complications of type 2 diabetes mellitus (T2DM). We developed a model to explore the effectiveness of oral agents in achieving target levels for HbA1c and lipids in patients with T2DM. METHODS: The model is broad enough to cover most relevant comparisons. One analysis considered patients with T2DM and moderate dyslipidaemia: triglycerides (TG) of 2.66 +/- 1.77 mmol/l and high density lipoprotein (HDL-C) of 1.09 +/- 0.26 mmol/l, who had failed metformin/sulphonylurea therapy. Following UK guidelines, patients either received rosiglitazone plus a sulphonylurea (Rosi+SU) or a hypothetical treatment that would simultaneously improve HDL, TG and HbA1c by 10%. Patients switched to insulin if therapy was not tolerated or HbA1c targets not met. The main outcome measure was Days at Target, defined as the number of days on which American Diabetic Association target levels for HbA1c, TG and HDL-C were achieved. The time horizon considered was 3 years, composed of six month cycles: long-term diabetic complications were not included. RESULTS: For Rosi+SU over one year, a cohort of 100 patients would spend 27,854 patient-days at HbA1c target, but only 5,808 patient-days at combined HbA1c and lipid targets. The increase in Days at Target per 100 patients treated was 136 for a 10% improvement in TG; 192 for a 10% improvement in HDLc; 228 for a 10% improvement in HbA1c, and 667 for improvement in all three. The model was sensitive to the severity of dyslipidaemia at baseline. CONCLUSION: The model suggests that existing agents are more effective at achieving HbA1c control than reaching target lipid levels. Improving HbA1c would provide the single largest gain in Days at Target, but simultaneous improvement in HbA1c and lipids would be needed to achieve a substantial gain in diabetes control.

PDB15

COST-UTILITY ANALYSIS OF ANALOG BASAL BOLUS THERAPY AMONG INSULIN-DEPENDENT DIABETES PATIENTS

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OBJECTIVES: To project comparative economic and clinical outcomes associated with treating type 1 diabetes patients on basal-bolus therapy with insulin glargine (IGlar) or detemir (IDet), each combined with aspart (IASp). METHODS: A published, peer-reviewed and validated computer simulation model of diabetes was used to project clinical and cost outcomes over time horizons of 5, 10, 20, and 35 years. Treatment effect data were derived from a multicenter, 26 week randomized controlled trial among subjects with a mean age of 40.2 years and baseline HbA1c of 8.84% (duration of diabetes: 16.7 years). Equivalent reduction of HbA1c, the primary endpoint, was observed (NS) and minor hypoglycemia was parallel (NS), though statistically significant improvements in nocturnal (32% lower; p = 0.046) and major hypoglycemic episodes (72% lower; p = 0.047; 6.51 vs. 2.45 events per 100 patient years) favored IDet. Costs were taken from published sources in the US and expressed in 2004 US dollars ($). Clinical and cost outcomes were discounted at 3% per annum. Sensitivity analyses on key input parameters were performed. RESULTS: Treatment with IDet was associated with improvements in life expectancy (0.002 to 0.08 years) and quality-adjusted life expectancy (0.01 to 0.06 QALYs). Direct medical costs from a US Medicare perspective (pharmacy plus complication costs) were lower in the IDet group ($672 to $5174), with the incremental value increasing as the time horizon lengthened. One-way sensitivity analysis on pharmacy costs (±15%), discount rate (0–6%), complication costs, and duration of treatment effect on HbA1c (<5 years) support the robustness of these findings. CONCLUSION: Clinical benefits associated with IDet + IAsp therapy compared to IGlar + IAsp were projected to improve life expectancy, quality-adjusted life expectancy and to reduce costs in patients with type 1 diabetes over a time horizon of 5 to 35 years.

PDB16

BASEL BOLUS THERAPY AMONG TYPE 1 DIABETES PATIENTS: A COMPARATIVE COST-EFFECTIVENESS ANALYSIS OF ANALOG- AND HUMAN-BASED INSULIN REGIMENS

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OBJECTIVES: To provide an estimate of the clinical and economic outcomes of long-term use of either all analog (insulin detemir (IDet) + aspart (IAsp)) or all human (NPH human soluble insulin (HSI)) basal bolus regimens among type 1 diabetes patients. METHODS: Comparative efficacy data was obtained from a recent 18-week randomized controlled trial (n = 595) which demonstrated statistically significant benefits in glycemic control (HbA1c: 0.22%, p < 0.001; PPG excursions: p < 0.001), risk for hypoglycemia (all: 21% lower, p = 0.036; 26.9 vs. 34.6 events per patient year; nocturnal: 55% lower, p < 0.001), and weight gain (–1.01 kg, p < 0.001) in favor of analogs. Subjects were 63% male, aged 39.1 years, and had a mean baseline HbA1c of 8.38% (duration of diabetes: 15.3 (10.3) years). A published, peer-reviewed and validated model of type 1 diabetes was used to make long-term projections, using second order Monte Carlo methodology, to evaluate life expectancy, quality-adjusted life expectancy, cumulative incidence of complications, and direct medical costs (pharmacy plus complication costs). Baseline time horizon was 35 years. Future costs and clinical benefits were discounted at 3% annually. Sensitivity analyses were performed. RESULTS: Treatment with IDet+IAsp was projected to increase life expectancy (0.168 years), QALE (0.698 QALYs), and reduce cumulative incidences of diabetes-related comorbidities (cardiovascular, renal, and ocular disease) versus NPH+HSI. Direct medical costs were higher in the IDet+IAsp group, leading to an ICER of $14,974 per QALY gained. One-way sensitivity analysis of pharmacy costs (±15%), discount rate (0–6%), complication costs, and duration of treatment effect on HbA1c (<5 years) support the robustness of these findings. CONCLUSION: Patients with type 1 diabetes who require basal bolus therapy may benefit from analog insulin treatment in comparison to human insulin. Long-term therapy was projected to improve life expectancy, quality-adjusted life expectancy, and complication rates, representing good value for money according to commonly supported standards.