

press release

Faster-acting insulin aspart showed a statistically significant reduction in HbA_{1c} in type 1 diabetes and a comparable HbA_{1c} reduction in type 2 diabetes versus NovoRapid® (insulin aspart)

Faster-acting insulin aspart improved postprandial glucose (PPG) control in type 1 and type 2 diabetes

New Orleans, US, 13 June 2016 – New phase 3a findings showed that faster-acting insulin aspart demonstrated a statistically significant reduction in HbA_{1c} in type 1 diabetes, compared with NovoRapid® (insulin aspart)¹, a comparable HbA_{1c} reduction in type 2 diabetes versus NovoRapid®² and improved post-meal or postprandial glucose (PPG) control in type 1 and type 2 diabetes^{1,2}. Results from the onset 1 and onset 2 treat-to-target trials comparing faster-acting insulin aspart with NovoRapid® were presented at the 76th annual Scientific Sessions of the American Diabetes Association (ADA) in New Orleans, US.

In onset 1, after 26 weeks of randomised therapy, faster-acting insulin aspart showed statistically significantly greater HbA_{1c} reduction versus NovoRapid® in adults with type 1 diabetes when dosed at mealtime ([95% confidence interval (CI)] -0.15 [-0.23; -0.07]). Faster-acting insulin aspart also showed comparable HbA_{1c} reduction when dosed 20 minutes after starting a meal, compared with NovoRapid® dosed at mealtime ([95% CI] 0.04 [-0.04; 0.12])¹.

Trial results for onset 1 also showed superior reduction in 2-hour PPG increment* ([95% CI] -0.67 [-1.29; -0.04] mmol/L) versus NovoRapid®. The change in 1-hour PPG increment*, a secondary supportive endpoint, was also reduced ([95% CI] -1.18 [-1.65; -0.71] mmol/L)¹.

In onset 2, faster-acting insulin aspart demonstrated non-inferiority in HbA_{1c} reduction compared with NovoRapid® ([95% CI] -0.02 [-0.15; 0.10]) in adults with type 2 diabetes. Trial results could not confirm a statistically significant reduction in 2-hour PPG increment* ([95% CI] -0.36 [-0.81; 0.08] mmol/L). However, a statistically significant

* Postprandial glucose (PPG) increment is the increase in blood glucose levels after eating

reduction in 1-hour PPG increment* was shown with faster-acting insulin aspart ([95% CI] -0.59 [-1.09; -0.09] mmol/L)² which was a secondary supportive endpoint.

“We know that many people living with type 1 or type 2 diabetes may frequently struggle with spikes in blood glucose around mealtimes, resulting in post-meal hyperglycaemia,” said Dr Bruce Bode, onset 1 and onset 2 investigator, Diabetes Specialist and Clinical Associate Professor of Medicine at Emory University School of Medicine, Atlanta, US. “The improvements in HbA_{1c} and postprandial glucose control we see with faster-acting insulin aspart in the data from the onset 1 and onset 2 trials are encouraging.”

The most commonly reported adverse event with faster-acting insulin aspart in onset 1 and 2 was hypoglycaemia. However, there were no significant differences in the overall rate of severe or confirmed hypoglycaemia in people with type 1 and type 2 diabetes compared with NovoRapid^{®1,2}.

Other common adverse events (≥5%) included nasopharyngitis, upper respiratory tract infection, urinary tract infection, headache, nausea, diarrhoea, wrong drug administration and back pain^{3,4}.

Also presented during the scientific meeting were additional trial results assessing the pharmacokinetic (PK) and pharmacodynamic (PD) properties of faster-acting insulin aspart versus NovoRapid[®]:

- Results from a pooled analysis evaluating early exposure and glucose-lowering effect of faster-acting insulin aspart versus NovoRapid[®] in people with type 1 diabetes (Abstract 929-P)⁵.
- Results from a clinical study evaluating the early glucose-lowering effect with faster-acting insulin aspart (Abstract 969-P)⁶.

About the onset 1 and 2 trials

The onset programme is a phase 3 clinical programme with faster-acting insulin aspart that consists of four trials encompassing more than 2,100 people with type 1 and type 2 diabetes.

The onset 1 trial (1,143 people randomised): a 26+26-week randomised, partially double-blind, basal-bolus, treat-to-target trial investigating faster-acting insulin aspart dosed at mealtime or 20 minutes after starting a meal compared with NovoRapid[®] dosed at mealtime, both in combination with a basal insulin in adults with type 1 diabetes. Only the data from the first 26 weeks were reported at the 76th annual Scientific Sessions of the ADA. The primary endpoint was change from baseline HbA_{1c} versus NovoRapid[®], and

* Postprandial glucose (PPG) increment is the increase in blood glucose levels after eating

a secondary endpoint was change from baseline in 2-hour PPG increment* versus NovoRapid®.

The onset 2 trial (689 people randomised): a 26-week randomised, double-blind, basal-bolus, treat-to-target trial investigating faster-acting insulin aspart compared with NovoRapid®, both dosed at mealtime and in combination with a basal insulin and metformin in adults with type 2 diabetes. The primary endpoint was change from baseline HbA_{1c} versus NovoRapid®, and a secondary endpoint was change from baseline in 2-hour PPG increment* versus NovoRapid®.

About faster-acting insulin aspart

Faster-acting insulin aspart is an investigational mealtime (bolus) insulin developed by Novo Nordisk for improved blood glucose control in adults with type 1 and type 2 diabetes. Faster-acting insulin aspart is insulin aspart (NovoRapid®) in a new formulation in which two excipients have been added, a vitamin and an amino acid, to increase the initial absorption rate and foster an earlier blood glucose lowering effect. Novo Nordisk has submitted the regulatory filing for faster-acting insulin aspart in the United States and in the European Union.

About Novo Nordisk

Novo Nordisk is a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given us experience and capabilities that also enable us to help people defeat other serious chronic conditions: haemophilia, growth disorders and obesity. Headquartered in Denmark, Novo Nordisk employs approximately 41,600 people in 75 countries and markets its products in more than 180 countries. For more information, visit novonordisk.com, [Facebook](#), [Twitter](#), [LinkedIn](#), [YouTube](#)

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* Postprandial glucose (PPG) increment is the increase in blood glucose levels after eating

References

1. Russell-Jones D, *et al.* Double-blind mealtime faster-acting insulin aspart vs insulin aspart in basal-bolus improves glycemic control in T1D: the onset[®] 1 trial. Oral presentation at: 76th Scientific Sessions of the American Diabetes Association (ADA). June 10-14, 2016; New Orleans, US.
2. Bowering K, *et al.* Faster-acting insulin aspart vs insulin aspart as part of basal-bolus therapy improves postprandial glycemic control in uncontrolled T2D in the double-blinded onset[®] 2 trial. Oral presentation at: 76th Scientific Sessions of the American Diabetes Association (ADA). June 10-14, 2016; New Orleans, US.
3. Data on file. Novo Nordisk A/S; Bagsværd.
4. Data on file. Novo Nordisk A/S; Bagsværd.
5. Heise T, *et al.* Faster onset and greater early exposure and glucose-lowering effect with faster-acting insulin aspart vs insulin aspart: a pooled analysis in subjects with type 1 diabetes. Poster presented at: 76th Scientific Sessions of the American Diabetes Association (ADA). June 10-14, 2016; New Orleans, US.
6. Nosek L, *et al.* Greater early glucose-lowering effect of faster-acting insulin aspart is observed consistently from day to day. Poster presented at: 76th Scientific Sessions of the American Diabetes Association (ADA). June 10-14, 2016; New Orleans, US.