

REPORT

Better Health Through Research

June 2009

Scientists Uncover Genetic Links to Childhood Glaucoma

Findings could lead to earlier diagnosis, improved treatment

Researchers with Canada’s University of Alberta have tracked the means by which genetic differences cause some children to develop glaucoma, according to a study published in *Human Molecular Genetics*.

Scientists had previously discovered that missing or extra pieces of DNA, known as copy number variations, can cause some forms of pediatric glaucoma. Now, using genetic samples from living patients, researchers have been able to show how and where these variations occur.

“Our findings broaden the mechanisms known to cause copy number variations, which improves our understanding not only of pediatric glaucoma, but also of the growing number of genetic diseases linked to copy number variations, including heart disease and psoriasis,” said Dr. Ordan Lehmann. “These findings will also help us to improve the detection of pediatric glaucoma and, by allowing earlier diagnosis, will help lead to earlier treatment of this condition.”



INSIDE THIS ISSUE

| | |
|---|-------------|
| Scientists Uncover Genetic Links to Childhood Glaucoma Findings could lead to earlier diagnosis, improved treatment | p. 1 |
| Glaucoma Tied to Impaired Reading | p. 2 |
| In the “Twinkling” of an Eye New test could help detect glaucoma more quickly and cheaply .. | p. 2 |
| NGR Makes Education the Focus of World Glaucoma Day | p. 3 |
| President’s Corner What lies ahead | p. 3 |
| A Retirement Plan that Gives Back Charitable gift annuities benefit givers and receivers alike ... | p. 4 |

SEE YOUR DOCTOR IMMEDIATELY IF...

- You suffer from recurring blurry vision.
- You believe your peripheral (side) vision is decreasing.
- You see rainbow-hued halos around lights at night.
- You get pain around your eyes after watching tv or leaving a dark theatre.



Glaucoma Tied to Impaired Reading



A study by Johns Hopkins University has found that older adults with glaucoma in both eyes display slower spoken reading ability as well as increased reading impairment, according to an article published in *Archives of Ophthalmology*.

Researchers tested 1,154 individuals to gauge the relationship between glaucoma and reading ability. Subjects with unilateral glaucoma showed no difference in reading speed, but subjects with bilateral glaucoma read 29 words per minute less than those without glaucoma and were approximately twice as likely to suffer reading impairment.

Scientists said expanded studies should be conducted to explore if glaucoma-related reading impairment is even more prevalent than found here.

In the “Twinkling” of an Eye

New test could help detect glaucoma more quickly and cheaply

A simple and inexpensive new diagnostic tool built around a visual illusion could one day help scientists track changes in vision loss caused by glaucoma and other conditions, according to research by Harvard Medical School’s Schepens Eye Research Institute.

The illusion, known as the “twinkle after-effect,” occurs when people stare at a blank screen after staring at a noisy visual field like a detuned television set. The resulting twinkling sensation, likened by one patient to a moving cumulus cloud, can be used to identify the location and breadth of blind spots in people with retinal disease, researchers say.

“Our hope is that we can make this simple technique available online or on a DVD,” says Dr. Peter Bex, the study’s principal investigator. “This will be particularly helpful with patients who have glaucoma, diabetic retinopathy or macular degeneration where early detection of changes in vision can impact the effectiveness of treatments.”

Traditional methods for diagnosing eye disease, while more sophisticated, are also more expensive and time-consuming and require the assistance of medical professionals. The new diagnostic test, says Bex, “is a powerful, simple tool that patients can use daily in the privacy of their home to detect any changes in their vision ... We really believe this could have a great impact on the visual health of the community.”

Learn more online at
www.ahaf.org

Simply click on the National Glaucoma Research link to learn more about what’s new in the world of research, as well as important information about risk factors for glaucoma.

NGR Makes Education the Focus of World Glaucoma Day

On March 12, 2009, National Glaucoma Research joined with physicians, patients and educators around the world to commemorate the second annual World Glaucoma Day.

“Finding a cure for glaucoma would end the number one cause of blindness worldwide and be a huge contribution to the world of medical treatments and cures,” said Kathleen Honaker, Executive Director of National Glaucoma Research.

NGR is joining with other groups to support research initiatives that will:

- Investigate the disease’s underlying biological conditions;
- Identify genetic and environmental risk factors, including age and race;



- Protect retinal cells from destruction and activate their natural growth capacity;
- Devise increasingly more effective glaucoma therapies.

Glaucoma currently affects nearly 67 million people around the world, including an estimated 3 million Americans. African-Americans and Hispanics are at particular risk for the disease.

President’s Corner

What lies ahead

The second annual World Glaucoma Day is a good occasion for thinking about how far we’ve come in combating this disease – and how far we still have to go.

In just a few years, scientists have made enormous progress in understanding how glaucoma works and finding new avenues for arresting its progress. But we still have much work to do before we can consider this a treatable – let alone a curable – condition.

For that reason, National Glaucoma Research remains more committed than ever to understanding this devastating disease and finding new ways to stop it in its tracks.

With your help, we have been able to channel \$15.9 million toward glaucoma research. These funds have been awarded both to young scientists just starting their careers and to senior investigators proposing cutting-edge research initiatives. And they are planting the seeds for tomorrow’s medical breakthroughs and new wellsprings of hope.

Brian K. Regan, Ph.D., President

A Retirement Plan that Gives Back

Charitable gift annuities benefit givers and receivers alike

If you want to advance the work of National Glaucoma Research and ensure a steady stream of income for yourself or others, then consider a charitable gift annuity.

A charitable gift annuity is a contract under which you transfer cash or other assets, such as stocks or bonds, to National Glaucoma Research. In exchange, you receive a fixed sum of money, paid out over a lifetime period.

An annuity can be made for a single party or for two parties – for example, a husband and wife, an aunt and a niece, or a father and a daughter. Many times a married couple will choose an annuity to ensure that both parties enjoy a source of income for life.

A charitable gift annuity is considered a particularly good investment for older people. Annuitants receive:

- **Guaranteed lifetime income;**
- **The option of receiving payments annually, semi-annually, quarterly or monthly;**
- **Income tax benefits; and**
- **High annuity payment rates.**

The minimum amount to establish a gift annuity is \$5,000.

For more information on this unique way of giving, please contact Gayle Handiboe, Development Manager at 1-800-437-2423 or gandiboe@ahaf.org.



National Glaucoma Research is a program of the American Health Assistance Foundation, a charitable organization that complies with the 20 rigorous BBB Wise Giving Alliance Standards.



Thank you for thinking of
NATIONAL GLAUCOMA RESEARCH!

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