



November 17, 2014

New retrospective data showed empagliflozin reduced A1C, body weight and markers of abdominal fat in adults with type 2 diabetes

- Jardiance® (empagliflozin) data results presented at the 2014 Scientific Sessions of the American Heart Association

RIDGEFIELD, Conn. and INDIANAPOLIS, Nov. 17, 2014 /PRNewswire/ -- Empagliflozin tablets reduced hemoglobin A1C (a measure of average blood sugar over the past two to three months), body weight and several markers of abdominal fat in adults with type 2 diabetes (T2D), according to a new retrospective analysis of clinical trial data presented on behalf of Boehringer Ingelheim Pharmaceuticals, Inc. (BIPI) and Eli Lilly and Company (NYSE: LLY) at the 2014 Scientific Sessions of the American Heart Association (AHA) in Chicago. Abdominal fat, also known as visceral fat, sits on or near vital organs.

"In addition to high blood sugar, adults with type 2 diabetes often struggle with comorbidities such as being overweight or obese," said Christophe Arbet-Engels, M.D., Ph.D., vice president, metabolic clinical development and medical affairs, BIPI. "The new data presented at AHA support the need for further research into the possibility that JARDIANCE, which is used with diet and exercise to lower high blood sugar, may also modify abdominal fat and body weight."

The U.S. Food and Drug Administration (FDA) approved empagliflozin, marketed as Jardiance®, in August 2014 as an adjunct to diet and exercise to improve glycemic control in adults with T2D. JARDIANCE is not recommended for people with type 1 diabetes or for the treatment of diabetic ketoacidosis (increased ketones in the blood or urine). JARDIANCE is not approved to reduce body weight or body fat. Patients should not take JARDIANCE if they have severe kidney problems or are on dialysis, or if they are allergic to empagliflozin or any ingredient in JARDIANCE.

The study presented at AHA included analyses of two sets of adults with T2D treated with either empagliflozin or placebo. The first group consisted of 823 adults with high blood pressure who were treated for 12 weeks, while the second examined a pool of 2,476 adults from four different trials who were treated for 24 weeks. These randomized studies compared empagliflozin with placebo as an add-on to existing therapy, including metformin, metformin plus sulfonylurea, or pioglitazone with or without metformin.

In both groups, treatment with empagliflozin significantly reduced A1C, body weight and several markers of abdominal fat compared with placebo. Changes in estimated total body fat did not reach statistical significance.

In the 12-week study of 823 adults with T2D, compared with placebo, for those treated with empagliflozin:

- A1C was significantly reduced from a baseline of 7.90 percent by 0.64 percent with empagliflozin
- Body weight was significantly reduced, from a baseline of 95 kg, by 1.7 kg with empagliflozin
- Three validated markers of visceral fat were also reduced:
 - Waist circumference was significantly reduced from a baseline of 110 cm by 1.3 cm
 - Index of central obesity (ICO), a ratio of waist circumference to height, was significantly reduced from a baseline of 0.65 by 0.007
 - Visceral adiposity index (VAI) was not significantly reduced from a baseline of 2.9 by 0.3. VAI is a mathematical index of visceral fat based on body mass index (BMI), waist circumference, triglycerides and HDL cholesterol
- Total body fat percentage, estimated through an equation based on weight and waist circumference, was not significantly reduced, from a baseline of 35 percent, by 0.2 percent

In the pooled analysis of four 24-week studies including 2,476 adults with T2D, for those treated with empagliflozin compared with placebo:

- A1C was significantly reduced from a baseline of 7.97 percent by 0.65 percent with empagliflozin
- Body weight was significantly reduced, from a baseline of 79 kg, by 1.9 kg with empagliflozin
- Waist circumference was significantly reduced from a baseline of 98 cm by 1.3 cm
- ICO was significantly reduced from a baseline of 0.593 by 0.008
- VAI was significantly reduced from a baseline of 2.9 by 0.4
- Estimated total body fat was not significantly reduced, from a baseline of 33 percent, by 0.3 percent

"We look forward to following up on these findings regarding the effect of empagliflozin on markers of abdominal fat and on body weight with our large phase III cardiovascular outcomes trial," said Gwen Krivi, vice president of development, Lilly Diabetes.

