

EYE-Q

by R. Thomas Barowsky, MD

New Advances in the War on Blindness

Over the past 6 months we have seen a lot of new information from the research front in the treatment and prevention of blindness and debilitating eye disease. I thought I would use this column to bring you up to date on the ongoing research in this field from the USA and abroad.

Nerve Growth Factor for Treating Glaucoma

A new study performed by Italian scientists, using eye drops containing nerve growth factor, may offer hope to Glaucoma patients suffering from advanced optic nerve damage. Although the human clinical study was only performed on three patients, the results were encouraging.

Researchers, from the University of Rome first treated rats showing symptoms of Glaucoma, with the eye drops containing nerve growth factor. All of the rats experienced decreased levels of optic nerve cell death to nerves, called retinal ganglion cells (RGCs).

Encouraged with their results on laboratory rats, the scientists went ahead and tested the eye drops on three human subjects with progressive vision deterioration. Two out of the three patients experienced improved vision, while the third patient's condition stabilized.

The improvements to the patients' vision lasted up to 18 months. The scientists theorize the nerve growth factor works by triggering chemical changes within optic nerve cells, which prevent them from dying and may also help damaged cells to bounce back.

The scientists also are hopeful that continued treatment with the eye drops might trigger healthy RGCs to form new pathways within the optic nerve, to compensate for any existing damage. However, dead optic nerve cells cannot rejuvenate.

Although the scientists still need to conduct expanded human clinical trials, they are encouraged by the improvement in vision experienced by both the rats and human test subjects.

Lead researcher Dr Stefano Bonini said, "...this is the first time that an improvement in visual function is observed in patients with advanced optic nerve damage."

Probiotics and Allergic Conjunctivitis

Probiotics are live microorganisms (ie, bacteria) that are consumed because of their positive health effects. Their benefits have turned them into a nutritional marketing tool best known for bowel health in things like DanActive® and Activia®. In addition,

probiotics may play a role in reducing respiratory illness, skin inflammation and respiratory illnesses.

Now it appears that these “bugs” may have a beneficial effect in treating seasonal conjunctivitis. Another study from Italy, by Dr. Alfonso Iovieno, demonstrated a positive effect on the symptoms of patients with seasonal conjunctivitis by using an eye drop containing a diluted form of one of the common probiotics. All six patients who completed the study had a rapid improvement in complaints and symptoms within two weeks of starting the therapy and the clinical signs were much improved by four weeks.

The field of probiotics is still confusing due to the large number of bacterial strains and determining which strains are most effective and safe for each condition. So, it is probably a good idea to eat your yogurt every day, but don't put it in your eyes just yet.

Fighting Nearsightedness (Myopia)

Spending a few hours a day outside may have a positive effect on reducing the need for glasses in children. According to researchers at Ohio State University, children who engaged in more outdoor activity had a much lower incidence of myopia when genetic and environmental risk factors for myopia were factored in. The genetic factors included having both parents who are myopic, being of Asian ancestry. The environmental factors included large amounts of close work such as reading, studying, using the computer, TV and video games.

The study followed children from beginning in first grade until they left the eighth grade using annual eye exams and interviews with the parents to determine how much time the children spent with close work and outdoor activities such as sports and other recreational activities.

Those children who were more active with outside activities reduced their dependence on glasses by almost 70% compared with children who spent significantly less time outdoors.

When near work was factored in, there did not appear to be a trade off. In fact, the children who were more active outdoors tended to spend more time reading, also.

So get the kids away from the TV and the computers, kick them outside and tell them to “go play.” You'll be doing them a favor that will benefit them all their life.

If you have questions about your eye health e-mail Dr. Barowsky at doctom@tdkj.com and we'll try to answer your questions here at Eye-Q.