Common Type 2 Diabetes Drug Shown to Safely Reduce the Progression of Kidney Disease in Adolescents with Type 1 Diabetes

SGLT2i Shown as Potential Solution to Help Manage Renal Complications and Improve Glycemic Control for Young Individuals Living with Type 1 Diabetes

ORLANDO, FL. (JUNE 24, 2024) – Today, findings from the ATTEMPT study, showed that a low-dose of SGLT2 inhibitor could safely be given to youth and adolescents with type 1 diabetes to improve kidney function and glycemic management. ATTEMPT is the first of its kind, landmark trial designed to evaluate the effectiveness of SGLT2 inhibitors to optimize diabetes control and prevent early subclinical kidney complications in an at-risk pediatric population with type 1 diabetes. The results were presented as a Late-Breaking Symposium at the 84th Scientific Sessions of the American Diabetes Association® (ADA) in Orlando, FL.

Type 1 diabetes impacts 352,000 children and adolescents younger than an age of 20 years. Diabetes is the number one cause of kidney disease, highlighting the need for renal precautions and interventions among individuals with diabetes. About 65% of children with type 1 diabetes may experience kidney complications which can lead to chronic kidney disease (CKD) as they age.

ATTEMPT (The Adolescent Type 1 Diabetes Treatment with SGLT2i for hyperglycEMia & hyperfiltration Trial) is a double-blinded, randomized, placebo-controlled trial that evaluated the impact of the SGLT2 inhibitor, Dapagliflozin, versus a placebo in combination with insulin therapy in adolescents with type 1 diabetes. Over a 16-week monitoring period, this trial assessed detailed renal mechanistic evaluations with direct measurement of glomerular filtration rate (GFR), glycemic control (HbA1c), and safety outcomes in 98 participants with type 1 diabetes. As a result, the ATTEMPT trial provides essential information in establishing a framework for young adolescents to evaluate key physiologic, mechanistic, and metabolic outcomes when using SGLT2i alongside insulin in type 1 diabetes.

The study demonstrated that a low dose of SGLT2 inhibitor could safely be given to youths and adolescents to improve kidney function as well as improve glycemic management. Treatment with low dose Dapagliflozin attenuated direct measures of GFR and was associated with a significant decline in HbA1c of 0.48% (P=0.001). No significant differences in the proportion of participants who experienced adverse events, elevated ketone levels, hypoglycemia and genitourinary tract infections in the Dapagliflozin vs Placebo groups were seen. A single case (N=1) of mild DKA was seen in the Dapagliflozin group. While rates of DKA were low, a greater number of elevated blood ketone events

≥0.6mmol/L were seen in the Dapagliflozin group (n=106) vs Placebo group (n=62) (P<0.001), emphasizing the patient centered DKA Risk Mitigation Education strategy operationalized during the study.

This study paves the way for us to evaluate treatments that can reduce kidney disease progression for those with type 1 diabetes," said Farid Mahmud, MD, University of Toronto, lead investigator of study. "These findings also give us meaningful insights as we look how we optimize diabetes management in youth and young adults during a challenging period associated with kidney disease progression and above-target A1c."

The authors note the trial was designed with protocols to successfully mitigate the risk for diabetic ketoacidosis, a risk that will need to be considered before these drugs can be widely used in clinical practice. They also state that the ATTEMPT Trial paves the way for researchers to produce longer studies that could help better understand additional benefits of adjunctive therapy in type 1 diabetes.

The ATTEMPT Study was supported by JDRF Canada in partnership with the Canadian Institute of Health Research (CIHR), Strategies for Patient Oriented Research (SPOR).

Research presentation details:

Dr. Mahmud will present the findings at the following symposium:

- Late- Breaking Symposium: Use of SGLT2i in Youth with Type 1 Diabetes—Results from ATTEMPT (The Adolescent Type 1 Diabetes Treatment with SGLT2i for hyperglycEMia & hyPerfilTration Trial)
- Session: Monday, June 24, 2024 at 3:15 – 4:15 PM ET

###

About the ADA's Scientific Sessions

The ADA's 84th Scientific Sessions, the world's largest scientific meeting focused on diabetes research, prevention, and care, will be held in Orlando, FL on June 21-24. More than 11,000 leading physicians, scientists, and health care professionals from around the world are expected to convene both in person and virtually to unveil cutting-edge research, treatment recommendations, and advances toward a cure for diabetes. Attendees will receive exclusive access to thousands of original research presentations and take part in provocative and engaging exchanges with leading diabetes experts.

Join the Scientific Sessions conversation on social media using #ADAScientificSessions.

About the American Diabetes Association

The American Diabetes Association (ADA) is the nation's leading voluntary health organization fighting to bend the curve on the diabetes epidemic and help people living with diabetes thrive. For 83 years, the ADA has driven discovery and research to treat, manage, and prevent diabetes while working relentlessly for a cure. Through advocacy, program development, and education we aim to improve the quality of life for the over 136 million Americans living with diabetes or prediabetes. Diabetes has brought us together. What we do next will make us Connected for Life®. To learn more or to get involved, visit us at diabetes.org or call 1-800-DIABETES (1-800-342-2383). Join the fight with us on Facebook (American Diabetes Association), Spanish Facebook (Asociación Americana de la Diabetes), LinkedIn (American Diabetes Association), Twitter (@AmDiabetesAssn), and Instagram (@AmDiabetesAssn).