JARDIANCE can cause some people to have dehydration (the loss of body water and salt), which may lead to a drop in blood pressure, and may cause patients to feel dizzy or faint.

About Diabetes

Approximately 29 million Americans and an estimated 382 million people worldwide have type 1 or type 2 diabetes, and nearly 28 percent of Americans with diabetes—totaling 8 million people—are undiagnosed. In the U.S., approximately 12 percent of those aged 20 and older have diabetes. T2D is the most common type, accounting for an estimated 90 to 95 percent of all adult diabetes cases in the U.S. Diabetes is a chronic condition that occurs when the body either does not properly produce, or use, the hormone insulin.

IMPORTANT SAFETY INFORMATION

What is the most important information I should know about JARDIANCE?

JARDIANCE can cause serious side effects, including:

- **Dehydration.** JARDIANCE can cause some people to have dehydration (the loss of body water and salt). Dehydration may cause you to feel dizzy, faint, light-headed, or weak, especially when you stand up.

You may be at a higher risk of dehydration if you:

- have low blood pressure
 - take medicines to lower your blood pressure, including water pills (diuretics)
 - are on a low salt diet
 - have kidney problems
 - are 65 years of age or older.
- **Vaginal yeast infection.** Women who take JARDIANCE may get vaginal yeast infections. Talk to your doctor if you experience vaginal odor, white or yellowish vaginal discharge (discharge may be lumpy or look like cottage cheese), and/or vaginal itching.
- **Yeast infection of the penis.** Men who take JARDIANCE may get a yeast infection of the skin around the penis, especially uncircumcised males and those with chronic infections. Talk to your doctor if you experience redness, itching or swelling of the penis, rash of the penis, foul smelling discharge from the penis, and/or pain in the skin around penis.

Who should not take JARDIANCE?

- **Do not take** JARDIANCE if you are allergic to empagliflozin or any of the ingredients in JARDIANCE.

Symptoms of serious allergic reactions to JARDIANCE may include:

- skin rash
- raised red patches on your skin (hives)
- swelling of the face, lips, tongue, and throat that may cause difficulty breathing or swallowing.

If you have any of these symptoms, stop taking JARDIANCE and contact your doctor or go to the nearest emergency room right away.

- **Do not take** JARDIANCE if you have severe kidney problems or are on dialysis.

What should I tell my doctor before using JARDIANCE?

Tell your doctor if you:

- have kidney problems. Your doctor may do blood tests to check your kidneys before and during your treatment with JARDIANCE
- have liver problems
- have a history of urinary tract infections or problems with urination

- have any other medical conditions
- are pregnant or planning to become pregnant. It is unknown if JARDIANCE will harm your unborn baby
- are breastfeeding, or plan to breastfeed. It is unknown if JARDIANCE passes into your breast milk.

Tell your doctor about all the medicines you take including prescription and over-the-counter medicines, vitamins, and herbal supplements. Especially tell your doctor if you take water pills (diuretics) or medicines that can lower your blood sugar such as insulin.

What are other possible side effects of JARDIANCE?

- **Low blood sugar** (hypoglycemia): if you take JARDIANCE with another medicine that can cause low blood sugar, such as sulfonylurea or insulin, your risk of low blood sugar is higher. The dose of your sulfonylurea or insulin may need to be lowered. Symptoms of low blood sugar may include:
 - Headache
 - Drowsiness
 - Weakness
 - Dizziness
 - Confusion
 - Irritability
 - Hunger
 - Fast heart beat
 - Sweating
 - Shaking or feeling jittery
- **Kidney Problems**, especially in people 75 years of age or older and people who already have kidney problems
- **Urinary Tract Infection**: symptoms may include burning feeling when passing urine, pain in the pelvis or back, or urine that looks cloudy
- **Increased fats in your blood (cholesterol).**

The most common side effects of JARDIANCE include urinary tract infections, and yeast infections in females.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088.

For more information, please see full [Prescribing Information, including Patient Information](#).

Boehringer Ingelheim and Eli Lilly and Company

In January 2011, Boehringer Ingelheim and Eli Lilly and Company announced an alliance in diabetes that centers on compounds representing several of the largest diabetes treatment classes. The alliance leverages the strengths of two of the world's leading pharmaceutical companies. By joining forces, the companies demonstrate commitment in the care of people with diabetes and stand together to focus on patient needs. Find out more about the alliance at www.boehringer-ingelheim.com or www.lilly.com.

