



Rehabilitation Hospital

Medical Research Institute

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“Burke Medical Research Institute Scientists Discover Groundbreaking Link between Vision Loss and Diabetes”

FOR IMMEDIATE RELEASE

White Plains, NY – July 29, 2015 – About 40 to 45 percent of people with diabetes suffer from diabetic retinopathy, reports the National Eye Institute. The condition, which causes retinal atrophy and leads to irreversible visual dysfunction, is one of the most common adverse symptoms associated with diabetes, and can occur in people of any age.

Recent research at the Burke Medical Research Institute in White Plains, NY and published in this month’s issue of the journal *Disease Models & Mechanisms*, could help people suffering from diabetic retinopathy and other visual problems associated with diabetes. In a preclinical study, the scientists at BMRI’s Center for Vision Restoration discovered that in models of both Type 1 and Type 2 diabetes, vision problems could be detected *before* other symptoms, including increased blood glucose levels, the hallmark of the disease.

Burke scientists had already developed a unique way to precisely measure visual function, but they had never used it to measure function in models of diabetes. What they found when they did was surprising: Not only could vision problems be measured sooner than disruptions in blood glucose levels, but by administering a novel drug in eye drops that improves cell metabolism, vision could be fully restored in the early stages of the disease, and substantially improved in the later stages, all without normalizing blood glucose.

The research began three years ago and was led by Dr. Nazia Alam in Dr. Glen Prusky's lab, and was done in collaboration with Weill Cornell Medical College.

Based on the results of this study, Stealth BioTherapeutics, the company that licenses Ocuvia, the drug used in the research, applied to the FDA to run a clinical trial to test whether the drug would be beneficial for humans. Phase 2 of the trial was recently completed and it



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showed that not only was the drug safe for people with diabetic macular edema (one of the earliest signs of diabetic effects on the retina), but that it also improved disease symptoms. The next step is to design and execute a more comprehensive trial. Since current therapies for diabetic retinopathy have limited efficacy, advancing a new therapy with a different mode of action could have a great impact on reducing the burden of visual problems in diabetes.

“We’re excited because Burke is the place where we did the seminal research that defined visual problems in diabetic models, where we showed that the visual problems occur before other symptoms, hypothesized that it a mitochondrial-based metabolic problem and used Ocuvia to fix the problem and improve vision,” said Glen Prusky, Ph.D., Director of the Center for Vision Restoration at Burke Medical Research Institute and a professor of physiology at Weill Cornell Medical College.

“This research is exactly in line with the mission of the Burke Medical Research Institute, which is to prevent disease and restore function. Among our patients here at Burke, visual problems are some of the most common and debilitating. This is the first example that I know of taking diabetic visual problems and not just slowing them down, but reversing them,” he said.

The Burke Medical Research Institute employs close to 100 research professionals who conduct basic, translational and clinical research studies on a variety of diseases and conditions, including stroke, brain injury, cerebral palsy and dementia. For additional information, visit www.burke.org/research.

About Burke Medical Research Institute

Burke Medical Research Institute is part of the Burke Rehabilitation Center, which also comprises the Burke Rehabilitation Hospital. The hospital is a private, not-for-profit, acute rehabilitation hospital that is the only hospital in Westchester County dedicated solely to rehabilitation medicine. Founded in 1915, Burke offers both inpatient and outpatient programs



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for those who have experienced a disabling illness, traumatic injury or joint replacement surgery. Along with the hospital's world-renowned doctors and therapists providing state-of-the-art-treatment, Burke Medical Research Institute scientists explore the frontiers of rehabilitation medicine. All share the Burke mission to ensure that every patient makes the fullest possible recovery from illness or injury regardless of their ability to pay. For additional information on Burke Rehabilitation Center, please visit burke.org.

About Burke Rehabilitation Hospital

Burke Rehabilitation Hospital is a private, not-for-profit, acute rehabilitation hospital. Founded in 1915, it is the only hospital in Westchester County dedicated solely to rehabilitation medicine. Burke offers both inpatient and outpatient programs for those who have experienced a disabling illness, traumatic injury or joint replacement surgery. The hospital is part of Burke Rehabilitation Center, which also includes Burke Medical Research Institute and Burke's Outpatient Division. Burke's world-renowned doctors and therapists provide state-of-the-art treatment while its research scientists explore the frontiers of neurological and rehabilitation medicine. All share the Burke mission to ensure that every patient makes the fullest possible recovery from illness or injury regardless of their ability to pay. For additional information on Burke Rehabilitation Center, please visit burke.org.

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