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: DiDiACT, 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, physiotherapy, 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.