



Atlanta VA Medical Center
1670 Clairmont Road
Atlanta, GA 30033

For more information,
contact Greg Kendall,
Public Affairs Officer
(404) 417-5385

News Release

FOR IMMEDIATE RELEASE
January 27, 2014

Early detection and damage control for type 1 diabetes related vision loss is on the horizon thanks to VA researchers

Diabetes mellitus is the leading cause of vision loss for Veterans 20-60 years of age, and affects one out of every four Veterans. Unfortunately, diabetic eye disease is typically diagnosed in late stages of the disease, after damage to the eyes is irreversible. There is an urgent need for earlier detection to help prevent diabetes induced vision loss. Additionally, treatments need to be developed to slow or stop eye damage. Recognizing these needs, Dr. Mabelle Pardue, a researcher at the Atlanta VA Center for Visual and Neurocognitive Rehabilitation and Emory University, and her research team have uncovered some exciting new techniques to help Veterans.

Working closely with fellow Atlanta VA researcher, Dr. Peter Thule, along with Emory University researchers, Drs. Moe Aung and Michael Iuvone, Dr. Pardue and her team performed pre-clinical studies that revealed a method for early detection of diabetic retinopathy (damage to the retina because of diabetes) and a method to slow vision loss and possibly restore visual function.

Dr. Pardue and her team discovered an important link between dopamine levels and early visual loss in diabetes. Dopamine is an important chemical that transfers signals between nerve cells. Dopamine deficiency is typically associated with Parkinson's disease and has been shown to exist in diabetes. It was shown that dopamine deficiency in the diabetic eye is associated with early vision problems and vision loss. Importantly, by administering L-DOPA, which the body converts into dopamine, the vision loss was slowed. They also found that vision could be restored by administering drugs that mimic dopamine function.

So what does this mean for the future? While clinical studies are needed to fully understand these findings, it is clear that screening for dopamine levels in the eye on a regular basis may reveal the onset of diabetes related retinal damage much earlier, reducing the damage it can do to the eye. Also, once diagnosed, using L-DOPA, or other dopamine enhancing drugs, can help manage and possibly reverse damaging effects. L-DOPA is already FDA approved and available, so treatment can start immediately.

Dr. Pardue's passion for treating blinding visual diseases drives her forward, looking at problems from new perspectives and improving the quality of life for Veterans. "We are excited that restoring dopamine levels in the diabetic eye using already FDA approved dopamine drugs may prevent vision loss in this devastating disease". This work has recently been published in the *Journal of Neuroscience* and featured in the Research Highlights for *Nature*.