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Study Shows Exenatide Improves Blood Sugar Levels as Effectively as Biphasic Insulin Aspart

- Patients on exenatide lost weight, while insulin aspart patients gained weight -

COPENHAGEN, Denmark, Sept 14, 2006 /PRNewswire-FirstCall via COMTEX News Network/ -- Eli Lilly and Company (NYSE: LLY) and Amylin Pharmaceuticals, Inc. (Nasdaq: AMLN) today announced results from a study indicating that exenatide improves blood sugar levels as effectively as biphasic insulin aspart 30/70 (NovoMix 30(R), NovoNordisk) for people with type 2 diabetes failing to achieve acceptable blood sugar control on both metformin and a sulfonylurea, two common oral diabetes medications. This long-term clinical trial is the second study conducted at European clinical centers demonstrating that exenatide can control blood sugar as effectively as insulin.(1)

During the one year (52-week) study, patients using exenatide showed improvements in three important measures of blood glucose control: fasting blood glucose, postprandial blood glucose, and hemoglobin A1C (HbA1C). Exenatide treatment also resulted in an average reduction in body weight.

Thirty-two percent of study participants using exenatide reached target HbA1C of 7 percent or less. HbA1C measures a person's average glucose level over a three-month period and is often used by health care providers to assess blood glucose management. The American Diabetes Association (ADA) recommends a target HbA1C of less than 7 percent. When measured against the International Diabetes Federation (IDF) recommended target HbA1C of 6.5 percent or less, 18 percent of patients in the exenatide group achieved this level compared to 9 percent in the biphasic insulin aspart group. These findings were presented at the 42nd annual meeting of the European Association of the Study of Diabetes (EASD) in Copenhagen, Denmark.

Patients on exenatide lost an average of 2.5 kilograms (5.5 pounds), while those receiving biphasic insulin aspart gained an average of 2.9 kilograms (6.4 pounds). Weight gain is a common side effect of insulin therapy. In addition, exenatide reduced peak blood sugar levels after meals. Both treatments were associated with low rates of daytime and nighttime hypoglycemia (low blood sugar).

"This comparator study demonstrates that exenatide has similar blood glucose control to the conventional treatment with insulin," said Professor Dr. Michael Nauck, Director of the Diabetes Centre in Bad Lauterberg, Germany, and a lead author of the study. "These data show that exenatide, without the inconvenience of dose titration, is a potential alternative to biphasic insulin aspart for the treatment of patients with type 2 diabetes not adequately treated with metformin and a sulfonylurea, commonly used oral antidiabetic agents."

Exenatide is the first in a new class of medicines known as incretin mimetics and was approved for use in the United States by the U.S. Food and Drug Administration in April 2005 for the treatment of type 2 diabetes. Exenatide is injected twice daily. The U.S. is the first country that has received regulatory approval for exenatide. In late 2005, Lilly submitted exenatide for approval in the European Union.

Key Findings

A1C reduction:

* Both treatment groups achieved similar HbA1C reductions. Exenatide lowered HbA1C by 1.04 percent while biphasic insulin aspart lowered HbA1C by 0.89 percent.

* When measured against the target HbA1C of less than or equal to 7 percent, 32 percent of patients in the exenatide group achieved this level compared to 24 percent in the biphasic insulin aspart group.

* When measured against the target HbA1C of less than or equal to 6.5 percent, 18 percent of patients in the exenatide group achieved this level compared to 9 percent in the biphasic insulin aspart group.

Glucose measurements:

* As measured by patient self-glucose monitoring, exenatide reduced postprandial excursions, the rise of glucose after meals, following breakfast and dinner. Biphasic insulin aspart reduced mainly pre-meal glucose.

* The fasting blood glucose at endpoint was decreased in patients treated with exenatide by 1.8 mmol/L and by 1.6 mmol/L in patients treated with biphasic insulin aspart.

Weight change:

* Weight loss in the exenatide arm: Patients treated with exenatide experienced an average weight reduction of 2.5 kilograms (5.5 pounds).

* Weight gain in the biphasic insulin aspart: On average, patients treated with insulin gained 2.9 kilograms (6.4 pounds).

* After 52 weeks, the total weight difference between treatments was -5.4 kilograms (11.9 pounds).

Hypoglycemia:

* Both exenatide and biphasic insulin aspart had low rates of daytime and nighttime hypoglycemia.

* No severe hypoglycemia was reported in either the exenatide or the biphasic insulin aspart arm.

