November 14, 2019

Media Statement

NEW PROJECT INVESTIGATES WONDER DRUG'S POTENTIAL TO REDUCE BLINDNESS

WA researchers have been awarded fresh funds to investigate if a so-called wonder drug may be able to be used to prevent a diabetes-related eye condition that can lead to blindness.

SGLT2 inhibitors – a relatively new class of oral medications that lower blood sugar levels by stopping the reabsorption of glucose in the kidney – have been shown to benefit cardiovascular and kidney health in those with type 2 diabetes.

Led by Dr Lakshini Herat and funded by a grant from Diabetes Research WA, the WA team will investigate if the SGLT2 inhibitor known as Canagliflozin may also halt the development and progression of diabetes-related eye disease.

"Diabetic retinopathy, which occurs when the tiny blood vessels inside the retina at the back of the eye are damaged as a result of either type 1 or type 2 diabetes, is a leading cause of irreversible blindness worldwide, so there's a great need to advance our treatment of it," said Dr Herat.

"Our recent investigations demonstrate elevated expression of SGLT2 in the whole eye and retina of a diabetic retinopathy mouse model and this new funding will allow us to understand the protein's role in the development and progression of diabetic retinopathy and its potential as a therapeutic target.

"If successful, this research may pave the way for a clinical trial in humans with the ultimate hope that Canagliflozin may be able to be used in people with early signs of eye damage to stop them losing their sight."

A 2013 report Out of Sight: A Report Into Diabetic Eye Disease In Australia stated that almost all those with type 1 diabetes and more than 6 out of 10 people with type 2 diabetes will develop diabetic eye disease within 20 years of diagnosis.*

It's now estimated that there are 422 million adults with diabetes worldwide and that's projected to rise to 629 million by 2045.**

Diabetes Research WA executive director Sherl Westlund said the research could have a significant positive impact.

"The impact of diabetes on the eyes can be debilitating and with rates of diabetes rising quickly in Australia, this research has huge potential to reduce the burden on human health and our health system," said Ms Westlund.

Other UWA researchers involved in the study include Assistant Professor Vance Matthews, Professor Markus Schlaich, and the Lions Eye Institute's Professor Elizabeth Rakoczy.

The research is due to get underway early next year.

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

*https://baker.edu.au/impact/advocacy/out-of-sight

**https://bmjopen.bmj.com/content/9/3/e022188