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ORIGINAL ARTICLES

The DURABLE Trial Study Design: Comparing the Safety, Efficacy, and Durability of Insulin Glargine to Insulin Lispro Mix 75/25 Added to Oral Antihyperglycemic Agents in Patients with Type 2 Diabetes

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Abstract

Background:

While studies have compared the safety and efficacy of starter insulin regimens in type 2 diabetes, none have evaluated regimen durability (length of time a patient can maintain glycemic control) or the safety and efficacy of subsequent intensification regimens in a large, multinational cohort.

Methods:

The DURABLE (Assessing the DURAbility of Basal vs Lispro Mix 75/25 Insulin Efficacy) trial will compare the ability of glargine once daily vs lispro mix 75/25 (75% insulin lispro protamine suspension, 25% lispro) twice daily added to oral antihyperglycemic agents to achieve and maintain hemoglobin A1c (HbA1c) goals. This randomized, open label, parallel study will enroll over 2000 insulin-naïve patients with type 2 diabetes from 11 countries, ages 30 to 80, with HbA1c >7.0% on at least two oral antihyperglycemic agents. At the completion of the 6-month initiation phase, safety and efficacy of the two regimens will be compared. Patients who achieve an HbA1c ≤7.0% at 6 months will continue into the 24-month maintenance phase to evaluate durability.

In a substudy, patients not achieving HbA1c ≤7.0% at 6 months may be randomized to one of two intensification comparisons: patients previously on glargine will receive lispro mix 75/25 twice daily or basal/bolus therapy (glargine + thrice-daily mealtime lispro) and patients previously on lispro mix 75/25 will receive lispro mix 50/50 (50% insulin lispro protamine suspension, 50% lispro) thrice daily or basal/bolus therapy.

Results:

Upon completion, this trial will provide new information about starter insulin durability, defined as the length of time patients can maintain HbA1c control (HbA1c ≤7.0%, or >7.0% but with an increase of <0.4% from the most recent HbA1c ≤7.0%). Additionally, the study will provide comparative data on HbA1c, blood glucose profiles, 1,5-anhydroglucitol, hypoglycemic episodes, weight change, and insulin dose for starter insulin regimens following 6 and 24 months of treatment, as well as intensified insulin via the 6-month substudy.

Conclusion:

This trial aims to broaden clinicians' understanding of the ability of starter insulin and insulin intensification regimens to achieve and maintain glycemic control in patients with type 2 diabetes.

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Abbreviations: (1,5-AG) 1,5-anhydroglucitol, (ANCOVA) analysis of covariance, (BBT) basal/bolus therapy, (DMC) data monitoring committee, (DURABLE) Assessing the DURAbility of Basal vs Lispro Mix 75/25 Insulin Efficacy, (eCRF) electronic case report form, (EDC) electronic data capture, (FPG) fasting plasma glucose, (HbA1c) hemoglobin A1c, (LM50/50) lispro mix 50/50, (LM75/25) lispro mix 75/25, (MET) metformin, (OHAs) oral antihyperglycemic agents, (SAS) Statistical Application Software, (SFU) sulfonylurea, (SMPG) self-monitored plasma glucose, (TZD) thiazolidinedione, (T2DM) type 2 diabetes mellitus, (4T) Treating to Target in Type 2 Diabetes Study

Keywords: basal bolus therapy, durable, durability, glargine, Humalog® Mix 50/50, Humalog® Mix 75/25, lispro

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