Other adverse events:

* The most common adverse event for exenatide was nausea (33.2 percent exenatide, 0.4 percent biphasic insulin aspart), which was generally mild-to- moderate and tended to decrease in frequency and severity over time. Four percent of exenatide-treated patients discontinued due to nausea.

Study Design/Protocol

501 patients were enrolled in the 52-week, multi-center, open-label, randomized trial. The trial was designed to determine if exenatide can be used as safely and effectively as biphasic insulin aspart in patients with type 2 diabetes inadequately treated with metformin plus a sulfonylurea.

Study participants were randomized into two treatment arms. The first group received a dose of exenatide (5 micrograms twice-a-day for first four weeks, then 10 micrograms twice-a-day for the remainder of the study), in conjunction with metformin and a sulfonylurea. The second group received biphasic insulin aspart (titrated to achieve an optimal balance between glycemic control and risk of hypoglycemia as dictated by best clinical practice), again with metformin and a sulfonylurea. The average HbA1C at baseline was 8.6 percent in both treatment groups.

About exenatide

Exenatide is the first incretin mimetic, a new class of drugs for the treatment of type 2 diabetes. Exenatide exhibits many of the same effects as the human incretin hormone glucagon-like peptide-1 (GLP-1). GLP-1, secreted in response to food intake, has multiple effects on the intestine, liver, pancreas and brain that work in concert to regulate blood sugar.(2)

About Incretin Mimetics

Incretin mimetics are a distinct class of treatment in the fight against diabetes. An incretin mimetic works to mimic the anti-diabetic or glucose- lowering actions of naturally occurring human hormones called incretins. These actions include stimulating the body's ability to produce insulin in response to elevated levels of blood sugar, inhibiting the release of a hormone called glucagon following meals, slowing the rate at which nutrients are absorbed into the bloodstream and reducing food intake. Exenatide is the first FDA-approved incretin mimetic.

About Diabetes

Diabetes affects an estimated 194 million adults worldwide(3) and around 48.4 million in Europe.(4) Approximately 90 to 95 percent of those are affected by type 2 diabetes, a condition characterized by failure of the pancreatic beta cells to adequately respond to the increased demands for insulin that occur as a result of obesity-related insulin resistance.(5) Type 2 diabetes usually occurs in adults over the age of 40, but is increasingly common in younger people.(4) In virtually every developed society, diabetes is ranked among the leading causes of blindness, renal failure and lower limb amputation, as well as death through its effects on cardiovascular disease (70-80 percent of people with diabetes die of cardiovascular disease)(6). The calculated estimates of the costs of diabetes care in Europe amount to 42.8 million International Dollars per year.(7)

About Lilly and Amylin

Through a long-standing commitment to diabetes care, Lilly provides patients with breakthrough treatments that enable them to live longer, healthier, and fuller lives. Since 1923, Lilly has been the industry leader in pioneering therapies to help health care professionals improve the lives of people with diabetes, and research continues on innovative medicines to address the unmet needs of patients.

Lilly, a leading innovation-driven corporation is developing a growing portfolio of first-in-class and best-in-class pharmaceutical products by applying the latest research from its own worldwide laboratories and from collaborations with eminent scientific organizations. Headquartered in Indianapolis, IN, Lilly provides answers -- through medicines and information -- for some of the world's most urgent medical needs.

Amylin Pharmaceuticals is a biopharmaceutical company committed to improving lives through the discovery, development and commercialization of innovative medicines. Amylin's research and development activities leverage the company's expertise in metabolism to develop promising therapies to treat diabetes, obesity and cardiovascular disease. Amylin is located in San Diego, California with over 1200 employees nationwide.

This press release contains forward-looking statements about Amylin and Lilly. Actual results could differ materially from those discussed or implied in this press release due to a number of risks and uncertainties, including the risk that future clinical trials may not replicate previous trial results; risks that exenatide may not prove to be an important new therapeutic option, European approval for exenatide or regulatory approval of additional indications for exenatide may not be received or exenatide may be affected by unexpected new data or technical issues. The potential for exenatide may also be affected by government and commercial reimbursement and pricing decisions, the pace of market acceptance and any issues related to manufacturing and supply. These and additional risks and uncertainties are described more fully in Amylin and Lilly's most recently filed SEC documents such as their Quarterly Reports on Form 10-Q. Amylin and Lilly disclaim any obligation to update these forward-looking statements.

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