PRESS RELEASE

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DIABETES DRUG HAS KIDNEY-PROTECTIVE EFFECTS IN PATIENTS WITH ADVANCED KIDNEY DISEASE

Patients receive similar benefits from canagliflozin as those with earlier stages of kidney disease.

Highlights

- The diabetes drug canagliflozin slowed kidney function decline in patients with diabetes and advanced chronic kidney disease.
- The drug also reduced the risk of developing kidney failure and cardiovascular problems in these patients.

Washington, DC (November 19, 2020) — A recent analysis indicates that a drug shown previously to slow kidney disease progression is effective even in patients with advanced disease. The results appear in an upcoming issue of *CJASN*.

The Canagliflozin and Renal Events in Diabetes with Established Nephropathy Clinical Evaluation (CREDENCE) trial demonstrated that canagliflozin, a diabetes medication within a class called sodium glucose co-transporter 2 (SGLT2) inhibitors, reduced the risk of kidney failure and cardiovascular events in adults with type 2 diabetes and chronic kidney disease (CKD). Little is known about the use of SGLT2 inhibitors in patients with advanced CKD, however.

To investigate, George Bakris, MD (University of Chicago Medicine) and his colleagues conducted a post hoc analysis of CREDENCE data pertaining to the 174 patients who had advanced CKD, or an estimated glomerular filtration rate (eGFR) below 30 mL/min/1.73 m^2 at the start of the trial.

The researchers found that canagliflozin slowed CKD progression compared with placebo, with a 66% difference (average eGFR declines of –1.30 vs. –3.83 mL/min/1.73 m^2 per year). Also, canagliflozin's effects on kidney, cardiovascular, and mortality outcomes were consistent with those seen for individuals with less advanced CKD.

"Until recently, there were limited data regarding the use of SGLT2 inhibitors in patients with compromised kidney function, and there were few treatment options for this patient population who are at a high risk for developing kidney failure," said Dr. Bakris. "This research suggests that canagliflozin is a safe treatment option for this patient population that can help to slow the progression of kidney disease."

An accompanying editorial notes that 2 other clinical trials that are examining the effects of other SGLT2 inhibitors include participants with eGFRs below 30 mL/min/1.73 m^2.

Study co-authors include Megumi Oshima, MD; Kenneth W. Mahaffey, MD; Rajiv Agarwal, MD; Christopher P. Cannon, MD; George Capuano, PhD; David M. Charytan, MD; Dick de Zeeuw, MD; Robert Edwards, MPH; Tom Greene, PhD; Hiddo J.L. Heerspink, PharmD, PhD; Adeera Levin, MD; Bruce Neal, MB ChB, PhD; Richard Oh, MD; Carol Pollock, MBBS, PhD; Norman Rosenthal, MD; David C. Wheeler, MD; Hong Zhang, MD, PhD; Bernard Zinman, MD; Meg J. Jardine, MBBS, MD; and Vlado Perkovic MBBS, PhD,

The article, titled "Effects of Canagliflozin in Patients with Baseline eGFR <30 mL/min/1.73 m^2: Subgroup Analysis of the Randomized CREDENCE Trial," will appear online at http://cjasn.asnjournals.org/ on November 19, 2020, doi: 10.2215/CJN.10140620.

The editorial, titled, "Are SGLT2 Inhibitors Safe and Effective in Advanced Diabetic Kidney Disease?" will appear online at http://cjasn.asnjournals.org/ on November 19, 2020, doi: 10.2215/CJN.16351020.

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G. Bakris has received research funding paid to the University of Chicago for serving as principal investigator on national clinical trials for Bayer, Janssen, and Novo Nordisk; has served as a consultant for Merck, Relypsa, Novo Nordisk, and AstraZeneca; has served on a steering committee for Vascular Dynamics; has served as Editor of the American Journal of Nephrology and Nephrology, Editor-in-Chief of UpToDate, and Nephrology and Hypertension Section Editor of UpToDate; and has served as Associate Editor of Diabetes Care, Hypertension Research, and Nephrology, Dialysis, and Transplantation.

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C.P. Cannon has received research grants from Amgen, Boehringer Ingelheim, Bristol-Myers Squibb, Daiichi Sankyo, Merck, Janssen, and Takeda; and has received consulting fees from Aegerion, Alnylam, Amarin, Amgen, AstraZeneca, Boehringer Ingelheim, Bristol-Myers Squibb, Corvidia, GlaxoSmithKline, Innovent, Eisai, Eli Lilly, Kowa, Merck, Pfizer, Regeneron, and Sanofi.

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D.M. Charytan has received fees paid by Janssen Pharmaceuticals to the Baim Institute for work on the CREDENCE trial steering committee and as Scientific Lead; and received salary support from the Baim Institute for this work through October 2018. After that time, he received consulting fees from Baim. He has consulted for Amgen, AstraZeneca, Medtronic/Covidien, Zoll, Fresenius, Daiichi Sankyo, Douglas and London, Eli Lilly, Merck, Gilead, GlaxoSmithKline, and Novo Nordisk; has served on data safety and monitoring boards for AstraZeneca and Allena Pharmaceuticals; has served on a CEC for Merck and PLC Medical; and has received research support from Amgen and Medtronic.

D. de Zeeuw has served on advisory boards and/or as a speaker for Bayer, Boehringer Ingelheim, Fresenius, Mundipharma, and Mitsubishi Tanabe; has served on steering committees and/or as a speaker for AbbVie and Janssen; and has served on data safety and monitoring committees for Bayer.

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Washington Kidney Research Institute Scientific Advisory Committee, and is funded by Canadian Institute of Health Research, and Kidney Foundation of Canada. She has received fees for time as CREDENCE National Coordinator from Janssen, directed to her academic team.

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H. Zhang has received consulting fees from Janssen.
B. Zinman has served as a consultant and received honoraria from AstraZeneca, Boehringer Ingelheim, Eli Lilly, MSD, Novo Nordisk, and Sanofi and has received grant support from Boehringer Ingelheim, Novo Nordisk, and AstraZeneca.

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