A PHARMACOECONOMIC MODEL OF HbA1c CONTROL IN THE TREATMENT OF TYPE 2 DIABETES
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OBJECTIVE: The UK Prospective Diabetes Study (UKPDS) has proven the relevance of an intensive glucose control policy in type 2 diabetes. UKPDS 35 has provided the evidence of a significant association between diabetes-related complications and level of HbA1c. We used the UKPDS findings to assess the cost-effectiveness of a new fixed-dose combination of metformin and glibenclamide, compared to the conventional strategy of the UKPDS.

METHODS: We developed a Markov model reflecting the management of two diabetic cohorts. The follow-up of a cohort of newly diagnosed 50-year-old patients, similar to the conventional group of the UKPDS, was simulated to follow HbA1c progression over a 10-year period. The second cohort, treated with metformin-glibenclamide, had the same demographic and clinical characteristics at baseline. The reduction rate of HbA1c under metformin-glibenclamide was extracted from a 20-week randomized double-blind trial. The HbA1c level in the metformin-glibenclamide cohort was assumed to progressively converge with that in the conventional group. The occurrence of complications was modeled through risk functions linking HbA1c levels to a conditional probability using UKPDS 23 and 35 results. Results were computed in a French context using a payer perspective. Only medical costs were considered. A sensitivity analysis was performed on the reduction rate of HbA1c under metformin-glibenclamide between 0.8 (best case) and 1.5 (worst case).

RESULTS: Cumulative medical costs amounted to EUR 7,240 in the conventional group versus EUR 7,759 in the metformin-glibenclamide group. A 6.1% decrease in the mean number of events per patient was obtained. The additional cost per life year saved was EUR 13,142 (9,924 (best case), 17,912 (worst case)) and the additional cost per complication-free year was EUR 5,736 (4,312 (best case), 7,842 (worst case)).

CONCLUSION: These results suggest that metformin-glibenclamide is cost-effective in the treatment of type 2 diabetes when compared with conventional therapy.

HEALTH AND ECONOMIC OUTCOMES OF A NEW ORAL DIABETES DRUG, PIOGLITAZONE (ACTOS®/NF, TAKEDA), IN THE MANAGEMENT OF TYPE 2 DIABETES MELLITUS IN NORWAY
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OBJECTIVE: To assess the cost-effectiveness of pioglitazone (PIO) based combinations versus alternatives for patients with type 2 diabetes in Norway.

METHODS: A published/validated model for type1 diabetes developed by IMIB was adapted to simulate long-term management, health outcomes, resource utilisation and treatment costs of patients with type2 diabetes. The model accounts for most complications in diabetes patients: nephropathy; retinopathy; acute myocardial infarction; angina pectoris; stroke, and amputation. The analysis was done from third-party-payer perspective and costs figured relative to the year 2000. A 5% discount rate was applied and sensitivity analysis was done to test the results.

RESULTS: Pioglitazone PIO 30 mg and metformin (MF) were associated with longer life expectancy (16.10 years) than sulphonylureas(SU)/MF (15.24) or rosiglitazone (RSG)/MET (15.95). PIO 30 mg/SU and PIO 15 mg/SU are associated with the lowest number of serious complications per 100 patients treated. For every 95 patients treated with PIO 30 mg/MF rather than SU/MF or every 27 patients, respectively, for PIO,30 mg/SU rather MF/SU, one complication is avoided. Combinations of PIO 30 mg/SU, PIO 30 mg/MF and PIO 15 mg/SU are associated with lower mortality than the other treatment combinations available. Thus, for every 34 patients treated with PIO 30 mg/MF rather than SU/MF, one death will be avoided after 15 years of treatment. After discounting both costs and life years at 5%, the above incremental cost-per-life-year is 29,406 Norway Kroner (NOK) in comparison to SU/MF, but still PIO dominates the combination therapy with RSG 8 mg. The picture is similar in the case of PIO 30 mg/SU combination compared to MFSU, where in the undiscounted incremental cost per life year gained, PIO dominates, and the cost per life year gained is raised to 25,992 NOK after discounting at 5%.

CONCLUSION: Pioglitazone-based treatment for patients with type2 diabetes improves survival and reduces complications and therefore represents a cost-effective use of health-care resources in Norway. Nonetheless, these results must be confirmed by long-term observational studies.

CLINICAL BENEFITS AND COST-OFFSETS OF COMBINATION THERAPY WITH NATEGLINIDE PLUS METFORMIN VERSUS METFORMIN ALONE IN DIABETES IN THE NETHERLANDS
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OBJECTIVE: The objective of this study is to assess the