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Media Statement

WONDER DRUG TRIAL UNDERWAY IN PERTH

WA researchers working to unlock the mystery of how a glucose-lowering 'wonder drug' may help tackle cardiovascular disease are looking for volunteers for a clinical trial.

The team from the Dobney Hypertension Centre at Royal Perth Hospital is keen to recruit more West Australians with obesity, pre-diabetes, or type 2 diabetes to understand how the medication empagliflozin reduces the risk of death from cardiovascular disease.

The researchers have shown in mice that the drug – an SGLT2 inhibitor – reduced high blood pressure, helped improve blood sugar levels, significantly reduced the activation of the body's sympathetic nervous system and protected against blood vessel dysfunction.

Their latest findings, supported by Diabetes Research WA funding, have just been published in *JACC: Basic to Translational Science*, a journal of the American College of Cardiology.

"We've demonstrated that the sympathetic nervous system is involved in regulating the protein SGLT2 – which controls the body's blood sugar levels – which helps explain part of the mystery of how SGLT2 inhibitors show protective effects on the heart and kidneys," said chief investigator Professor Markus Schlaich.

"With this part of the nervous system activated, mice display high blood pressure and blood vessel dysfunction, so it's a key target in being able to treat these conditions."

Co-investigator and University of WA Assistant Professor Vance Matthews said a trial involving WA residents was already underway.

"This research is looking to see if it's the same process operating in people as in mice," he said.

"Understanding how empagliflozin works on the sympathetic nervous system could open up new avenues to treating cardiovascular disease which is a major cause of death, killing one Australian every 12 minutes.

"Likewise, we believe we can find new ways to tap into the sympathetic nervous system to control blood sugar levels via SGLT2 expression to bring down rates of obesity and type 2 diabetes."

Diabetes Research WA executive director Sherl Westlund said the group was proud to have helped fund this research to get it to human trial stage.

"Obesity, type 2 diabetes and cardiovascular disease are major global health issues and advancing our knowledge of how to reduce their impact on families is critical; this research has the potential to do that so it's very exciting," she said.

Volunteers with obesity, pre-diabetes, or type 2 diabetes interested in finding out more about volunteering for the study can call 9224 0306.

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Media Contact: Natalie Caudle, natalie@capturemedia.com.au, 0407 984 435