One to watch

A conference report from the 47th meeting of the European Association for the study of Diabetes, Lisbon, 12–16 September 2011

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Ultra-long-acting insulin degludec: significant blood sugar reductions in patients with type 2 diabetes.

Data presented at the 47th meeting of the European Association for the Study of Diabetes (EASD) in Lisbon demonstrated that changes in the injection time of insulin degludec from day to day (up to 40 hours apart) did not affect overall glycaemic control or risk of hypoglycaemia when compared to insulin glargine given at the same time each day.

The study also found that insulin degludec demonstrated HBA1c reduction of 1.28 percentage points with similar rates of hypoglycaemia versus insulin glargine. Glycaemic control can therefore be maintained even in the instance that patients unintentionally take their insulin at a different time of the day, or delay a dose.

The study

In this 26-week, open-label, treat-to-target trial, people with type 2 diabetes were randomised to insulin degludec (n=229) and instructed to alternate the timing of insulin administration to morning and evening, in effect creating 8–40 hour intervals between doses, or insulin glargine (n=230) given daily, at the same time each day according to label. Insulin was added to existing oral antidiabetic drug therapy (if any) and titrated to fasting plasma glucose (FPG) <5mmol/l (90 mg/dl). Mean baseline characteristics such as age (56.2 versus 56.7 years), HbA1c (8.5 versus 8.4%), FPG (9.0 versus 9.0mmol/l), diabetes duration (10.8 versus 10.8 years), and BMI (29.3 versus 30.0kg/m^2) were comparable between insulin degludec and insulin glargine groups, respectively.

The study found that HbA1c levels at 26-weeks were reduced by 1.28 percentage points to 7.2% with insulin degludec, comparable to insulin glargine.[1] Additionally, mean FPG was significantly lower for insulin degludec (5.8mmol/l) at the end of the study than for insulin glargine (6.2mmol/l) (estimated treatment difference [EDT]: -0.42mmol/l [-0.82;-0.02] p=0.04).

Across safety parameters for this study, results for insulin degludec, dosed once daily, at varying times, either in the morning or evening, versus insulin glargine, dosed once daily according to the label at the same time every day, were comparable. Overall rates of confirmed hypoglycaemia were 3.6 and 3.5 episodes/person/year for insulin degludec and insulin glargine respectively* and rates of night-time confirmed hypoglycaemia (defined as episodes with plasma glucose (PG) <3.1mmol/l occurring between 00:00-05:59) being 0.6 and 0.8 episodes/patient/year respectively**.

Professor Jiten Vora, Consultant Physician and Endocrinologist for the Royal Liverpool University Hospitals, said: "This new data demonstrates that with insulin degludec, glycaemic control can be maintained even if people unintentionally take their insulin at a different time of the day or delay a dose. It is becoming increasingly more important for us to offer patients a treatment regimen that both fits into their lives but also allays their fears, the greatest of these being hypoglycaemia."

Trial sponsored by Novo Nordisk

* Estimated rate ratio (ERR): 1.03 [0.75;1.40], p = NS; ** ERR: 0.77 [0.44;1.35], p = NS

References:

1. Atkin, S, et al. Insulin degludec does not compromise efficacy or safety when given in a flexible once-daily dosing regimen compared to insulin glargine once daily at the same time each day in type 2 diabetes. Presented on Wednesday 14 September, 2011 at the European Association for the Study of Diabetes (EASD), Portugal. EASD Abstract # 112