Parkinson’s Disease and Vision

By: Neal Hermanowicz, MD Medical Director Phillip and Carol Traub Parkinson’s Center Eisenhower Medical Center

The typical symptoms of Parkinson’s disease are well known — tremor, stiffness, slowness of movement, and sometimes, a sense of imbalance while walking. Unfortunately, as those who suffer from the disease can tell you, there are other problems that often occur, including sleep disturbances, constipation, urinary urgency and frequency, and the less common, visual problems.

Vision problems that occur with Parkinson’s may simply be due to dryness of the eyes brought about by certain medications. More often than not, however, the culprit behind the dryness in the eyes is reduced blinking, brought about by the reduction in spontaneous movement associated with Parkinson’s. Dry eyes will often trigger a tear-forming response, which moistens the eye and may cause blurring of vision. The recommended treatment is simple — keep eyes moist with eye drops or artificial tears.

There are other reasons that vision may be altered in Parkinson’s disease, although this is an area that has not yet been extensively researched. In Parkinson’s disease there is a deficiency in the brain of the chemical dopamine. Some unknown process damages the neurons that produce dopamine and some are permanently lost. Finding the cause for this loss of neurons has been elusive so far, though once found, may ultimately lead to a cure for this disease.

Dopamine-producing cells are often found in other locations, in the brain and elsewhere, which have nothing to do with mobility. They are found in brain pathways for the sense of smell, for example, which may explain why an impaired sense of smell is often an early indicator of the disease. The highest density of dopamine-producing cells is not found in the brain, but in the eye, specifically, the retina. These retina-specific dopamine cells also appear to be affected in some people with Parkinson’s disease, although this may not be readily apparent. Alteration of these dopamine cells in the retina may produce impairment in seeing certain colors, or in identifying visual patterns. So far, there is no method of treating this particular problem.

People with Parkinson’s disease may also see blurred or double images because of the brain’s inability to move the eyes together in a properly coordinated fashion, which is often correctable with the use of prisms. Some people may experience an involuntary closing of the eyes known as blepharospasm, which can often be improved with medication reduction, or by injections of small amounts of botulinum toxin (Botox®) around the eyes.

Lastly, visual perception may also be impaired in Parkinson’s disease, leading to altered depth perception. Although this condition cannot be corrected, anyone who senses they may have this condition should talk with their doctor.

We continue to learn a great deal about Parkinson’s disease, but clearly, there is much more work to be done. Investigating how areas such as smell, vision, bladder and bowel function and sleep are affected will likely contribute to our understanding of why this disease happens, and how to stop it.

Events

Lectures by Neal Hermanowicz, MD, Neurologist and Movement Disorder Specialist:

Advances in Parkinson’s Disease

Sponsored by GlaxoSmithKline, Wednesday, January 5, 4:30 to 5:30 p.m.

Incontinence

Sponsored by Pfizer, Wednesday, February 2, 4:30 to 5:30 p.m.

Parkinson’s Forum

Stem Cell Transplantation for Parkinson’s Patients SU, Feb 20, 2 p.m. to 4 p.m. Keynote Speaker: Clive Svendsen, PhD Director, Stem Cell Research Program Professor, Neurology and Anatomy, University of Wisconsin Call 760-773-1480 for information and reservations.