About the Boehringer Ingelheim Cares Foundation Patient Assistance Programs

For more than 125 years, Boehringer Ingelheim has been focused on improving the lives of patients. In keeping with the company commitment to do the most good for the most people, Boehringer Ingelheim works hard to ensure its medicines are accessible to everyone who needs them, including senior citizens and families on limited incomes. The Boehringer Ingelheim Cares Foundation Patient Assistance Programs (BI-PAP) make Boehringer Ingelheim medicines available free of charge to patients who are without pharmaceutical insurance coverage, and who meet certain household income levels.

About Boehringer Ingelheim Pharmaceuticals, Inc.

Boehringer Ingelheim Pharmaceuticals, Inc., based in Ridgefield, CT, is the largest U.S. subsidiary of Boehringer Ingelheim Corporation (Ridgefield, CT) and a member of the Boehringer Ingelheim group of companies.

The Boehringer Ingelheim group is one of the world's 20 leading pharmaceutical companies. Headquartered in Ingelheim, Germany, it operates globally with 142 affiliates and more than 47,400 employees. Since it was founded in 1885, the family-owned company has been committed to researching, developing, manufacturing and marketing novel medications of high therapeutic value for human and veterinary medicine.

Social responsibility is a central element of Boehringer Ingelheim's culture. Involvement in social projects, caring for employees and their families, and providing equal opportunities for all employees form the foundation of the global operations. Mutual

cooperation and respect, as well as environmental protection and sustainability are intrinsic factors in all of Boehringer Ingelheim's endeavors.

In 2013, Boehringer Ingelheim achieved net sales of about \$18.7 billion (14.1 billion euro). R&D expenditure in the Prescription Medicines business corresponds to 19.5% of its net sales.

For more information please visit <http://www.us.boehringer-ingelheim.com>.

About Lilly Diabetes

Lilly has been a global leader in diabetes care since 1923, when we introduced the world's first commercial insulin. Today we are building upon this heritage by working to meet the diverse needs of people with diabetes and those who care for them. Through research and collaboration, a broad and growing product portfolio and a continued determination to provide real solutions—from medicines to support programs and more—we strive to make life better for all those affected by diabetes around the world. For more information, visit www.lillydiabetes.com.

About Eli Lilly and Company

Lilly is a global healthcare leader that unites caring with discovery to make life better for people around the world. We were founded more than a century ago by a man committed to creating high-quality medicines that meet real needs, and today we remain true to that mission in all our work. Across the globe, Lilly employees work to discover and bring life-changing medicines to those who need them, improve the understanding and management of disease, and give back to communities through philanthropy and volunteerism. To learn more about Lilly, please visit us at www.lilly.com, @LillyHealth on Twitter and newsroom.lilly.com/social-channels.

This press release contains forward-looking statements about JARDIANCE for the treatment of type 2 diabetes. It reflects Lilly's current beliefs; however, as with any such undertaking, there are substantial risks and uncertainties in the process of drug development and commercialization. There is no guarantee that future study results and patient experience will be consistent with study findings to date or that JARDIANCE will prove to be commercially successful. For further discussion of these and other risks and uncertainties, please see Lilly's latest Forms 10-Q and 10-K filed with the U.S. Securities and Exchange Commission. Lilly undertakes no duty to update forward-looking statements.

Jardiance® is a registered trademark of Boehringer Ingelheim.

P-LLY
JAR640206PR

CONTACT:

Emily Baier Geary
Public Relations
Boehringer Ingelheim Pharmaceuticals, Inc.
Email: emily.geary@boehringer-ingelheim.com
Phone: (203) 791-5997

Tammy Hull
Communications Manager
Lilly Diabetes
Email: hullta@lilly.com
Phone: (317) 651-9116

Lilly



Boehringer
Ingelheim

Logo - <http://photos.prnewswire.com/prnh/20031219/LLYLOGO>

Logo - <http://photos.prnewswire.com/prnh/20110825/DE57898LOGO>

SOURCE Eli Lilly and Company; Boehringer Ingelheim

News Provided by Acquire Media